Third International Conference
on
INformation System Design and Intelligent Applications

INDIA 2016

8th - 9th January, 2016

Department of Computer Science & Engineering

ANITS

Anil Neerukonda Institute of Technology And Sciences (A) (ANITS),
Sangivalasa - 531162, Visakhapatnam Dist.
Andhra Pradesh
www.anits.edu.in
CHAIRMAN-ANITS:
I am happy that this International conference gives a splendid opportunity in facilitating fruitful discussions among different people coming from various institutions in India and abroad.

My best wishes to the team INDIA-2016.

Dr. Neerukonda B. R. Prasad

PRINCIPAL-ANITS:
I take this opportunity to congratulate the entire INDIA-2016 team for their dedication and hardwork in organizing this International conference and convey my best wishes to them in all their future endeavours.

I wish the International conference a grand success.

Dr. V. S. R. K. Prasad

SECRETARY -ANITS:
The motto of this conference is to bring all the researchers, professors and scientists from all the corners of the globe to a common platform to interchange their ideas to address the upcoming challenges.

I wish the International conference a triumph.

Sri V.Thapovardhan

DIRECTOR(Admn)-ANITS:
I wish the team INDIA-2016 for their determining efforts to make the conference a memorable moment. It shall bring up an excellent positive response from different parts of the world.

Good luck to team INDIA-2016.

Prof. R. Govardhana Rao
**MESSAGES**

**Director (R&D) - ANITS :**

I am confident that the academicians will be greatly benefited by the deliberations in the conference so arrived, would be the learning points for the participants and help in updating themselves towards adoption of advance knowledge in information technology.

All the best team INDIA-2016.

Dr. K. V. S. V. N. Raju

**CSI PRESIDENT :**

I wish the discussions during the conference bring many innovative ideas and suggestions. I extend my warm greetings to all the delegates and best wishes to the organizers for the success of this conference held in the City of Destiny-Visakhapatnam.

Prof. Bipin V Mehta

**CHAIRMAN OF CSI VISAKHAPATNAM CHAPTER :**

Information technology plays an important role today in all works of life and it shall continue to help and enrich the world with innovations and growing developments in various fields. I congratulate the organizers for the event and wish International conference a grand success.

Prof. PS Avadhani

**PROGRAM CHAIR-INDIA 2016 :**

It was a great honour and pleasure to accept the responsibilities and challenges of Conference Program Chair. We hope that the conference will be stimulating, informative and enjoyable experience to all who attended.

Pritee Parwekar
About ANITS...

ANIL NEERUKONDA EDUCATIONAL SOCIETY (ANES) is founded by Dr N. B. R. Prasad, an NRI Philanthropist from USA and Sri V. Thapovardhan, an industrialist in memory of Late Anil Neerukonda the younger son of Dr. N.B.R Prasad. Dr. Prasad has planned and successfully completed the construction of a $6 million Venkateswara temple at greater Chicago with missionary zeal and thereafter ANITS, another temple of higher education at Visakhapatnam.

Since its inception in 2001, ANITS has been leaving an indelible and impressive track record throughout its journey as a leader in technical and professional prowess, emanating a beatific aura. It emerged as quintessential premier institute imparting fine education to a wellspring of rejuvenating minds.

Over the years, the institute has created an ideal position for its innovative training in technical programmes like B.TECH and M.TECH.

The institute is renowned for its dedicated faculty and staff consistently endeavouring for technical excellence and enlightening students. It envisions to be the fountainhead of innovators burgeoning in technology and science whose products represent a confluence of novel ideas and global standards with the best of human values.

The mission of ANITS is to educate students in science and technology and to develop professional skills among them using outstanding teaching expertise who will serve the nation and mankind best.

A few milestones from ANITS almanac..

ANITS is in the Top-Three most Preferred Colleges in A.P. The institute attained Autonomous status from the academic year 2015-2016 and accredited with ‘A’ grade by NAAC. Careers Digest 360, India’s premier career counselling organization, has rated ANITS ‘AAA’ in May 2013 edition. It is Permanently affiliated to Andhra University, Visakhapatnam. Awarded “Centre of Excellence” by Infosys Technologies Ltd in 2010-11. Entered MoU with IBM India into their Career Education Program. It is selected as Skill Development Center (SDC) by Govt. Of A.P and collaborated with “Mission(R&D)” funded by Wipro. Collaborated with Unisys Global Solutions India (Bangalore) for their Unisys Innovation Labs online-internship program for pre-final year CSE/IT students in 2013.
About Department of Computer Science and Engineering

The department of Computer Science and Engineering at ANITS facilitates state-of-the-art computer education through excellence in teaching with emphasis on practical learning. It attracts the best of engineering aspirants and provides cutting edge computing resources.

The department is headed by Dr Suresh Chandra Satapathy, with 28 years of intense experience in teaching which includes 10 years of dedicated research experience, who currently chairs the Division V (Research and Education) CSI at National Level. Under his able leadership the department is consistently thriving with implementation of multifarious developmental activities in pursuit of technical excellence tailored to the evolving needs of the industry.

The department has 32 distinguished faculty enriching the students with top-notch academic expertise making them technical crackerjacks. The faculty consistently facilitates wholesome learning through innovative teaching techniques augmented with focus on in-depth understanding of technical fundamentals.

The vision of the department is to achieve technical transcendence by adapting to protean technologies, enabling students to master the fundamental principles of computing and to equip them with skills required to solve practical industry based problems.

The department has faculty experts specialized in various fields like Soft Computing, Machine Intelligence, Data Mining, Network Engineering, Security Engineering, Data Engineering, Image Processing, Cloud Computing, Computer Networks, Wireless Sensors Networks. The faculty and students are equally active in publishing Research Papers in International Journals. The students have bagged the top positions in International coding contests like Code-Uncode and National contests like Tcs Code Vita. A team of IV/IV CSE Students N Anudeep, B Sai Aishwarya and K Sindhura has qualified for ACM ICPC 2014 World Finals.

It is the department’s mission to enable progressive learning of the students through effective teaching, encouragement towards research and advanced technologies and provide direct and indirect service to the industry in general and the society in particular.
About CSI ANITS Student Branch

ANITS CSI Student Branch is formed in 2007 and is largely organized by Student Executive body consisting of Elected CSI student Members for different roles like, President, Vice President, Secretary, Treasurer etc. It is coordinated by one faculty member (Student Branch Counselor). There are 320+ student members and every year around 90 new student memberships are added. ANITS CSI student Branch is an active branch in region V (which includes 3 states of Andhra Pradesh, Telangana and Karnataka) and organizes every year Tech-fests, Expert lectures (delivered by inside and outside experts), Guest Lectures (delivered by renowned professors of IITs and NITs, occasionally by the professors outside India) for the benefit of students. ANITS CSI Student Branch has conducted so far around 35 expert/guest lectures, 25 seminar/technical workshops, 4 tech fests and many other coding and paper presentation contests. A Total of 30 faculty have the life membership of CSI.

A few feathers in ANITS CSI Chapter’s Cap are worth mentioning.

Dr SC Satapathy, Head of Department of CSE, is the Present Chairman of Division V (Research and Education) National Level.

Awarded as the Best Student Branch for 4th time and 3 times consecutively awarded (in the years 2009-10, 2011-12, 2012-13 and 2013-14) in Region V (Includes 3 states Andhra, Telangana, Karnataka).

Ashritha santoshi, a member of Executive body of ANITS CSI Student branch is awarded as the “Best student Activist” for the year 2012-13.

Aparna Patro, a member of Executive body of ANITS CSI Student Branch is awarded the “Best Student Activist” for the year 2014-15.

Mrs. Pritee Parwekar, Assistant Professor of Dept. of CSE at ANITS is awarded the”Best Paper Presenter Award at International Conference” by CSI for the year 2014-15.

Mr B Tirumala Rao, a former Associate Professor of Dept of CSE at ANITS has received “Faculty with Maximum Publishing in CSIC” Award form CSI for the academic year 2011-12.

ANITS CSI Student Branch has played a key role in organizing the “1st AP State CSI Student Convention” at ANITS Visakhapatnam in the year 2010.

ANITS CSI Student Branch has played an active role in organizing the international conference “SEMCCO and FANCCO” at ANITS, Visakhapatnam in the year 2011.
INDIA 2016

INDIA 2016: Third International Conference on Information System Design and Intelligent Applications. Dept. Of CSE of Anil Neerukonda Institute of Technology and Sciences (ANITS) and ANITS CSI Student Branch with technical support of CSI, Div-V (Education and Research) organized this on 8-9 Jan 2016. The conference was hosted in ANITS campus. The objective of this International conference was to provide opportunities for the Researchers, Academicians, Industry persons and students to interact and exchange ideas, experience and expertise in the current trends and strategies for Information and Intelligent Techniques. Research submissions in various advanced technology areas were received and after a rigorous peer-review process with the help of program committee members and external reviewer, 215 papers in separate three volumes (Vol-I: 75, Vol-II: 75, Vol-III: 65) were accepted with an acceptance ratio of 0.38. The conference featured seven special sessions in various cutting edge technologies which were conducted by eminent professors. Many distinguished personalities like Dr Ashok Deshpande, Founding Chair: Berkeley Initiative in Soft Computing (BISC) - UC Berkeley CA; Guest Faculty: University of California Berkeley; Visiting Professor: New South Wales University, Canberra and Indian Institute of Technology, Mumbai India, Dr Parag Kulkarni, Pune, Dr Aynur Ünal, Strategic adviser and Visiting Full Professor in the Department of Mechanical Engineering at IIT Guwahati, Dr Goutam Sanyal, NIT, Durgapur, Dr. Naeem Hannoon, Universiti Teknologi Mara, Shah Alam, Malaysia, Dr. Rajib Mall, IIT-KGP, Dr B Majhi, NIT-Rourkela, Dr. Vipin Tyagi, JAYPEE, University, Guna, Prof . Bipin V Mehta, President CSI, Dr. Durgesh Kumar Mishra, Chairman, Div-IV,CSI, Dr Manas Kumar Sanyal, University of Kalyani, Prof Amit Joshi, Sabar Institute, Gujurat, Dr J V R Murthy, JNTU Kakinada, Dr PVGD Prasad Reddy, CoE, Andhra University, Dr K Srujan Raju, CMR Technical Campus, Hyderabad, Dr Swagatam Das, ISI Kolkata, Dr B K Panigrahi, IIT Delhi, Dr V Suma, Dayananda Sagar Institute, Bangalore, Dr P S Avadhani, Vice-Principal, CoE(A), Andhra University and Chairman of CSI Vizag Chapter and many more graced the occasion as distinguished speaker, session chairs, panelist for panel discussions etc. during the conference days.

The various intelligent tools like swarm intelligence, artificial intelligence, evolutionary algorithms, bio-inspired algorithms have been applied in different papers for solving various challenging IT related problems. Like its previous version, INDIA-2016 also covered all aspects of information systems design and intelligent applications in the areas of computer science, information technology, communication engineering, management etc. This International conference enlightened the participants to share their views and ideas on latest technological developments in an inter-disciplinary perspective.
Our Guests & Speakers

**Professor Ashok Deshpande**, PhD (Engineering)
Founding Chair: Berkeley Initiative in Soft Computing (BISC) - UC Berkeley CA;
Guest Faculty: University of California Berkeley;
Visiting Professor: New South Wales University, Canberra and Indian Institute of Technology, Mumbai India;
Adjunct Professor: College of Engineering Pune (COEP) India and NIT Silchar.
Former Deputy Director: National Environmental Engineering Research Institute (NEERI)/CSIR

**Professor Lakhmi C. Jain**
PhD | ME | BE(Hons)) | Fellow (Engineers Aust)
Founder KES International
Adjunct Professor, University of Canberra, Australia,
Visiting Professor, Bournemouth University, UK

**Dr. Aynur Unal**
Visiting Professor, IIT Guwahati
Alumni of Stanford University
USA

**Dr Parag Kulkarni**
CEO and Chief Scientist at iknowlation
Research Labs Pvt Ltd
Pune
Our Guests & Speakers

Dr Goutam Sanyal
NIT, Durgapur

Dr. Rajib Mall
Professor and
Head of the Dept of CSE and Dept of IT.
IIT Kharagpur.

Dr. Banshidhar Majhi
Professor, Department of Computer Sc. & Engineering,
National Institute of Technology, Rourkela

Dr. Vipin Tyagi
Faculty in Dept. of CSE at Jaypee University of Engg and Technology, Raghogarh, Guna (MP) India

Mr. Amit Joshi
Professor, Department of Information Technology,
Sabar Institute, Gujarat.
Honorary Secretary - CSI Udaipur Chapter
Honorary Secretary - ACM Udaipur Chapter.
Our Guests & Speakers

**Dr. Durgesh Kumar Mishra**
Professor and Head (CSE), Sri Aurobindo Institute of Technology, Indore, MP, India. Chairman Computer Society of India (CSI) Division IV Communication

**Dr. Jyotsan Kumar Mandal**
Professor, Computer Science & Engineering University of Kalyani, West Bengal

**Prof. (Dr.) Manas Kumar Sanyal**
Dean, Faculty of Engineering Technology, University of Kalyani, West Bengal.

**Prof. Bipin V Mehta**
President, Computer Society of India Director, School of Computer Studies, Ahmedabad University, Ahmedabad

**Prof. Vikrant Bhatija**
SRMGPC, Lucknow (U.P.), India.
Our Guests & Speakers

Sri. Raju L Kanchibhotla
Regional Vice-President- Region-V (AP, Telangana, Karnataka), CSI

Dr. K Srujan Raju
Professor and Head, Dept of CSE, CMR Technical Campus
And CSI State Student Coordinator for Telangana State

Dr. S K Udgata
Professor of School of Computer and Information Sciences,
University of Hyderabad, India.

Aninda Bose
Publishing Editor,
Springer India Pvt. Ltd.

Dr. B K Panigrahi
IIT Delhi

Dr. Swagatam Das, ISI
Kolkata
TEAM INDIA 2016

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Shri V Thapovardhan, Secretary and Correspondent, ANITS, Visakhapatnam

PATRONS
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Prof. R. Govardhan Rao, Director-Admin, ANITS, Visakhapatnam
Prof KVSVN Raju, Director (R and D), ANITS

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Dr Anirban Basu, Vice-President, CSI, India

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Shri Y Madhusudana Rao, Secretary, CSI Vizag Chapter, AGM (IT), Vizag Steel Plant
Shri Y Satyanarayana, Treasurer, CSI Vizag Chapter, AGM (IT), Vizag Steel Plant

Organizing Chair
Dr. Suresh Chandra Satapathy, ANITS, Visakhapatnam

Organizing Members
All faculty and staff of Dept. CSE, ANITS
Students Volunteers of ANITS CSI Student Branch

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Dr Manas Kumar Sanayal, Kalyani University, West Bengal
Prof. Pritee Parwekar, ANITS

Publication Chair
Prof Vikrant Bhateja, SRMGPC, Lucknow

Publication Co-Chair
Mr. Amit Joshi, CSI Udaipur Chapter

Publicity Committee
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Co-Chair: Dr Venu Madhav Kuthadi
University of Johannesburg, RSA
Special Session Chairs

Dr. Mahesh Chandra, BIT Mesra, INDIA, Dr. Asutosh Kar, BITS, Hyderabad: “Modern Adaptive Filtering Algorithms and Applications for Biomedical Signal Processing Designs”

Dr. Vipin Tyagi, JIIT, Guna: “Cyber Security and Digital Forensics”

Dr. Anuja Arora, Dr. Parmeet, Dr. Shikha Mehta, JIIT, Noida-62: “Recent Trends in Data Intensive Computing and Applications”

Dr. Suma, Dayananda Sagar Institute, Bangalore: “Software Engineering and its Applications”

Hari Mohan Pandey, Ankit Chaudhary: “Patricia Ryser-Welch, Jagdish Raheja, Hybrid Intelligence and Applications”


Dr. Divakar Yadav, Dr. Vimal Kumar, JIIT, Noida-62: “Recent Trends in Information Retrieval”

Track Managers

Track #1: Image Processing, Machine Learning and Pattern Recognition - Dr. Steven L. Fernandez

Track #2: Data Engineering - Dr. Sireesha Rodda

Track #3: Software Engineering - Dr. Kavita Choudhary

Track #4: Intelligent Signal Processing and Soft Computing - Dr. Sayan Chakraborty
Technical Review Committee

Akhil Jose Aei, Vimaljyothi Engineering College (VJEC), Kannur, Kerala, India.
Alvaro Suárez Sarmiento, University of Las Palmas de Gran Canaria.
Aarti Singh, MMICTBM, M. M. University, Mullana, India.
Agnieszka Boltuc, University of Białystok, Poland.
Anandi Giri, YMT college of Management, Navi Mumbai, India.
Anil Gulabrao Khairnar, North Maharashtra University, Jalgaon, India.
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Anita M. Thengade, MIT COE Pune, India.
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Banani Saha, University of Calcutta, India.
Bharathi Malakreddy, JNTU Hyderabad, India.
Bineet Kumar Joshi, ICFAI University, Dehradun, India.
Chhayanani Ram Kinkar, ICFAI, Hyderabad, India.
Chirag Arora, KIET, Ghaziabad (U.P.), India.
C. Lakshmi Devasena, IFHE University, Hyderabad, India.
Charan S G, Alcatel-Lucent India Limited, Bangalore, India.
Dac-Nhuong Le, VNU University, Hanoi, Vietnam.
Emmanuel C. Manasseh, Tanzania Communications Regulatory Authority (TCRA)
Fernando Bobillo Ortega, University of Zaragoza, Spain.
Frede Blaabjerg, Department of Energy Technology, Aalborg University, Denmark.
Foued Melakessou, University of Luxembourg, Luxembourg.
G.S. Chandra Prasad, Matrusri Engineering College, Saidabad, Hyderabad.
Gustavo Fernandez, Austrian Institute of Technology, Vienna, Austria.
Igor N. Belyh, St. Petersburg State Polytechnical University.
Jignesh G. Bhatt, Dharmshing Desai University, Gujarat, India.
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K. Kalimuthu, SRM University, India.
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Karim Hashim Kraidy, The University of Mustansiriya, Baghdad, Iraq.
Krishnendu Guha, University of Calcutta, India.
Lalitha RVS, Sri Sai Aditya Institute of Science and Technology, India.
M Fiorini, Poland.
Mahdin Mahboob, Stony Brook University.
Mahmood Ali Mirza, DMS SVH College of Engineering (A.P.), India.
Manimegalai C T, SRM University, India.
Mp Vasudha, Jain University Bangalore, India.
Nikhil Bhargava, CSI ADM, Ericsson, India.
Nilanjan Dey, BCET, Durgapur, India.
Pritee Parweker, ANITS, Vishakhapatnam
Sireesha Rodda, GITAM, Vishakhapatnam
Parama Bagchi, India
Ch Seshadri Rao, ANITS, Vishakhapatnam
Pramod Kumar Jha, Centre for Advanced Systems (CAS), India.
Pradeep Kumar Singh, Amity University, Noida, U.P. India.
Ramesh Sunder Nayak, Canara Engineering College, India.
R. K. Chauhan, MMMUT, Gorakhpur (U.P.), India
Rajiv Srivastava, Scholar tech Education, India.
Ranjan Tripathi, SRMGPC, Lucknow (U.P.), India.
S. Brinda, St Joseph’s Degree and PG College, Hyderabad, India.
Sabitha G, SRM University, India.
Suesh Limkar, AISSMS IOIT, Pune
YVSM Murthy, NIT, Surathkal
B N Biswal, BEC, Bhubaneswar
Mihir Mohanty, SOA, Bhubaneswar
S Sethi, IGIT, Sarang
Sangeetha M., SRM University, India.
Satyasai Jagannath Nanda, Malaviya National Institute of Technology Jaipur, India.
Saurabh Kumar Pandey, National Institute of Technology, Hamirpur (H.P.), India.
Sergio Valcarcel, Technical University of Madrid, Spain.
Shanthi Makka, JRE School of Engineering, Gr. Noida (U.P.), India.
Shilpa Bahl, KIIT, Gurgaon, India.
Sourav De, University Institute of Technology, BU, India.
Sourav Samanta, University Institute of Technology, BU, India.
Suvojit Acharjee, NIT, Agartala, India.
Sumit Soman, C-DAC, Noida (U.P.), India.
Usha Batra, ITM University, Gurgaon, India.
Vimal Mishra, MMMUT, Gorakhpur (U.P.), India.
Wan Khairunizam Wan Ahmad, AICOS Research Lab, School of Mechatronic, UniMAP.
Yadlapati Srinivasa Kishore Babu, JNTUK, Vizianagaram, India.
# Faculty - CSE Department

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>K.S.Deepthi</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>G.Jagadish</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>A.Deepthi</td>
<td>Assistant Professor</td>
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<tr>
<td>T.Kranthi</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>S.Ranjani Misra</td>
<td>Assistant Professor</td>
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<tr>
<td>S.A. Bhavani</td>
<td>Assistant Professor</td>
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<tr>
<td>M.K. Krishna</td>
<td>Assistant Professor</td>
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<tr>
<td>K.Chandra Sekhar</td>
<td>Assistant Professor</td>
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<tr>
<td>G.Gowri Pushpa</td>
<td>Assistant Professor</td>
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<tr>
<td>G.Santoshi</td>
<td>Assistant Professor</td>
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<tr>
<td>A.N.R Latha Kumari</td>
<td>Assistant Professor</td>
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<tr>
<td>Praneetha Gadde</td>
<td>Assistant Professor</td>
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<tr>
<td>J Sharmila</td>
<td>Assistant Professor</td>
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<tr>
<td>G.V. Gayathri</td>
<td>Assistant Professor</td>
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<tr>
<td>Srinivas Raju Vuppalapati</td>
<td>Assistant Professor</td>
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<tr>
<td>Ch.Seshadri Rao</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>K.Suresh</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>P.Deepika</td>
<td>Assistant Professor</td>
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<tr>
<td>P Naga Srinivasu</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>Pritee Parwekar</td>
<td>Assistant Professor</td>
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<tr>
<td>Gunupuru Gayathri</td>
<td>Assistant Professor</td>
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<tr>
<td>P.Vinod Babu</td>
<td>Assistant Professor</td>
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<tr>
<td>K.Ashesh</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>Keerthi Lingam</td>
<td>Assistant Professor</td>
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<tr>
<td>D.Ashwini</td>
<td>Assistant Professor</td>
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<tr>
<td>Dr. Tusar Mishra</td>
<td>Assistant Professor</td>
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</tbody>
</table>

# Programmers

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Subramanyam</td>
<td>Sr. Programmer</td>
</tr>
<tr>
<td>A. Sekhar</td>
<td></td>
</tr>
<tr>
<td>N. Ramakrishna</td>
<td></td>
</tr>
<tr>
<td>Shaik Shajhan</td>
<td></td>
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<tr>
<td>N. Kanakadurga</td>
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<tr>
<td>K. Narayana Rao</td>
<td></td>
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<tr>
<td>B.V.U. Lakshmi</td>
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<tr>
<td>B. Siva Jyothi</td>
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<tr>
<td>P.S. Vittal</td>
<td></td>
</tr>
<tr>
<td>Nivedita</td>
<td></td>
</tr>
<tr>
<td>Srinivasa Rao</td>
<td>Office Assistant</td>
</tr>
<tr>
<td>N. Venkata Ramana</td>
<td>Attender</td>
</tr>
<tr>
<td>B. Kiran</td>
<td>Attender</td>
</tr>
<tr>
<td>Venkata Laxmi</td>
<td>Cleaning Staff</td>
</tr>
<tr>
<td>Venkata Rao</td>
<td>Cleaning Staff</td>
</tr>
</tbody>
</table>

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Department of CSE, ANITS
## Faculty Coordinators

<table>
<thead>
<tr>
<th>Role</th>
<th>Coordinators</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Registration Desk</strong></td>
<td>G.V.Gayathri, K.S.Deepthi</td>
</tr>
<tr>
<td><strong>Reception and Help Desk</strong></td>
<td>J.Sharmila Rani, T Kraanti, S.A.Bhavani</td>
</tr>
<tr>
<td><strong>Venue Committee</strong></td>
<td>P.Deepika, Y.A. Sunitha</td>
</tr>
<tr>
<td><strong>Accommodation, Hospitality, Transport</strong></td>
<td>K. Ashesh</td>
</tr>
<tr>
<td><strong>Technical Committee</strong></td>
<td>Ch.Seshadri Rao, A.N.R.Latha, P.N. Srinivasu</td>
</tr>
<tr>
<td><strong>Invited and Keynote Talks</strong></td>
<td>Keerthi Lingam, D.Aswani</td>
</tr>
<tr>
<td><strong>Publicity and Photography</strong></td>
<td>P. Kranthi Kiran, G.Gayathri</td>
</tr>
<tr>
<td><strong>Certificates</strong></td>
<td>S.Ratan Kumar, Tushar Mishra</td>
</tr>
<tr>
<td><strong>Banners</strong></td>
<td>K.Suresh, K. Chandrasekhar</td>
</tr>
<tr>
<td><strong>Food</strong></td>
<td>G. Jagadish, S.R.Mishra, P.Vinod Babu</td>
</tr>
<tr>
<td><strong>Website, Template Designs</strong></td>
<td>V. Srinivasa Raju</td>
</tr>
<tr>
<td><strong>Awards and Momentos</strong></td>
<td>G.V.Gayathri, K.S.Deepthi</td>
</tr>
<tr>
<td><strong>Ambiance In charge</strong></td>
<td>K. Chandrasekhar, A.N.R. Latha</td>
</tr>
<tr>
<td><strong>Poster Presentation</strong></td>
<td>B. Ravi Kiran, Keerthi Lingam</td>
</tr>
</tbody>
</table>
## Student Coordinators

<table>
<thead>
<tr>
<th>Name</th>
<th>Class 1</th>
<th>Class 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.U.L Rohit</td>
<td>IV/IV-B</td>
<td>E. Mohan Krishna</td>
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PROGRAM SCHEDULE-INDIA2016

DAY-I
Friday, 08\textsuperscript{th} January, 2016

08:45 am to 10:00 am  Registration & Collection of Conference Kits
10:00 am to 11:15 am  Inaugural Session
11:15 am to 11:30 am  Hi-Tea Break
11:30 am to 12:00 pm  Keynote Lecture-I by Professor Ashok Deshpande
12:00 pm to 12:30 pm  Keynote Lecture-II by Dr. Aynur Ünal
12:30 pm to 01:00 pm  Keynote Lecture-III by Dr Parag Kulkarni
01:00 pm to 02:00 pm  Lunch Break
02:00 pm to 02:30 pm  Invited Talk –IV by Prof Lakhmi C Jain,
02:30 pm to 03:00 pm  Invited Talk –V by Dr Goutam Sanyal
03:00 pm to 03:15 pm  Tea Break
03:15 pm to 04:45 pm  How To Write Quality papers :
                       Mr Aninda Bose, Springer-India
03:45 pm to 04:45 pm  Panel Discussion Topic- “Paradigm Shift - A New Era :
                       Technology, Entertainment and Values” Moderator :
                       Amit Joshi Panelist - Dr. Rajib Mall, Dr. Banshidhar Majhi,
                       Dr B K Panigrahi, Dr Swagatam Das
5 pm to 07:00 pm      Cultural Program Special Attraction
                       Dance Performance by Ms. Payal Ramchandani
07:00 pm onwards      Banquet Dinner

DAY-II
Saturday, 09\textsuperscript{th} January, 2016

09:00 am to 10:00 am  Registration and Collection of Conference Kits
10:00 am to 01:00 pm  Parallel Tracks #1 to #8 (Includes a 15 min Tea Break)
01:00 pm to 02:00 pm  Lunch Break
02:00 pm to 04:30 pm  Parallel Tracks #9 to #13 (Includes a 15 min Tea Break)
04:30 pm to 05:30 pm  Valediction / Best Paper Awards

NOTE – Tutorial talks will be on 8\textsuperscript{th} and 9\textsuperscript{th} in parallel sessions.
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#### 10:00 am to 01:00pm
#### Track # 05

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ABSTRACTS
Study and Analysis of Subthreshold Leakage Current in Sub-65 nm NMOSFET

Krishna Kumar, Pratyush Dwivedi, Aminul Islam
Birla Institute of Technology, Mesra, Ranchi
Jharkhand, India – 835215

As the technology scales down, the subthreshold leakage increases exponentially which leads to a dramatic increase in static power consumption especially in nanoscale devices. Consequently, it is very important to understand and estimate this leakage current so that various leakage minimization techniques can be devised. So in this paper we attempt to estimate the subthreshold leakage current in an NMOSFET at 16-nm, 22-nm, 32-nm and 45-nm technology nodes. Various factors which affect the subthreshold leakage such as temperature, drain induced barrier lowering (DIBL) and other short channel effects have also been explored. All the measurements are carried out using extensive simulation on HSPICE circuit simulator at various technology nodes.

Implementations of Secure Reconfigurable Cryptoprocessor A Survey

Rajitha Natti 1, Sridevi Rangu2
Department of Computer Science & Engineering, Jawaharlal Nehru Technological University, Hyderabad1,2

One among the several challenges in the area of applied cryptography is not just devising a secure cryptographic algorithm but also to manage with its secure and efficient implementation in the hardware and software platforms. Cryptographic algorithms have widespread use for every conceivable purpose. Hence, secure implementation of the algorithm is essential in order to thwart the side channel attacks. Also, most of the cryptographic algorithms rely on modular arithmetic, algebraic operations and mathematical functions and hence are computation intensive. Consequently, these algorithms may be isolated to be implemented on a secure and separate cryptographic unit.
Ansible: A Comparative Study of various configuration management tools for IAAS Cloud

Sanjeev Thakur1, Subhash Chand Gupta2, Nishant Singh3, Soloman Geddam4 1, 2, 3, 4Amity University, Noida

In an organization, Configuration management is an essentially important technique for assuring that the desired configuration are intact all the time. Configuration keeps an eye on management & consistency of a software product’s versions, update etc. Currently many system administrators manage and maintain their systems using a collection of batch scripts. Ansible replaces this plodding & makes application deployment over cloud very simple. In this paper we will understand and exploit Ansible’s true potential. We will write playbooks for patching system vulnerabilities and also understand the advantages of using Ansible.

Adaptive Fractal Image Compression based on Adaptive Thresholding in DCT domain

Preedhi Garg1, Richa Gupta1, Prof. Rajesh K Tyagi2  
1CSE Department, Amity University, Noida, Uttar Pradesh  
3IT Department, KIET, Ghaziabad, Uttar Pradesh

The encoding procedure for fractal image compression consumes up huge amount of time due to enormous number of search operations through domain pool. Sequential search continues till a best harmonious block is found for a range block. Domain pool reduction, an adaptive fractal image encoding method is one solution to overcome this computational complexity. The use of variance domain selection in DCT domain with lesser operations for domain-range comparison is fruitful. In this paper, variances of range and domain blocks are compared and only domain blocks under a threshold value are taken. To further optimize the performance, adaptive thresholding in quadtree partitioning is applied in ally with variance domain selection approach. Experimental results show that executing the proposed method on grayscale images shortens the encoding time and improves the PSNR.
Improved Resource Exploitation by Combining Hadoop Map Reduce Framework with VirtualBox

Ramanpal Kaur1, Harjeet Kaur1 and Archu Dhamija1
1 Lovely Professional University, India.

MapReduce is a framework for processing huge volumes of data in parallel, on large groups of nodes. Processing enormous data requires fast coordination and allocation of resources. Emphasis is on achieving maximum performance with optimal resources. This paper portrays a technique for accomplishing better resource utilization. The main objective of the work is to incorporate virtualization in Hadoop MapReduce framework and measuring the performance enhancement. In order to realize this master node is setup on physical machine and slave nodes are setup in a common physical machine as virtual machines (VM), by cloning of Hadoop configured VM images. To further enhance the performance Hadoop virtual cluster are configured to use capacity scheduler.

Density Based Outlier Detection Technique

Raghav Gupta and Kavita Pandey
Department of Computer Science, Jaypee Institute of Information Technology, Noida, India

Outlier Detection has become an emerging branch of research in the field of data mining. Detecting outliers from a pattern is a popular problem. Detection of Outliers could be very beneficial, knowledgeable, interesting and useful and can be very destructive if remain unexplored. We have proposed a novel density based approach which uses a statistical measure i.e. standard deviation to identify that a data point is an outlier or not. In the current days there are large variety of different solutions has been efficiently researched. The selection of these solutions is sometimes hard as there is no one particular solution that is better than the others, but each solution is suitable under some specific type of datasets. Therefore, when choosing an outlier detection method to adapt to a new problem it is important to look on the particularities of the specific dataset that the method will be applied. To test the validity of the proposed approach, it has been applied to Wisconsin Breast Cancer dataset and Iris dataset.
SYSTEMATIC EVALUATION OF SEED GERMINATION MODELS: A COMPARATIVE ANALYSIS

Lalita Chaudhary1, Rajesh2, Vikas Deep1, Preeti Chawla1
1Amity University, Noida, India-201301
2CSIR-Central Scientific Instrumentation Organisation, Chandigarh, India-160030

Agriculture field has recently adopted the various techniques to boost the production and monitoring of seed germination in a professional manner. Temperature is the key factor in amending the germination of non-dormant seeds. This paper presents the various computational developed prediction models for calculating seed germination growth rate. Also in this paper their merits and demerits are depicted to analyze them. These are helpful in monitoring and controlling the seed germination process to enable higher quality storage and produce good yield of crops.

BUSINESS MODELING USING AGIL

Lalita Chaudhary1, Vikas Deep2, Vishakha Punyani2, Vikram Verma3, Tajinder Kumar3 1G.L.Bajaj Institute of Technology and Management, Greater Noida, U.P.-201306
2Amity University, Noida, India, U.P.-201301
3Seth Jai Parkash Mukund Lal Institute of Engg and Technology, Radaur, Haryana-135133

The selection of methodology used is of great importance in business process modeling. It has a great impact on satisfaction of the customer. The aim of this paper is to fulfill the gaps of the existing model using agile methodology. There also exist several aspects in the business modeling as proposed by various scholars such as market-oriented aspects, value aspects, product oriented aspects, actors in business aspects etc. There were various shortcomings in the existing business agility. Keeping those short comings in mind the model is being proposed and hence various advantages are being extracted.
An efficient Hybrid Encryption Technique based on DES and RSA for Textual Data

Smita Chourasia1, Kedar Nath Singh2
1,2TIT Science, Bhopal

The data security in almost every field is a challenging concern all around the globe. The application area may be as wide in the area of banking, internet, network and mobile data etc. The main focus of this paper is to secure the text data and provide a comparison with different parameters. DES and RSA are being used for comparison. A hybrid approach has been proposed in this paper based on the combination of DES and RSA algorithm. The comparison is done on the basis of size, length, number of keys and the time of encryption and decryption. The overall results suggest the hybrid encryption approach for the encryption and decryption process.

Application of Machine Learning on Process Metrics for Defect Prediction in Mobile Application

Arvinder Kaur1, Kamaldeep Kaur2, Harguneet Kaur3 USICT, GGS,Indraprastha University Sec-16C ,Dwarka,Delhi,India

This paper studied process metrics in detail for predicting defects in an open source mobile applications in continuation with our previous study[11]. Advanced modelling techniques have been applied on a vast dataset of mobile applications for proving that process metrics are better predictor of defects than code metrics for mobile applications. Mean absolute error, Correlation Coefficient and root mean squared error are determined using different machine learning techniques. In each case it was concluded that process metrics as predictors are significantly better than code metrics as predictors for bug prediction. It is shown that process metrics based defect prediction models are better for mobile applications in all regression based techniques, machine learning techniques and neuro-fuzzy modelling. Therefore separate model has been created based on only process metrics with large dataset of mobile application.
Automatic Insurance and Pollution Challan Generator System in India

Harleen1, Shweta Rana2, Naveen Garg3
1,2 M.Tech. Scholar, Department of Information Technology, Amity University, Noida 3Assistant Professor, Department of Information Technology, Amity University, Noida

In today’s time there is paper wastage of issuing the pollution and insurance certificate. Traffic police used to check the documents which cause traffic jam on the road. This paper proposes use of Information Technology to save the usage of paper; corruption and it reduce possibility of misuse of power by proper monitoring by introducing smart chips in the number plates of the vehicles which will provide necessary details required for monitoring. Everything will be done automatically just by fetching the number plate of the vehicle this will reduce the problem of traffic jam as well as consumption of paper.

Effectively Implementation of KNN-Search on Multidimensional Data using Quadtree

B. D. Jitkar 1, S.D.Raut 2, S.T. Patil 3
1 Department of Computer Science & Engg, D.Y.Patil COET, Kolhapur
2 Department of Computer Science & Engg, Orchid COE, Solapur
3 Department of Computer Science & Engg, D.Y.Patil COET, Kolhapur

In modern systems like location based network systems, radio frequency identification based network systems where we use different techniques to collect or capture the data. This represents them in position with the Longitude and Latitude which we call as Multidimensional Data. So study of multidimensional data is attracting more attention in research field. In this paper we are focusing mainly on effective searching for nearest neighbor search. Data is collected using some type of capturing / scanning device. This captured region in divided into quad format two times and an indexing is applied for fast and accurate searching of objects. By considering different facts we propose a new technique of nearest neighbor for effective cost model. Comprehensive experiments shows that quad region technique gives better performance in nearest neighbor search on multidimensional objects.
Edge Detectors based Telegraph Total Variational model for image filtering

Subit K Jain1 and Rajendra K Ray1
Indian Institute of Technology, Mandi, India

For the existing issues of edge blur and uncertainty of parameter selection during image filtering, a novel telegraph total variational PDE model based on edge detector is proposed. We propose image structure tensor as an edge detector to control smoothing process and keep more detail features. The proposed model takes advantages of both telegraph and total variational model, which is edge preserving and robust to noise. Experimental results illustrate the effectiveness of the proposed model and demonstrate that our algorithm competes favorably with state of the-art approaches in terms of producing better denoising results.

Cloud Based K-means Clustering Running as a MapReduce Job for Big Data Healthcare Analytics using Apache Mahout

Sreekanth Rallapalli1, Gondkar RR2, Golajapu Venu Madhava Rao3
1R&D Centre, Bharathiyar University, Coimbatore
2AIT, Bangalore
3Botho University, Gaborone

Increase in data volume and need for analytics has led towards innovation of big data. To speed up the query responses models like NoSQL has emerged. Virtualized platforms using commodity hardware and implementing Hadoop on it helps small and midsized companies use cloud environment. This will help organizations to decrease the cost for data processing and analytics. As healthcare generating volumes and variety of data it is required to build parallel algorithms that can support petabytes of data using hadoop and MapReduce parallel processing. K-means clustering is one of the methods for parallel algorithm. In order to build an accurate system large data sets need to be considered. Memory requirement increases with large data sets and algorithms become slow. Mahout scalable algorithms developed works better with huge data sets and improve the performance of the system. Mahout is an open source and can be used to solve problems arising with huge data sets. This paper proposes cloud based K-means clustering running as a MapReduce job. We use health care data on cloud for clustering. We then compare the results with various measures to conclude the best measure to find number of vectors in a given cluster.
Symbolic Decision Tree for Interval Data - An approach towards Predictive Streaming and Rendering of 3D Models

Vani V1 and Mohan S2
1&2 College of Computer and Information Systems, Al Yamamah University, Riyadh, Kingdom of Saudi Arabia.

3D content streaming and rendering system has attracted a significant attention from both academia and industry. However, these systems struggle to provide comparable quality to that of locally stored and rendered 3D data. Since the rendered 3D content on to the client machine is controlled by the users, their interactions have a strong impact on the performance of 3D content streaming and rendering system. Thus, considering user behaviours in these systems could bring significant performance improvements. To achieve this, we propose a symbolic decision tree that captures all attributes that are part of user interactions. The symbolic decision trees are built by pre-processing the attribute values gathered when the user interacts with the 3D dynamic object. We validate our constructed symbolic tree through another set of interactions over the 3D dynamic object by the same user. The validation shows that our symbolic decision tree model can learn the user interactions and is able to predict several interactions with very limited set of summarized symbolic interval data and thus could help in optimizing the 3D content streaming and rendering system to achieve better performance.

Predictive 3D Content Streaming based on Decision Tree Classifier Approach

Mohan S1 and Vani V2
1&2 College of Computer and Information Systems, Al Yamamah University, Riyadh, Kingdom of Saudi Arabia.

3D content streaming and rendering system has attracted a significant attention from both academia and industry. However, these systems struggle to provide comparable quality to that of locally stored and rendered 3D data. Since the rendered 3D content on to the client machine is controlled by the users, their interactions have a strong impact on the performance of 3D content streaming and rendering system. Thus, considering user behaviours in these systems could bring significant performance improvements. Towards the end, we propose a decision tree that captures all parameters making part of user interactions. The decision trees are built from the information found while interacting with various
types of 3D content by different set of users. In this, the 3D content could be static or dynamic 3D object / scene. We validate our model through another set of interactions over the 3D contents by same set of users. The validation shows that our model can learn the user interactions and is able to predict several interactions helping thus in optimizing these systems for better performance. We also propose various approaches based on traces collected from the same/different users to accelerate the learning process of the decision tree.

Quantitative Characterization of Radiographic weld Defect Based on the Ground Truth Radiographs made on a Stainless Steel Plates

P.Chitra
Assistant Professor, Faculty of Electrical and Electronics
Sathyabama University, Chennai-119

This paper presents a new approach for quantification of radiographic defects. This approach is based on calculating the size of the pixel using the known image quality indicator present in the radiographic image. This method is first applied on the ground truth realities of different shapes whose size is known in advance. The proposed method is then validated with the defect (porosity) where the defect is quantified accurately. The image processing techniques applied on the radiographic image are contrast enhancement, noise reduction and image segmentation to quantify the defects present in the radiographic image. The image processing algorithms are validated using image quality parameter Mean Square Error (MSE) and Peak Signal to Noise Ratio (PSNR).

Research and Topology of Shunt Active Filters for Quality of Power

Mr.Lakshman Naik Popavath 1,1, Dr. K.Palanisamy 1, Dr. D. P. Kothari 1
School of Electrical Engineering, VIT- University, Vellore, India.

The utilization of distorting loads has been increasing exponentially, which results power quality issues in electrical power systems. Transmission of the pollution free power is an important task for power engineers. Power quality issues may affect on end user equipment like electronic goods, digital meters etc. which results the spoilage of products. To nullify the power quality concerns the custom power devices are playing a determinant role in the power systems in the present scenario. This paper mainly demonstrates on research and topology of Shunt Active Power Filters (SAF) to magnify the quality of power in sensitive industrial loads, electrical distribution networks, transmission, and power generation systems.
DEVELOPMENT OF 3D HIGH DEFINITION ENDOSCOPE SYSTEM

Dhiraj2, Zeba Khanam1,2, Priyanka Soni2, and Jagdish Lal Raheja1,2
1 Academy of Scientific and Innovative Research
2 CSIR-Central Electronics Engineering Research Institute, Pilani, Rajasthan, India

Recent advances in technology have paved way for 3D endoscope, which has propelled the progress of minimum invasive surgical methods. The conventional two dimensional endoscopy based Minimally Invasive Surgery (MIS) can be performed by experienced surgeons. Inability to perceive depth was the main cause of migration to 3D endoscope. In this paper, a prototype of the stereo endoscopic system is presented. Problems pertaining to the stereo endoscope such as ease of use, inhomogeneous illumination and severe lens distortion are eliminated in the proposed system. Moreover, stereo calibration and rectification have been performed for 3D visualization. Polarization technique is used for depth perception. The proposed system also allows real time HD view to the surgeons.

Excel Solver for Deterministic Inventory Model: INSOLVER

Pratiksha Saxena1, Bhavyanidhi Vats2
1 Department of Applied Mathematics, Gautam Buddha University, Greater Noida, India

An excel solver is proposed for optimized result of deterministic inventory models. Seven inventory models including price break models can be solved by using this Excel Solver. This solver is designed by using yes-no algorithm. INSOLVER has benefit of solving even quantity discount inventory models with different price breaks, which makes it unique.
DSL Approach for Development of Gaming Applications

Aadheeshwar Vijayakumar, Abhishek D, K Chandrasekaran,
Department of Computer Science and Engineering
National Institute of Technology Karnataka, Surathkal

This research paper mainly concentrates on introducing DSL (Domain Specific language) approach in developing gaming applications. DSL approach hides the lower level implementation in C, C Sharp, C++, and JAVA and provides abstraction of higher level. The higher level of abstraction provided by the Domain Specific Language approach is error-free and easy to develop. The aim of this paper is to propose an approach to use GaML (Gamification Modelling Language, a form of DSL for gaming) for Unity based complex games efficiently in this paper. The paper doesn’t focus on the How and Whys of the Gaming Modelling Language usage, but rather focuses on the run-time enforcement. At the end of the paper, survey has been made on total lines of code and time invested for coding using a case study. The case study proves that DSL approach of automated code generation is better than manual.


Digambar Povar1, G. Geethakumari1
1Department of Computer Science and Information Systems, BITS Pilani, Hyderabad Campus, Jawaharnagar, Rangareddy Dist., Telangana – 50078, India

Various advantages offered by cloud computing business model has made it one of the most significant of current computing trends like personal, mobile, ubiquitous, cluster, grid, and utility computing models. These advantages have created complex issues for forensic investigators and practitioners for conducting digital forensic investigation in cloud computing environment. In the past few years, many researchers have contributed in identifying the forensic challenges, designing forensic frameworks, data acquisition methods for cloud computing systems. However, to date, there is no unique universally accepted forensic process model for cloud computing environment to acquire and analyze data available therein. This paper contributes in three specific areas to expedite research in this emerging field. First is designing a digital forensic architecture for cloud computing systems; second is evidence source identification, segregation and acquisition; and finally methods for partial analysis of evidence within and outside of a virtual machine (VM).
Brushing - an algorithm for data deduplication

Prasun Dutta1, Pratik Pattnaik2, Rajesh Kumar Sahu1
1 Department of Computer Science & Engineering,
2 Department of Information Technology,
National Institute of Science and Technology, Berhampur, India

Deduplication is mainly used to solve the problem of space and is known as a space-efficient technique. A two step algorithm called ‘brushing’ has been proposed in this paper to solve individual file deduplication. The main aim of the algorithm is to overcome the space related problem, at the same time the algorithm also takes care of time complexity problem. The proposed algorithm has extremely low RAM overhead. The first phase of the algorithm checks the similar entities and removes them thus grouping only unique entities and in the second phase while the unique file is hashed, the unique entities are represented as index values thereby reducing the size of the file to a great extent. Test results shows that if a file contains 40%-50% duplicate data, then this technique reduces the size up to 2/3 of the file. This algorithm has a high deduplication throughput on the file system.

A New Approach for Integrating Social Data into Groups of Interest

Abdul Ahad1, Dr.Suresh Babu Yalavarthi2, Dr.Ali Hussain Md3
1 Department of CSE, Acharya Nagarjuna University, Guntur, Andhra Pradesh, INDIA
2 Department of CSE, JKC College, Guntur, Andhra Pradesh, INDIA
3 Department of ECM, K L University, Guntur, Andhra Pradesh, INDIA

Our daily life is connected with various social network sites with large-scale public networks like Google+, WhatsApp, Twitter, or Facebook. For sharing and publishing, the people are increasingly connected to these services. Therefore, Social network sites have become a powerful tool of contents of interest, part of which may fall into the scope of interests of a given group. There is no solution has been proposed for a group of interest to tap into social data. Therefore, we have proposed an approach for integrating social data into groups of interests. This method makes it possible to aggregate social data of the group’s members and extract from these data the information relevant to the group’s topic of interests. Moreover, it follows a user-centered design allowing each member to personalize his/her sharing settings and interests within their respective groups. We describe in this paper the conceptual and technical components of the proposed approach.
Estimation of Shape Parameter of the Radial Distribution of Cosmic Ray Shower Particles

Rajat K Dey, Sandip Dam, Manabindu Das, Sabyasachi Roy
Department of Physics, North Bengal University, Darjeeling, West Bengal, India,

The problem of manipulating lateral distributions of secondary cosmic ray (CR) charged particles is the central in ground-based extensive air shower (EAS) experiments. The analytical approaches in obtaining the spectra of EAS electrons (e\(\pm\)), muons (\(i\pm\)), and hadrons (h(\(\bar{h}\))) in the cascade theory suffer from restricted applicability due to several assumptions or approximations adopted in the theory. Estimation of the shape parameter of the radial distribution of shower particles from simulated data can bypass all these bindings adopted in the theory and thereby improving the reliability of the method, even if it has normal dependencies upon hadronic interactions implemented in the simulation. We have various profile functions for the radial distribution of EAS particles in terms of observables called shape or slope or age. These parameters actually determine how number of shower particles or radial density changes with atmospheric depth or core distance. A more judicious estimation of such observables has been made by defining the local age or segmented slope parameter (LAP or SSP) in the work. Using simulated/experimental data, the radial dependence of LAP/SSP for e\(\pm\), i\(\pm\)&h(\(\bar{h}\)) particles is investigated aiming for the measurement of chemical composition of primary cosmic rays (PCRs).

Network Security in Big Data: Tools and Techniques

Pushpak Verma1, Tej Bahadur Chandra1, and A.K. Dwivedi2
1 School of Information Technology, MATS University, Raipur, C.G., INDIA - 492001
2 Govt. Vijay Bhushan Singh Deo Girls Degree College, Jashpur, C.G. - 496331

With the time, Big Data became the core competitive factor for enterprises to develop and grow. Some enterprises such as, information industrial enterprises will put more focus on the technology or product innovation for solving the challenges of big data, i.e., capture, storage, analysis and application. Enterprises like, manufacturing, banking and other enterprises will also benefit from analysis and manage big data, and be provided more opportunities for management innovation, strategy innovation or marketing innovation. High performance network capacity provides the backbone for high end computing systems. These high end computing systems plays vital role in Big Data. Persistent and Sophisticated targeted network
attacks have challenged today’s enter prise security teams. By exploring each aspect of high performance network ca-pacity, the major objective of this research contribution is to present fundamen-tal theoretical aspects in analytical way with deep focus on possibilities, imped-iments and challenges for network security in Big Data.

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**Design of Ripple Carry Adder using 2-Dimensional 2-Dot 1-Electron Quantum-Dot Cellular Automata**

*Kakali Datta ?, Debarka Mukhopadhyay??, and Paramartha Dutta*

Quantum-Dot Cellular Automata or QCA is an important name among the emerging technologies in the nanotechnology domain as it overcomes the serious technical limitations of CMOS. In this article, we have first designed a full adder using two-dimensional two-dot one-electron QCA cells. Then we have used this full adder to design a ripple carry adder. Finally, we have discussed the issues related to energy and power needed to drive the proposed architecture.

---

**Advanced Congestion Control Techniques for MANET**

*MD. Sirajuddin1, Dr. Ch Rupa2, Dr. A. Prasad3*

1 Research Scholar, Department of C.S.E, JNTU Kakinada, Andhra Pradesh, India.

2 Associate Professor, Department of C.S.E, V.R. Siddhartha Engineering College, Vijayawada, Andhra Pradesh, India.

3 Associate Professor & Head, Department of C.S, Vikrama Simhapuri University, Nellore, Andhra Pradesh, India.

Mobile Ad-hoc Network (MANET) is a wireless infrastructure less network in which nodes communicates with each other by establishing tempo-rary network. One of the most important issues in the MANET is the conges-tion. It leads to the network performance degradation. In order to transmit real time data reliably in MANET, TCP can be used. But the congestion control techniques used by the TCP is inadequate for such networks because of node mobility and dynamic topology. Also the routing protocols designed for MANET do not handle the congestion efficiently. In this paper we proposed a new TCP congestion control scheme called TCP-R for detecting the congestion and proposed ADV-CC (Adhoc Distance Vector with Congestion Control) as a new dynamic routing algorithm to
control congestion in MANET. ADV-CC improves the network performance than AODV due to its congestion status attribute as an additional feature. The main strength of this paper is performance results and analysis of TCP-R and ADV-CC.

### A Method of Baseline Correction for Offline Handwritten Telugu Text Lines

**Ch. N. Manisha1, E. Sreenivasa Reddy2 and Y.K. Sundara Krishna1**

1Krishna University, Machilipatnam, Andhra Pradesh, India.
2Acharya Nagarjuna University, Guntur, Andhra Pradesh, India.

In the field of offline handwritten character recognition, baseline correction is an important step at preprocessing stage. In this paper, we propose a baseline correction method for Offline handwritten Telugu text lines. This method deals with both baseline skew and fluctuated characters of offline handwritten Telugu text lines. This method is developed based on the main component of the character. This method has been tested on various handwritten Telugu text lines written by different people. Experimental results show that the effectiveness of the proposed method to correct the baselines of the offline handwritten Telugu text lines.

### A Technique for Prevention of Derailing and Collision of Trains in India

**Shweta Shukla1, Sneha Sonkar2, Naveen Garg3**

1,2 M.Tech. Scholar, Department of Information Technology, Amity University, Noida
3Assistant Professor, Department of Information Technology, Amity University, Noida

Railways are widely used transportation in India because it is affordable to every class of the society. It serves as a great transport to cover large geographical distances over short period of time. It also contributes a large to the Indian economy. However, unexpected delays and accidents make it less reliable. In the era of innovation and technology, India must implement transport mechanism in railways to make it more reliable and attractive for investment, which incorporate such a system, in which the loco pilot can easily view the railway track and can also assess the presence of another train on the same track. This paper proposes a technique that will help the loco pilot to view the tracks and coordinates of the trains that could avoid derailing, delaying and collisions.
Temporal Scintimetric Characterization of Skeletal Hotspots in Bone Scan by Dr.V.Siva’s Retention Ratio

Dr.V.Sivasubramaniyan1, Dr.K.Venkataramaniah2,
1 Nuclear Medicine Department, Sri Sathya Sai Institute of Higher Medical Sciences, Prashantigram, Prasanthinilayam, Anantapur Dist., Andhra Pradesh 515134
2 Physics Department, Sri Sathya Sai Institute of Higher Learning, Vidyagiri, Prasanthinilayam 515134

Scintimetric Characterization of the distribution of the radiotracer Tc-99m MDP in the skeletal tissues such as Spines for the early detection of metastatic spread in the cases of Prostatic Carcinoma has been carried out. Temporal Scintimetry measures the counts in the region of interest in the scans done at two time intervals 4 and 24 hrs. A 4 / 24 hr. Dr.V.Siva’s retention ratio derived using Temporal Scintimetry in the characterization of skeletal hotspots in benign and malignant skeletal conditions is proposed and discussed.

Executing Hive Queries on 3-NODE Cluster and AWS Cluster- Comparative Analysis

Shweta Malhotra1, Mohammad Najmud Doja1, Bashir Alam1, Mansaf Alam1, Aishwarya Anand2
1 Jamia Millia Islamia University, New Delhi, India
2 G D Goenka University, Sohna, Gurgaon

Cloud Database Management System (CDBMS) is one of the potential services provided by various Cloud Service Providers. Cloud providers cope with different users, different data and processing or analysis of different data. Traditional Database Management Systems are insufficient to handle such variety of data, users and their requirements. Hence, at the conceptual layer of CDBMS, traditional SQL, Oracle and many more Database Languages are insufficient to provide proper services to their users. HIVE and Pig are the different types of languages which are suitable for the cloud environment which can handle such huge amount of data. In this paper, performance comparison of 3-Node Cluster and Cloud Based Cluster provided by the Amazon Web Services is being done. We have compared the processing of structured data with the help of different queries provided by HIVE tool on 3-NODE cluster and Amazon Web Service (AWS) cluster. It has been concluded that Hive Queries on AWS Cluster gives better results as compared to 3-Node cluster.
Performance of Speaker Independent Language Identification System under Various Noise Environments

Phani Kumar Polasi1, Dr K Sri Rama Krishna1
1 ECE Department, V R Siddhartha Engineering College,
Vijayawada, Andhra Pradesh, India

Language Identification has gained significant importance in recent years, both in research and commercial market place, demanding an improvement in the ability of machines to distinguish languages. Although methods like Gaussian Mixture Models, Hidden Markov Models and Neural Networks are used for identifying languages the problem of language identification in noisy environments could not be addressed so far. This paper addresses the capability of an Automatic Language Identification (LID) system in clean and noisy environments. The language identification studies are performed using IITKGP-MLILSC (IIT Kharagpur-Multilingual Indian Language Speech Corpus) databases which consists of 27 languages.

Multi Level Fusion of Palmprint and Dorsal hand Vein

Gopal Chaudhary1, Smriti Srivastava1, and Saurabh Bhardwaj2
1 Netaji Subhas Institute of Technology, Delhi,
2 Thapar university, Patiala

A novel multilevel level fusion of palmprint and dorsal hand vein is developed in this work. First feature level fusion is done on left and right hand palmprint to get feature fused vector (FFV). Next, the scores of FFV and veins are calculated and score level fusion is done in order to identify person. Hence both the feature level as well as score level fusion techniques have been used in a hybrid fashion. In the present work, feature fusion rules have been proposed to control the dimension of FFV. For palmprint, IIT Delhi Palmprint Image Database version 1.0 is used which has been acquired using completely touchless imaging setup. In this feature level fusion of both left and right hand is used. For dorsal hand veins, Bosphorus Hand Vein Database is used because of the stability and uniqueness of hand vein patterns. The improvement of results verify the success of our approach of multilevel level fusion.
A Comparative Study on Multi-View Discriminant Analysis and Source Domain Dictionary Based Face Recognition

Steven Lawrence Fernandes  
Research Scholar, Dept. Electronics & Communication Engineering, Karunya University, India.  
Dr. G. Josemin Bala  
Professor, Dept. Electronics & Communication Engineering, Karunya University, India

Human face images captured in real world scenarios using surveillance cameras won’t always contain single view, instead they usually contain multi-view. Recognizing multi-view faces is still a challenging task. Multi-view Discriminant Analysis (MDA) and Source Domain Dictionary (SSD) are two techniques which we have developed and analyzed in this paper to recognize faces across multi-view. In MDA the faces collected from various views are reflected to a discriminant general space by making use of transforms of those views. SSD on the other hand is based on sparse representation, which efficiently makes the dictionary model of source data. It also signifies each class of data discriminatively. Both the developed techniques are validated on CMU-Multi PIE face database which contains 337 people recorded under 15 different view positions and 19 different conditions.

Mining Maximal Efficient Closed Itemsets without any Redundancy

Greeshma L1 & Dr. G Pradeepini2  
1Department of CSE, K L University, Vaddeswaram, Andhra Pradesh, India  
2Department of CSE, K L University, Vaddeswaram, Andhra Pradesh, India

Mining more relevant itemsets from various information repositories, which is an essential task in knowledge discovery from data that identifies itemsets with more interestingness measures (support and confidence). Due to the availability of data over Internet, it may retrieve huge number of itemsets to user, which may degrades the performance and increases time complexity. This paper proposed a framework called Analyzing All Maximal Efficient Itemsets to provide a condensed and lossless representation of data in form of rule association rules. We proposed two algorithms Apriori-MC (Apriori-Maximal Closed itemsets) and AAEMIs (Analyzing All Efficient Maximal Itemsets) by deleting non-closed itemsets. The proposed method AAEMIs regains complete relevant itemsets from a group of efficient Maximal Closed Itemsets (MCIs) without specifying user specified constraint and overcoming redundancy.
An Interactive freehand ROI Tool for Thyroid Uptake studies Using Gamma Camera

Palla Sri Harsha, A Shiva, Kumar T Rajamani, Siva Subramanyam and Siva Sankar Sai
Sri Sathya Sai Institute of Higher Learning

Thyroid Uptake is a procedure that requires an injection of radiotracer/radioisotope into the patient’s blood stream. After injecting 2 millicuries of Technetium-99m pertechnetate radio-isotope, thyroid images are acquired. This uptake requires a special purpose camera called Gamma Camera. Thyroid uptake study provides both the functional, structural information. It is used for the diagnosis of various thyroid disorders. Thyroid uptake is calculated depending on the counts. Counts are nothing but the total number of intensity values present in the selected region of interest. LEAP (Low Energy All Purpose) collimator is used in the Gamma Camera which can handle only photons of lower energies. Technetium-99m pertechnetate is used having an emission energy of 140 Kev. Thyroid uptake scan study using Gamma Camera has to be calibrated at each organization. In our super specialty hospital, it has been standardized that the uptake value greater than 2.5% is considered as Hyperthyroidism, and value between 0.5-2.5% is considered as Normal and the value less than 0.5% is considered as Hypothyroidism. An Interactive freehand ROI tool was developed in Matlab R2013a as an alternative to the software existing in the Department of Nuclear Medicine, SSSIHMS. This ROI throws light on understanding the image data and calculating the Glomerular Filtration Rate. The GFR is calculated using GATES formula. The tracer uptake is obtained from both left and right thyroid lobes by manually drawing a ROI separately. Developed tool was tested on 30 real time thyroid cases with expected thyroid disorders. The uptake value obtained from the developed tool are compared with the values of the existing software in SSSIHMS.

Literature Survey on Intrusion Detection Systems in MANETs

Pooja Kundu, Neeti Kashyap, Neha Yadav

Mobile ad hoc networks are wireless networks consisting of mobile nodes with no boundary. Nodes are free to move and the network is dynamic. Unique features of these networks serve as benefits as well as drawbacks and give chances to attackers. Intrusion occurs when a malicious node tries to enter the network and misuses the resources. Several attacks and intrusion detection techniques are discussed in this paper.
Apply of Sum of Difference Method to Predict Placement of Students’ using Educational Data Mining

Prof. Ramanathan L 1, Prof. Angelina Geetha, Prof. M. Khalid and Prof. Swarnalatha P
1 School of Computing Science and Engineering, VIT University, Vellore – 632 014, Tamilnadu, INDIA

The purpose of higher education organizations is to offer superior education to its students. The proficiency to forecast student’s achievement is valuable in affiliated ways associated with organization education system. Students’ scores which they got in exam, can be used to invent training set for dominate learning algorithms. With the academia attributes of students such as internal marks, lab marks, age etc. it can be easily predict their performance. After getting predicted results, improvement in the performance of the student to engage with desirable assistance to the students has to be processed. Educational Data Mining (EDM) offers such information to educational organization from educational data. EDM provides various methods for prediction of student’s performance, which improve the future results of students. In this paper, by using their attributes such as academic records, age, and achievement etc, EDM is used for predicting the performance about placement of final year students. As a result, higher education organizations will offer superior education to its students.

Robust Color Image Multi-thresholding using Between-class variance and Cuckoo Search Algorithm

V. Rajinikanth1, N. Sri Madhava Raja2, Suresh Chandra Satapathy3
1,2St. Joseph’s College of Engineering, Department of Electronics and Instrumentation Engineering, Chennai 600119, Tamilnadu, India. 3Anil Neerukonda Institute OF Technology and Sciences, Department of Computer Science and Engineering, Visakhapatnam 531162, Andhra Pradesh, India

Multi-level image thresholding is a well known pre-processing procedure, commonly used in variety of image related domains. Segmentation process classifies the pixels of the image into various group based on the threshold level and intensity value. In this paper, colour image segmentation is proposed using Cuckoo Search (CS) algorithm. The performance of the proposed technique is validated with the Bacterial Forage Optimization (BFO) and Particle Swarm Optimization (PSO). The qualitative and quantitative investigation is carried out
using the parameters, such as CPU time, between-class variance value and image quality measures, such as Mean Structural Similarity Index Matrix (MSSIM), Normalized Absolute Error (NAE), Structural Content (SC) and PSNR. The robustness of the implemented segmentation procedure is also verified using the image dataset smeared with the Gaussian Noise (GN) and Speckle Noise (SN). The study shows that, CS algorithm based multi-level segmentation offers better result compared with BFO and PSO.

Social Media: A Review

Gauri Jain and Manisha Sharma
Banasthali Vidhyapith, Banasthali

This paper is an insight about the online social media which is the most common form of media now a days and is been used most widely. It throws light on types of social media, various types of users and its major functional blocks.

Bayesian-Fuzzy GIS Overlay to construe congestion dynamics

Alok Bhushan Mukherjee 1, Akhouri Pramod Krishna2 and Nilanchal Patel3
1, 2, 3 Department of Remote Sensing, Birla Institute of Technology, Mesra, Ranchi, India

Complex systems such as transportation are influenced by several factors which are subjugated by uncertainty and therefore, it has non-linear characteristics. Consequently, transition in congestion degree from one class to another class can be abrupt and unpredictable. If the possibility of transition in congestion degree from one class to another can be determined, then adequate measures can be taken to make transportation system more robust and sustainable. The present paper demonstrates the efficacy of Bayesian-Fuzzy GIS Overlay to construe congestion dynamics on a test data set. The test data set consists of congestion indicators such as Average Speed (AS) and Congestion Index Value (CIV) of different routes for the test study area. The results succeeded in representing the probable transition in congestion degree from one class to another with respective Bayesian probabilities for different classes.
A Hybrid Clustering Technique to Improve Big Data Accessibility Based on Machine Learning Approaches

Omid Mahdi Ebadati E. and Mohammad Mortazavi Tabrizi
Somayeh Street, Between Qarani & Vila, Department of Mathematics and Computer Science, Kharazmi University, Tehran, Iran

Big data is called to a large or complex data from traditional ones, which is unstructured in many case. Accessing to a specific value in a huge data that is not sorted or organized can be time consuming and require a high processing. With growing of data, clustering can be a most important unsupervised approach that finds a structure for data. In this paper, we demonstrate two approaches to cluster data with high accuracy, and then we sort data by implementing merge sort algorithm finally, we use binary search to find a data value point in a specific range of data. This research presents a high value efficiency combo method in big data by using genetic and $k$-means. After clustering with $k$-means total sum of the Euclidean distances is $3.372335\Omega_9 + 09$ for 4 clusters, and after genetic algorithm this number reduce to $0.0300344$ in the best fit. In the second and third stage we show that after this implementation, we can access to a particular data much faster and accurate than other older methods.

EFFICIENT ICEBERG QUERY EVALUATION IN DISTRIBUTED DATABASES BY DEVELOPING DEFERRED STRATEGIES

Vuppu Shankar1, Dr. C. V. Guru Rao2
1Assoc.Prof, Department of Department of Computer Science and Engineering, Kakatiya Institute of Technology & Science-Warangal, Telanga, India-506015
2 Professor & Head, Department of Computer Science and Engineering, S. R. Engineering College, Warangal, Telangana, India

With the rapid increase of the distributed databases the fast retrieval of the data from these databases are playing an important role. The bitmap index technique is well known data structure to provide fast search from large collections. The iceberg queries are frequently used where small output is required from large inputs. Recently, the bitmap indices with compression technique (WAH) are being utilized for efficient iceberg query evaluation. However, the results of these techniques are available only with standalone database. In this paper, we present an effective iceberg query evaluation by developing deferred strategy in distributed databases. This reduced the AND operations performed excessively in existing algorithm. The proposed algorithm executes in both the ways of data shipping and query shipping. The experimental results are verified and compared with existing algorithm.
Unique Identifier System using Aneka Platform

Karishma Varshney1,a, Rahul Johari2,a, R. L. Ujjwal3,a
a USICT,Guru Gobind Singh Indraprastha University, Sector 16-C, Dwarka,
New Delhi-110075, India

This paper is regarding the development of a console application named „Unique Identifier System (UIS) used to create a unique identification number (UID) for a person at the time of his/her birth. Instead of having various identity proofs like PAN card, Driving license, Aadhaar card, Voter ID card, Ration card et al. the person will be recognized by its UID all over the world. This UID will be stored on a cloud to be accessed all over the globe. For hosting the application on Cloud, we are using the Aneka tool, a Cloud Application Development Platform [1] which will make all the UIDs available globally.

A Novel Graphical Password Authentication
Mechanism for Cloud Services

M.Kameswara Rao , T.Usha Switha, S.Naveen
Department of Electronics and Computer Engineering,K L
University,Guntur,Andhra Pradesh

Password provides high security and confidentiality for the data and also prevents unauthorized access. So, the most popular authentication method which is the alphanumeric passwords that provides security to users which are having strings of letters and digits. Due to various drawbacks in text based passwords, graphical password authentication is developed as an alternative. In graphical password authentication, password is provided based on the set of images. For users it is easy to remember images than text and also graphical passwords provide more security when compared to text based. There are two techniques in graphical passwords there are Recognition Based Technique and Recall Based Technique. To provide more security to user a new idea has been proposed by combining Recognition based and Recall Based techniques in this paper.
A Conceptual Framework for Big Data Implementation to handle large volume of complex data

Prof. Manas Kumar Sanyal 1, Sajal Kanti Bhadra 2, Sudhangsu Das 3
1 Professor, Department of Business Administration, University of Kalyani,
2 PhD. Scholar, Department of Business Administration, University of Kalyani,
3 PhD. Scholar, Department of Business Administration, University of Kalyani

Globally industries, businesses, people, government are producing and consuming vast amounts of data on daily basis. Now-a-days, it’s become challenging to the IT world to deal with the variety and velocity of large volume of data. To overcome these bottlenecks, Big Data is taking a big role for catering data capturing, organizing and analyzing process in innovative and faster way. Big Data software and services foster organizational growth by generating values and ideas out of the voluminous, fast moving and heterogeneous data and by enabling completely a new innovative Information Technology (IT) eco-system that have not been possible before. The ideas and values are derived from the IT eco-system based on advanced data-analysis on top of the IT Servers, System Architecture or Network and Physical objects virtualization. In this research paper, authors have presented a conceptual framework for providing solution of the problem where required huge volume of data processing using different BIG data technology stack. The proposed model have given solution through data capturing, organizing data, analyzing data, finally making value and decision for the concern stakeholders.

Path Reliability in Automated Test Case Generation Process

Kavita Choudhary 1, Payal Rani 2, Shilpa 3
1 ITM University Gurgoan Haryana, 2 Banasthali University Jaipur India, 3 ITM University Gurgoan Haryana

In software testing, the reliability of a path is an important factor and must be calculated to go forth in the testing process. This paper is the extended work [1], previously test cases are generated using cuckoo search. The reliability is calculated with the help of control flow graphs and mathematical calculations for all the paths specified in flow graph [7]. We consider various test cases that are traversing different paths and accordingly compute reliability of the paths.
A Study on Wii Remote Application as Tangible User Interface in elementary classroom teaching

Mitali Sinha1, Suman Deb2, Sonia Nandi3
Computer Science and Engineering Department, NIT Agartala

Elementary teaching in classes has always been a challenge. The cognitive understanding of children (4-11 years of age) are very different from a matured person. Research and studies[1,2] have been carried out on children’s behavior and problem solving ability which reveals that learning with actual physical objects produces better results than abstract representations. In this study, we have explored the benefits of TUI (Tangible User Interface) in children’s thinking and learning process with Wii Remote. By providing both visual and physical representation, TUIs helps in reducing the cognitive load of thinking among children and increase their learning capabilities. A low-cost effective tool, “Nintendo Wii Remote” is rapidly finding a place in the field of learning technologies. Analysis conducted in this paper have shown the possibilities of exploring Wii Remote aiding in learning environment for children can significantly affect the learning outcome.

Enhanced understanding of education content using 3D depth vision

Sonia Nandi1, Suman Deb2, Mitali Sinha3
National institute of technology, Agartala, India

Perspective representation of three dimensional physical object and scientific content printed makes an educational content easily understandable by the learner. Creation of abstract content on any subject for teaching purpose is a hard task for the teachers. In this regard, for an enhanced teaching learning experience, a very popular gaming tool named kinect tried in a different way to make the students understand the educational content in an easy and interesting way. In this paper, it is tried to visualize the perspective view of the two dimensional printed content on book in a real life scenario. It is tried out to generate equivalent educational content as interesting as gaming content for better understanding and encouraging student and to grasp knowledge in an efficient way.
AHP-based Ranking of Cloud-Service Providers

Rajanpreet Kaur Chahal, Sarbjeet Singh
Computer Science and Engineering
UIET, Panjab University, Chandigarh

The paper presents an approach to rank various Cloud-Service providers (CSPs) on the basis of four parameters, namely, Performance, Availability, Scalability and Accuracy, using Analytic Hierarchy Process (AHP). The CSPs were monitored by the cloud storage company named Nasuni and tests were conducted to evaluate the CSPs for the four parameters mentioned above. This paper makes use of the data provided by Nasuni to propose a method for ranking various CSPs. AHP has been selected for this purpose because it uses the foundations of mathematics and psychology to enable one to make complicated decisions. Instead of recommending a correct decision, AHP provides the decision makers with an opportunity to select the option that is most befitting to their goals.

Hardware Prototyping for Enhanced Resilient Onboard Navigation Unit

Archana Sreekumar1,1, Radhamani Pillay V1
1 Amrita Vishwa Vidyapeetham, Coimbatore, India

Dependability of safety critical system by fault tolerant design approach use redundant architecture to tolerate hardware faults. Navigation, Guidance and Control units of onboard computers in Indian satellite launch vehicles rely on hot standby dual redundancy. Effective use of computational resources is desirable in such applications where weight, size, power and volume are critical. Resource augmentation based on task criticality can achieve an increased slack margin which further is used for software and transient fault handling and improved system performance. In this paper, design and development of a hardware prototype with fault injection on an LPC 1768 ARM processor, for validating and testing the fault tolerant resource augmented scheduling of onboard computers is presented. The resource augmented system with added flexibility has been evaluated for improved performance and superior management of faults. The system provides better slack margin and resource utilization which leads for tolerating increased number of transient and software faults.
Web Data Analysis using Negative Association Rule Mining

Raghvendra Kumar1, Prasant Kumar Pattnaik2, Yogesh Sharma3
1 Faculty of Engineering and Technology, JNU, Jodhpur, Rajasthan, India
2 School of Computer Engineering, KIIT University, Bhubaneswar, India,
3 Faculty of Engineering and Technology, JNU, Jodhpur, Rajasthan, India

Today era is combination of information and communication technology (ICT), everyone wants to share and store their information through the internet, so there is huge amount of data is searched every day, there is lots of web data is collected in every seconds and with the help of web usage mining, we can discover useful pattern from the web databases. For analyzing this huge amount of web data, we required one of the useful concepts is web site managements. In which we discover the useful pattern, discover or analyzing the useful information from the web database. Here we used the concept of negative association rule mining for analyzing the web log files, for finding the strong association between the web data s.

Cloud Based Thermal Management System
Design And Its Analysis

Namrata Das, Anirban Kundu
Netaji Subhash Engineering College, Kolkata 700152, India
Innovation Research Lab, West Bengal 711103, India

We are going to propose an advanced architecture sensing real time temperature of a particular location for transmitting the data to a cloud database. Current data have been analysed based on previously recorded data. If any abnormal data is observed, then the system produces an alarming message to the concerned authorities. Analytical data guide users to solve real time problems observing anomalies in the system.
ICC Cricket World Cup Prediction Model

Avisek Das, Ashish Ranjan Parida, Praveen Ranjan Srivastava
IIM Rohtak, Rohtak, Haryana, India

The paper aims to predict the winner of the Cricket World Cup by taking into consideration the various factors which plays an important role in deciding the final outcome of a game. Of the several factors, five has been taken into consideration. These are whether team wins the toss or not, whether the team bats first or not, whether the match is a day match or day/night match, whether the team is playing in its home ground or away from home and at what round of the tournament the match has been played. This paper has used the method of Analytic Hierarchy Process (AHP) to compare the different parameters and come to the final conclusion.

Towards distributed solution to the state explosion problem

Lamia Allal1, Ghalem Belalem, and Philippe Dhaussy2
1 Dept. Computer Science, Faculty of Exact and Applied Sciences, University of Oran 1 Ahmed Ben Bella, Oran, Algeria
2 Lab-STICC UMR CNRS 6285 ENSTA Bretagne, Brest, France

In the life cycle of any software system, a crucial phase formalization and validation through verification or testing induces an identification of errors infiltrated during its design. This is achieved through verification by model checking. A model checking algorithm is based on two steps: the construction of state space of the system specification and the verification of this state space. However, these steps are limited by the state explosion problem, which occurs when models are large. In this paper, we propose a solution to this problem to improve performance in execution time and memory space by performing the exploration of state space in a distributed architecture consisting of several machines.
REAL TIME BUS MONITORING SYSTEM

Jay Sarraf, Ishaani Priyadarshini, Prasant Kumar Pattnaik
School of Computer Engineering
KIIT UNIVERSITY Bhubaneswar

The real time bus monitoring system may be designed to serve as a tracking system for the frequent local bus travelers using a GPS (Global positioning system) device and GPRS (General packet radio service) system. This paper focuses on a system that help passengers locate the current location of the buses and expected arrival time of the buses to their nearest bus stop. The location and ETA (Estimated Time of Arrival) will be shown on the mobile app and can also be received through SMS (Short Messaging Service). The location can also be tracked by the network administrator through a web application which will keep the complete location history of the busses.

High Performance DFT architectures using Winograd Fast Fourier Transform Algorithm

Shubhangi Rathkanthiwar1, Sandeep Kakde2, Rajesh Thakare3,4 Rahul Kamdi 5 Shailesh Kamble5

This paper presents area and latency aware design of Discrete Fourier Transform (DFT) architectures using Winograd Fast Fourier Transform algorithm (WFFT). WFFT is one of the Fast Fourier algorithms which calculate prime sized DFTs. The main component of DFT architectures are Adders and Multipliers. This paper presents DFT architectures using Winograd Fast Fourier Algorithm with Carry Look Ahead Adder and add/shift multiplier and also with Semi-complex Multipliers. In this paper, different prime size DFTs are calculated using polynomial base WFFT as well as conventional algorithm. Area and latency are calculated in Xilinx synthesizer. Polynomial WFFT include Chinese Remainder theorem which increases complexity for higher orders. This paper mainly focuses on prime size 5-point and 7–point WFFT architectures, implemented in Verilog and simulated using Xilinx ISE 13.1. Each sub module is designed using data flow style and finally top level integration is done using structural modeling. DFT architecture has wide range of applications in various domain includes use in Digital Terrestrial/Television Multimedia Broadcasting standard.
Dynamic Voltage Restorer Based on Neural Network and Particle Swarm Optimization for Voltage Mitigation

Monika Gupta1, Aditya Sindhu1
1Department of Electrical & Electronics Engineering, Maharaja Agrasen Institute of Technology, Delhi, India.

Dynamic Voltage Restorer (DVR) is one of the most widely implemented power devices used to mitigate voltage unbalance in the grid. The performance of DVR largely depends upon its control strategy, in which controller plays an important part. Literature has shown that the commonly used proportional integral (PI) and neural network (NN) controller have many inherent disadvantages including high total harmonic distortion (THD) and high delay time. In this paper, we have replaced the PI controller with a neural controller, whose weights are trained using Particle Swarm Optimization (PSO). A comparative analysis of the DVR performance is done in MATLAB SIMULINK environment for three controllers - PI, NN with back propagation and NN with PSO for 30% and 80% voltage sag, 40% voltage swell and unbalanced voltage (1-x). The results obtained document that the hybrid neural controller with PSO has least distortions and is most robust of the three.

Analysis of Norms in Adaptive Algorithm on Application of System Identification

1Sarthak Panda, 2*Mihir Narayan Mohanty ITER, S „O A University, Bhubaneswar, Odisha, India

System identification is an important area in signal processing research. It aims to retrieve the system s unknown specifications from its output only. This technology has a wide variety of applications in engineering and control, industries, as well as medical fields. Typically, the identification of models expressed as mathematical equations. Linear, Non-Linear, Non parametric and Hybrid models are few deciding factors on which different techniques for System Identification relies on. In this paper, we discuss in detail the LMS algorithm and NLMS algorithm. In particular, various types of norms are included in LMS algorithm and the NLMS algorithm is modified according to the norms. Considering different norms in LMS algorithm we have analyzed the application of System identification. Also, it has been verified for both linear and non-linear models. Finally, for non-linear system identification based on Wilcoxon norm has been proposed. The results as well as the comparison show that the Wilcoxon norm is one of the better norms than others and is applied for System identification. The results show its efficacy.
SKT : A New Approach for Secure Key Transmission using MGPISXFS

Kamal Kumar Gola1, Vaibhav Sharma2, Rahul Rathore3
123 Department of Computer Science and Engineering, Teerthanker Mahaveer University, Moradabad

Cryptography is the concept used to enhance secure communication between two parties; these parties can be two persons in same building or two persons in different organizations of the world. Cryptography is said to be 100% secure but every time attacker try to break the magic of cryptography. One loose point in cryptography is key transmission. It is most sensitive transmission in the field of cryptography. Many Techniques are proposed time to time to secure key transmission. Some techniques have shown good result up to some extent but not at all fully secured. In this paper we have proposed a key transmission technique to enhance security, Confidentiality and Integrity. We have described detailed algorithm to perform key transmission. Also we have compared the proposed algorithm with existing algorithms.

A Comparative Study of different Approaches for the Speaker Recognition

Kanaka Durga Returi1., Dr. Vaka Murali Mohan2* and Praveen Kumar Lagisetty2

1. Department of Computer Science & Engineering, GITAM Institute of Technology, GITAM University, Visakhapatnam, AP, INDIA
2. Department of Computer Science & Engineering, TRR College of Engineering, Inole, Patancheru, Hyderabad, TS, INDIA

A Comparative Study of different Approaches for the Speaker Recognition is presented in this paper. In this study speaker speech signal is normalized. This normalized signal for the different function are tested with some of the parameters and compared with the original signal. Some of them are tested in this study those are Hamming function; Gaussian function; Blackman Harris function; Bertlett Hanning function; Chebyshev function; Kaiser function; Hann function and Parzen function. All these function s are tested are compared in this paper.
A Time Efficient Leaf Rust Disease Detection Technique of Wheat Leaf Images using Pearson Correlation Coefficient and Rough Fuzzy C-Means

Dhiman Mondal1, Dipak Kumar Kole2
1,2 Department of CSE, Jalpaiguri Govt. Engg. College, Jalpaiguri

In agricultural sector diagnosis of crop disease is an important issue, since it has a marked influence on the production of agriculture of a nation. It is very essential to diagnose disease in an early stage to control them and to reduce crop losses. This paper presents a time efficient proposed technique to detect the presence of leaf rust disease in wheat leaf using image processing, rough set and fuzzy c-means. The proposed technique is experimented on one hundred standard diseased and non-diseased wheat leaf images and achieved 95% and 94% success rate respectively depending on most three dominated features and single most dominated feature, Ratio of Infected Leaf Area (RILA). The three most dominated features and single most dominated feature are selected out of ten features by the Pearson correlation coefficient. A significant point of the proposed method is that all the features are converted into size invariant features.

Task scheduling algorithms with multiple factor in cloud computing environment

Nidhi Bansal1, Amit Awasthi2, Shruti Bansal3
1Department of Computer Science and Engineering, Vidya College of Engineering, Meerut, INDIA
2Department of Computer Science and Engineering NITTTR, Chandigarh, INDIA
3 Department of Electronic & Communication, Shobhit University, Meerut, INDIA

Optimized task scheduling concepts can meet user requirements efficiently by using priority concepts. Increasing the resource utilization and reducing the cost, both are compulsory factors to be compromise in task scheduling algorithms of cloud computation for executing many tasks. With updating the technology many new features in cloud computing introduced such as fault tolerance, high resource utilization, expandability, flexibility, reduced overhead for users, reduced cost, required services etc, this paper discussed task scheduling algorithms based on priority for virtual machines and tasks. This algorithm performs good results with balance the load, but it’s not effective with cost performance. Secondly comparative study also has been done in this paper between various scheduling algorithms by CloudSim simulator.
The State of the Art in Software Reliability Prediction: Software Metrics and Fuzzy Logic Perspective

S. W. A. Rizvi1, V. K. Singh2, R. A. Khan3
1Dept. of CSE, BBDU, 2Dept. of IT, BBDNITM, 3Dept. of IT, Dr. Bhimrao Ambedkar University, Lucknow

Every day a bulk of software are developed by industries to fulfill the customer and user requirements. Definitely, it has increased the facilities but on the other hand it also increase the probability of errors, faults, failures and also the complexity in the system that subsequently reduces the understandability of the software, make the software more error prone, highly complex and less reliable. As reliability in software based systems is a critical issue, its prediction is of great importance. In this paper, the state of the art in Software Reliability prediction has been presented with two perspectives; Software Metrics and Fuzzy Logic. The overall idea of the paper is to present, analyze, investigate and discuss the various approaches as well as reliability prediction models that are based on either reliability relevant metrics or Fuzzy Logic or both. At the end, paper presents a list of critical findings identified during literature review of various prediction models.

An Indexed Approach for Multiple Data Storage in Cloud

Saswati Sarkar1,3, Anirban Kundu2,3
1Adamas Institute of Technology, West Bengal-700126, India
2Netaji Subhash Engineering College, West Bengal-700152, India
3Innovation Research Lab, West Bengal-711103, India

A cloud based data storage technique is going to be proposed in this research. Cloud based multiple data storage technique exhibits multiple data storage within a particular memory location using indexing. Proposed cloud based technique involves searching and storing data with less time consumption. Data analyzer, data transmission, and data acquisition in cloud have been introduced in this paper. Dynamic memory space allocation in cloud has been demonstrated. The paper introduces data searching and indexing techniques. Time and space analysis are represented graphically in this paper. Hit ratio in real-time scenario has been demonstrated in our work. Proposed cloud based multiple data Storage technique reduces memory access time. Comparisons have been shown for time difference realization.
Design New Biorthogonal Wavelet Filter for Extraction of Blood Vessels and Calculate the Statistical Features

Yogesh M. Rajput1, Ramesh R. Manza1, Rathod D. Deepali1, Manjiri B. Patwari1, Manoj Saswade2, Neha Deshpande3
1 Dept of CS and IT, Dr. B. A. M. University, Aurangabad MS (India)
1.1 Institute of Management Studies & Information Technology, Vivekanand College Campus, Aurangabad MS (India)
2 Director, Saswade Eye Clinic, Aurangabad MS (India)
3 Director, Guruprasad Netra Rugnalaya Pvt. Ltd, Aurangabad MS (India)

World health organization predicts that in year 2012 there are about 347 million people worldwide have diabetes, more than 80% of diabetes deaths occur in different countries. WHO projects that diabetes will be the 7th major cause leading death in 2030. Diabetic Retinopathy caused by leakage of blood or fluid from the retinal blood vessels and it will damage the retina. For extraction of retinal blood vessels we have invent new wavelet filter. The proposed filter gives the good extraction result as compare to exiting wavelet filter. In proposed algorithm, we have extract the retinal blood vessels features like area, diameter, length, thickness, mean, tortuosity, and bifurcations. The proposed algorithm is tested on 1191 fundus images and achieves sensitivity of 98%, specificity of 92% and accuracy of 95%

Demand Side Management using Bacterial Foraging Optimization Algoritm

B. Priya Esther K Shivarama Krishna K. Sathish Kumar K. Ravi
School of Electrical Engineering
VIT University, Vellore-632014, Tamilnadu. India.

Demand side management (DSM) is one of the most significant functions involved in the smart grid that provides an opportunity to the customers to carryout suitable decisions related to energy consumption, which assists the energy suppliers to decrease the peak load demand and to change the load profile. The existing demand side management strategies not only uses specific techniques and algorithms but it is restricted to small range of controllable loads. The proposed demand side management strategy uses load shifting technique to handle the large number of loads. Bacterial foraging optimization algorithm (BFOA) is implemented to solve the minimization problem. Simulations were performed on smart grid which consists of different type of loads in residential, commercial and industrial areas respectively. The simulation results evaluates that proposed strategy attaining substantial savings as well as it reduces the peak load demand of the smart grid.
An Optimized Cluster based Routing Technique in VANET for Next Generation Network

1Arundhati Sahoo, 2Sanjit K. Swain, 3Binod K. Pattanayak, 4*Mihir N. Mohanty
1Research Scholar, 2Silicon Institute of Technology, 3,4ITER, SOA University, Bhubaneswar, Odisha, India

Since last few years, research in the field of vehicular networking has gained much attention and popularity among the industries and academia. Intelligent approach for such technology is the challenge. In this paper, we have taken an attempt to optimize the routing algorithm for vehicular adhoc networking (VANET). Ant Colony Optimization (ACO) is an optimization technique and is applied based on clustering technique. To improve the safety factor and efficiency and to develop an intelligent transport system, it is highly conceptual with the wireless technology. It is a special type of MANET, because of the variation of routing protocols. Even if the protocols of MANET are feasible, they are not able to provide the optimum throughput required for a fast changing vehicular ad-hoc network. Positions of the vehicles create the zone and the optimization is zone based. Ant Colony algorithm is combined with zone based clustering algorithm to improve the result. This approach combines the advantages of both the techniques, the ant colony algorithm as well as the zone based routing algorithm. Routing overhead has been compared between AODV, MARDYMO and TACR protocols and depicted in the graphical plots.

AgroKanti: Location-aware Decision Support System for Forecasting of Pests and Diseases in Grapes

Archana Chougule1, Vijay Kumar Jha2, Debajyoti Mukhopadhyay1
1Maharashtra Institute of Technology, Pune, India
2Birla Institute of Technology, Mesra, Ranchi

Grape is an important crop in Indian agriculture. There are many pests occurring on Grapes which cause huge yield loss to farmers. The grapes development is driven mainly by temperature and many pests have direct relation with temperature. We propose a decision support system named AgroKanti for managing pests on table grapes like powdery mildew and anthracnose. The decision support system is location based i.e. farmer is provided with details of pests considering current weather conditions at farmer’s location. We support farmers with pest details like symptoms and management techniques for pests. We provide our system as an application on mobile phones. The knowledge base of pests is stored as ontology in OWL format. We have also developed a black box for agricultural experts where agricultural experts can generate pest ontology form text descriptions. We have used NLP techniques and AGROVOC library to extract pest details from text descriptions and generate ontology.
A Unified Modeling Language Model for Occurrence and Resolving of Cyber Crime

Singh Rashmi, Saxena Vipin1,
Department of Computer Science, Babasaheb Bhimrao Ambedkar University (A Central University)
Vidya Vihar, Raebareli Road, Lucknow 226025, (U.P.), India

In the current scenario, distributed computing systems play significant role for accessing the various kinds of internet services. The different handheld devices like palmtop, laptop, mobile, etc can be connected across the distributed network. People enjoy social networking websites, online purchasing websites, and online transaction websites in the daily routine life. On the other hand, hackers are regularly watching the activities of the people who are categorized as the authorized users connected across the globe. The present work is related to propose a model which is based upon the object-oriented technology for occurring of cyber crime across the distributed network. A well known Unified Modeling Language is used and one can easily write the code for implementation of model in any object-oriented programming language. After that a UML model is proposed for filing the FIR online against the cyber crime.

The activities in the above procedure are represented by the UML activity diagram which is finally validated through the concept of finite state machine.

Cross Lingual Information Retrieval (CLIR) : Review of Tools, Challenges and Translation Approaches

Vijay Kumar Sharma, Namita Mittal
Department of Computer Science and Engineering, MNIT Jaipur, India

Today’s Web spreads all over the world and world’s communication over the internet leads to globalization and globalization makes it necessary to find information in any language. Since only one language is not recognized by all people across the world. Many people use their regional languages to express their needs and the language diversity becomes a great barrier. Cross Lingual Information Retrieval provides a solution for that barrier which allows a user to ask a query in native language and then to get the document in different language. This paper discusses the CLIR challenges, Query translation techniques and approaches for many Indian and foreign languages and briefly analyses the CLIR tools.
Minimizing the Cost of Losses Due to Cyber Attack through B. B. (Branch and Bound) Technique.

Narander Kumar 1 Priyanka Chaudhary2
1, 2 Department of Computer Science B.B.Ambedkar University (A Central University)
Lucknow U.P. India

The advancement of computer and digitization of information system, cyber crime is now becoming one of the most significant challenges in our society. Threat of cyber crime is a growing danger to the industry, business and economic field that are influenced by the cyber criminals along with common person of our society. Since cyber crime is often an aspect of more complex criminological reigns such as money laundering, trafficking and cyber terrorism, the true damage caused through cyber crime to society that may be unknown. This paper presents Branch and Bound (B&B) technique to minimize the losses due to cyber crime. Branch and Bound is the effective technique to solve assignment problems. B&B is, however, an algorithmic technique, which provides the solution for each specific type of problem. There are numerous choice exist to solve each type of problem but Branch and bound (B&B) is the best way.

Denoising knee joint Vibration signals using Variational Mode Decomposition

Aditya Sundar 1, Chinmay Das 1, Vivek Pahwa 1
1 Department of Electrical, Electronics and Instrumentation ,BITS, Pilani K.K. Birla Goa Campus

Analysis of knee joint vibration (VAG) signals using signal processing, feature extraction and classification techniques has shown promise for the non-invasive diagnosis of knee joint disorders. However for such techniques to yield reliable results, the digitally acquired signals must be accurately denoised. This paper presents a novel method for denoising VAG signals using variational mode decomposition followed by wiener entropy thresholding and filtering. Standard metrics : mean squared error, mean absolute error, signal to noise ratio, peak signal to noise ratio and CPU consumption time have been calculated to assess the performance our method. Metric : normalized root mean squared error has also been evaluated to estimate the effectiveness of our method in denoising synthetic VAG signals containing additive white gaussian noise. The proposed
method yielded a superior performance in denoising raw VAG signals in comparison to previous methods such as wavelet-soft thresholding, empirical mode decomposition-detrended fluctuation analysis and ensemble empirical mode decomposition-filtering. Our method also yielded better performance in denoising synthetic VAG signals in comparison to other methods like wavelet & wavelet packet-soft thresholding, wavelet-matching pursuit algorithm, empirical mode decomposition-detrended fluctuation analysis and ensemble empirical mode decomposition-filtering. The proposed method although computationally more complex, yields the most accurate denoising.

Data Size Reduction and Maximization of the Network Lifetime over Wireless Sensor Network

Venu Madhav Kuthadi1, Rajalakshmi Selvaraj2 and Tshilidzi Marwala3
1Department of AIS, University of Johannesburg, South Africa
2Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa & Department of Computer Science, BIUST, Botswana
3Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

The main concept of this research is for increasing the network lifetime and decreases the data size over wireless sensor network. To perform this idea we proposed some novel technique which provides the reliable energy efficient routes and maximizing the network lifetime for finding the route that minimize the total energy for packet traversal. We also use the data compression model that reduce the size of data and joint balancing of nodes and optimize the dynamic compression for improving the lifetime of network. The data compression could be completed within some step, those are raw data could get broken in few branches and get compressed at distinct level of the compression, these compressed data could be decompressed at a certain level and again compressed with distinct level to forward directly or by using some base station. For transmitting the data to base station from the source node, every node has to be clustered and have to choose one cluster head in the group of every cluster, the CH (Cluster Head) is having the more energy in compared to the all other nodes. The CH (Cluster Head) is obtaining the entire message from the other neighbor’s nodes and transmits it to the Base station. From source to destination data transmission, the nodes are searching shortest path that provide a high computation of complexity.
Deep Convolutional Neural Network Classifier for Handwritten Devanagari Character Recognition

Pratibha Singh1, Ajay Verma1, and Narendra S. Chaudhari2
1IET DAVV Khandwa Road, Indore, 452017, India,
2VNIT, Nagpur, India

The performance of two architecture of Neural Networks are compared for handwritten Devanagari character recognition. The first one is the fully connected Feed-forward Neural Network and the second one is deep Convolutional Neural Network. Deep learning is basically a biologically inspired technique based on human brain. A part of brain called neocortex is having layered architecture. The advantage of using CNN is that it does not require complex preprocessing or feature extraction algorithm. Image pixels are the input for the two networks. We obtained the improved result for standard character benchmarking datasets.

Indexing Video by the Content

Mohammed Amin Belarbi1, Saïd Mahmoudi2, Ghalem Belalem 3
1 Faculty of Exact Sciences and Computer Science, Abdelhamid Ibn Badiss University, Mostaganem, Algeria
2 Faculty of Engineering, University of Mons, 20 Place du Parc, Mons - Belgium
3 Dept. of Computer Science, Faculty of Exact and Applied Science, Ahmed Ben Bella University, Oran1, Algeria

Indexing video by content represents an important research area that one can find in the field of intelligent search of videos. Visual characteristics such as color are one of the most relevant components used to achieve this task. We are proposing in this paper the basics of indexing by content, the various symbolic features and our approach. Our project is composed of a system based on two phases: an indexing process, which can take long time, and a search engine, which is done in real time because features are already extracted at the indexing phase.
Energy Stability in Cloud for Web Page Ranking

Sutirtha Kumar Guha1, 4, Anirban Kundu2, 4, Rana Dattagupta3
1Seacom Engineering College, West Bengal, India
2Netaji Subhash Engineering College, West Bengal, India
3Jadavpur University, West Bengal, India
4Innovation Research Lab, West Bengal, India

We are going to propose a new approach to implement predictive Web page ranking in cloud environment. User query is transferred to the server side of cloud based search engine. Searching and ranking procedures have been executed on the server side and final output is sent to the client as a response. In this paper, prediction task has been performed based on user behaviour. Available data, resources, and functional support systems have been processed using schedulers. Session, duration, and other user relevant data are combined with the processed information for prediction. Different Web based data repositories are considered as cloud structure for energy stabilization.

Model with Cause and Effect for MANET (M-CEM)

Sharma Pankaj 1, Kohli Shruti 2 & Sinha K. Ashok 3,
1&3 Department of Information Technology,
ABES Engineering College,Ghaziabad, UP, India
2Department of Computer Science,Birla Institute of Technology,Noida, UP, India

Mobile ad-hoc network has gained popularity in recent years. There are several challenges faced by the researchers in this area. The most common research issue is the performance evaluation and enhancement. As we know that the performance of the MANET cannot be evaluated only with the selection of the protocol because the routing performance needs environment to operate. There are many network environmental conditions i.e causes (eg. Node mobility, number of nodes, pause time, network size etc.), which influence the performance of MANET. So it needs to emphasize to detect the possible causes (environmental causes) and their effect on performance. In this paper we have focused on this issue by developing a Model with Cause and Effect for MANET (M-CEM). The model has been tested on multiple scenarios and some serious causes and their effects were detected in MANET performance. The model is based on Fuzzy-AHP (Analytical Hierarchy Process) for decision making. Fuzzy Decision Map (FDM) has been used by evaluating weightage of possible causes. The model is simulated under NS2.34 and tested for various imaginary network environmental conditions. The model was found satisfactory to handle uncertainty, vagueness and imprecise information of various possible network causes.
Design of IOT based Architecture using Real Time Data

Nivedita Ray De Sarkar, Anirban Kundu, Anupam Bera, Mou De
Netaji Subhash Engineering College, Kolkata 700152, India
Innovation Research Lab, West Bengal 711103, India

We propose an Internet of Things (IOT) based system for handling of real time data fed from the environment to measure distinct activities. We provide unique identifications for each required substance using IOT. In this paper, we have presented and discussed the use of sensors as part of senders and receivers for protecting sensitive areas of specified zones. Furthermore, we have discussed the presence of IOT in preserving the intrusion details of sensitive areas.

Implementation of Server Load Balancing in Software Defined Networking

Sukhveer Kaur1, Japinder Singh1,
1 Shaheed Bhagat Singh State Technical Campus Ferozepur, INDIA

Network management is very painful and tedious process in large networks having hundreds of switches and routers. Software Defined Networking (SDN) is a new way for creating, designing and managing networks which aims to change this current undesirable situation. The main idea of SDN consists in logically centralizing network control in a SDN controller, which controls and monitors the behavior of the network. In this paper we developed an SDN application that performs server load balancing. The Main problem with traditional load balancer is that they use dedicated hardware. That hardware is very expensive and inflexible. Network Administrators cannot write their own algorithms since traditional load balancers are vendor locked. Therefore to solve these problems, we created SDN application which turned simple OpenFlow device into powerful load balancer. There are already certain existing load balancing algorithms in SDN but main problem with all these algorithms is that every request and return message has to pass through the load balancer. It introduces unnecessary latency. To solve these problems we implemented direct routing based load balancing algorithms. In Direct Routing, the load balancer is not involved in the return message from the web server to the client. It means server responds directly to client bypassing the load balancer thus improving performance.
A new curvelet based blind semi-fragile watermarking scheme for authentication and tamper detection of digital images

Nirmala S, Chetan K.R
Dept. of CSE, JNN College of Engineering

A novel blind semi-fragile watermarking scheme for authentication and tamper detection of digital images is proposed in this paper. This watermarking scheme is based on Discrete Curvelet Transform (DCLT), which captures the information content of the image in few coefficients compared to other transforms. The novelty of the approach is that the first level coarse DCLT coefficients of the input image are quantized into 4 bits which is used as watermark and embedded into the pseudo randomly determined coefficients. At the receiver side, the extracted and generated first level coarse DCLT coefficients of the watermarked image are divided into blocks of uniform size. The difference in the energy between each block of extracted and generated coefficients is compared and if the difference exceeds threshold, the block is marked as tampered. This scheme exhibits higher Normalization Correlation Coefficient (NCC) values for various incidental attacks and is thus more robust than existing scheme [1]. The proposed scheme outperforms in localizing tampered regions compared to method [1].

Emotion recognition: A step ahead of traditional approaches

Surbhi Agarwal1, Madhulika

Emotion recognition is an intriguing issue these days. It affects essential applications in numerous regions for example surveillance, defense, financial services etc. Determining a particular expression from face images effectively is a crucial venture. In this paper, we have demonstrated a novel approach to recognize emotions displayed in video sequences. The authors have considered seven basic emotions measuring factors: anger, fear, disgust, happiness, sadness, surprise and neutral. These factors are constantly encountered in our day to day life. The focus of this paper is towards contemplates a combination of extended biogeography based optimization algorithm, support vector machines and local binary patterns to obtain the best possible results.
An Efficient Virtualization Server Infrastructure for eSchools of India

Sai Hemanth Gantasala? and Noor Mahammad Sk??
Indian Institute of Information Technology, Design and Manufacturing(IITDM)
Kancheepuram, Chennai 600 127

According to 2011 census, the literacy rate in India is 74.04%, a substantial increase when compared to that of 65.38% in 2001 but it is a way below than the average world literacy rate of 84%. Out of 177 countries covered as per Human Development Report, India ranks 126 among the in the literacy rate [1]. Since 90% schools are located in rural areas, Rural education in India is to given utmost importance. Access to quality education is far behind in rural areas since there are fewer committed teachers because the qualification and source of income for the teachers are very less than what it is expected to be. Since there is an upward trend in growth of rural Internet access, creating rural specific applications enable immense growth of rural India. So using the World Wide Web as Education delivery medium would be the legitimate solution as it can not only eliminate most of the issues in rural education but also disseminate the best quality education. This paper provides a novel solution through implementation of e-school by using concept of virtualization. Server virtualization is the cost-effective implementation with least server consolidation.

Application of Clustering for Improving Search Result of a Website

Shashi Mehrotra Shruti Kohli
Birla Institute of Technology, Mesra India

The paper identifies the scope of improvement in the search result of a website using the clustering technique. Search option is extensively used at almost every website. The study uses hybrid clustering approach for grouping the search results into the relevant folders for efficient analysis. Every clustering algorithm has some advantages and disadvantages. Some of the most commonly used clustering algorithm are experimented on same data set. The paper analyzed some research where clustering is being used for improving web elements in various way. Cross-validation method is adopted for the experiments, and performance parameters namely, relevance, speed and user satisfaction are considered for the evaluation.
Web based System Design using Session Relevancy

Sutirtha Kumar Guha1,4, Anirban Kundu2,4, Rana Dattagupta3,4
1Seacom Engineering College, West Bengal, India
2Netaji Subhash Engineering College, West Bengal, India
3Jadavpur University, West Bengal, India
4Innovation Research Lab, West Bengal, India

In this paper, we propose an advanced technique for validating visitors’ sessions on Web pages measuring the real-time ranking. The session of a Web page is going to be considered as an important parameter for calculating the Web page ranking. Visitors’ session has been computed implementing fuzzy set theory based on Session Quotient (Qs) and Informative Quotient (Qi). Session Quotient is the combination of a threshold value (THV) and number of visitors. THV is considered for individual Web page based on the Web page contents to inspect the session. Informative Quotient is being calculated using number of incoming Web links to the particular Web page using proposed formula. Session validation has been performed implementing fuzzy logic as an application tool.

A Comparative Investigation Of Sample vs. Normal Map For Effective BigData Processing.

Shyavappa Yalawar #1, Dr. Suma V #2, Jawahar Rao #3
#1 Post Graduate Programme, Computer Science and Engineering,
Department of Information Science and Engineering, Dayananda Sagar College of Engineering, Bangalore, #2 Professor, Department of Information Science and Engineering, Dean, Research and Industry Incubation Centre (RIIC), Dayananda Sagar College of Engineering, Bangalore, #3 Research Scholar, Department of Industrial Engineering and Management, Dayananda Sagar college of Engineering

MapReduce is an effective tool for the parallel-processing of data. A major problem in practice, MapReduce Skew of the data: imbalance amount of data for each task consigned. Because some of the tasks to last much longer than other, and can greatly affect performance. A scale that is lightweight strategy for data skew problem solving Applications, to the reducer side in MapReduce. In contrast to previous work scale is no need to scan in front of a series of input data or to prevent the overlap between the maps and reduce phases. System uses innovative idea take samples, which can achieve a high level of calculation and produce accurate approximation for the distribution of intermediate data by scanning only a small
portion of the data on intermediate Map of the normal processing. It allows the reduction of tasks, to start the copying once the sample map functions selected (only a small part Map of tasks that have been fully spent for the first time). It supports split large clusters make connotations when applied and the total Output data is set up. System is implemented in Hadoop and Our experiments show that the implementation of some popular applications to speed up on negligible and can speed up Factor 4.

A Re-Ranking Approach Personalized Web Search results by using Privacy Protection

1Vijayalakshmi Kakulapati, 2 Sunitha Devi Bigul
1Dept of CSE, Guru Nanak Institutions Technical Campus, Ibrahimpatnam, Hyderabad.
2Dept of CSE, CMRIT, Hyderabad

Various search services quality on the Internet can be improved by personalized web search. Users face sort of dissatisfaction when the results fetched by search engines are not related to the query they have asked for. This irrelevance result is retrieved huge based on the enormous variety of consumers’ perspective and backgrounds, as well as the ambiguity of the contents. However, evidences show that the user’s private information which they search has become public due to the proliferation of Personalized Web Search. The proposed framework RPS implement re-ranking technique, which adaptively make simpler user profiles by queries while respecting the consumer particular constraints of privacy. The great challenge in personalized web search is Privacy protection. To increase the efficiency and accuracy of web search privacy we use Greedy IL algorithm, i.e. GreedyDP and GreedyIL, for runtime generalization. Experiment assessment results show that the privacy-preserving personalized framework and re-ranking approach is highly effective and accurate enough for user profiling privacy personalization on the web search.
Review on Video Watermarking Techniques in Spatial and Transform Domain

Garima Gupta1, V. K. Gupta2, Mahesh Chandra3
1,2ECE Department, IPEC, Ghaziabad, India
3ECE Department, BIT, Mesra, India

This paper presents a technical review on various watermarking techniques applied to different videos. In this paper watermarking techniques are categorized according to two domains: spatial domain and transform domain. These techniques are studied and research progress in both the techniques in the field of watermarking has been shown in this paper. A summary of various watermarking technique in both domain are also presented in tabular form which provides an overview about the recent research work going on about video watermarking.

Performance Evaluation of Classifier Combination Techniques for the Handwritten Devanagari Character Recognition

Pratibha Singh1, Ajay Verma1, and Narendra S. Chaudhari2,
1IET DAVV Khandwa Road, Indore (M.P.), 452017, India
2VNIT, Nagpur (M.H.), India

In this paper we have applied the classifier combination approach to Devanagari character recognition. Two types of combination models are experimented in this work. The first is based on stacking and the second one is based on parallel combination of classifiers. The chain code and gradient based features are used in this work. Three classifiers namely Linear Discriminat, Quadratic Discriminat and k-nearest neighbor classifier are combined using same features in stacking based approach. In parallel combination three different feature sets namely chain code, gradient based and distance based features are used for the classifiers of similar kind. Various fixed combining rules like sum, max, min, product, median and majority voting are used in both the combination schemes and out of these product rule performs best in most of the cases.
**An Improved Kuan Algorithm for Despeckling of SAR Images**

*Aditi Sharma1, Vikrant Bhateja 1 and Abhishek Tripathi1,*

1Department of Electronics and Communication Engineering, Shri Ramswaroop Memorial Group of Professional Colleges (SRMGPC), Lucknow-227105 (U.P.), India.

Synthetic Aperture Radar (SAR) is an acquisition tool for coherent imagery used for meteorological and astronomical purposes. The speckle noise diminishes the information and image quality which evokes the necessity of pre-processing of SAR images. Kuan filter is a popular despeckling algorithm among the various local statistics filters. Kuan filter works efficiently within the homogenous regions of the SAR images while penalty is imposed by the edges. This paper presents an improved Kuan filter which combines the concept of gradient and conduction function for despeckling of SAR images. In this, the image is processed by classifying it into three regions i.e., homogenous, non-homogenous and isolated regions respectively; depending upon the estimated value of noise parameters. This approach thereby provides a simple solution to overcome blurring across the edges during despeckling. Simulation results make it evident that the proposed despeckling algorithm yields better results as compared to other primitive filters.

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**Musical Noise Reduction Capability of Various Speech Enhancement Algorithms**

*Prateek Saxena1, V. K. Gupta2, Mahesh Chandra3*

1Department of ECE, RVIT Engg. College, Bijnor, India
2Department of ECE, IEC, Ghaziabad, India
3Department of ECE, BIT, Mesra, Ranchi, India

This paper presents a comparative analysis of spectral subtraction and Weiner denoising techniques for musical noise reduction. The iterative spectral subtraction method provides least musical noise generation applied in different noisy environments. The method of musical noise production is traced by observing the change in the kurtosis ratio of noise spectrum using different denoising techniques for different noisy signal. A MATLAB simulation is performed for four different noisy environments car noise, babble noise, operation room noise and machine gun noise at -10dB, -5dB, 0dB, 5dB and 10dB input SNR levels. It is observed that wiener based methods provide more improvement in SNR as compared to spectral subtraction based methods. But at the same time musical noise generation is more in wiener based methods. The wiener based method HRNR gives a maximum 35.77dB improvement in SNR for car noise at -10dB input SNR level. Iterative spectral subtraction gives the minimum value of kurtosis ratio for all noises at all input SNR level.
Dynamic Texture Recognition: A Review

Deepshika Tiwari and Vipin Tyagi
Jaypee University of Engineering and Technology
Raghogarh, Guna (MP) INDIA

Dynamic texture recognition is a very important part of texture analysis. It mainly consists of recognition of moving texture that exhibits certain form of temporal stationarity. There are a good number of approaches developed by different research groups for dynamic texture recognition. This paper, analyzes various dynamic texture recognition approaches and categorized into one of the four major groups: Discriminative based methods, Model based method, Flow based method and finally, Transform based methods that use wavelet based features to represent the dynamic texture. This survey critically evaluates various state-of-the-art dynamic texture recognition methods in order to provide a comprehensive modelling of dynamic texture.

Building Stateful Firewall Over Software Defined Networking

Karamjeet Kaur1, Japinder Singh1, 1 Shaheed Bhagat Singh
State Technical Campus Ferozepur, INDIA

Current network architectures are ill suited to meet today’s enterprise and academic requirements. Software Defined Networking (SDN) is a new way to Design, Build and Operate Networks. It replaces static, inflexible and complex networks with networks that are agile, scalable and innovative. The main idea is to decouple the control and data planes, allowing the network to be programmatically controlled. A key element of SDN architectures is the controller. This logically centralized entity acts as a network operating system, providing applications with a uniform and centralized programming interface to the underlying network. But it also introduces new security challenges. The challenge of building robust firewalls is the main challenge for protection of OpenFlow networks. The main problem with traditional firewall is that Network Administrator cannot modify/extend the capabilities of traditional vendor-specific firewall. Network Administrator can only configure the firewall according to the specifications given by the firewall vendor. To solve these problems we developed stateful firewall application that runs over SDN controller to show that most of the firewall functionalities can be built on software, without the aid of a dedicated hardware.
GSM based Automated Detection Model for Improvised Explosive Devices

Rajat Sharma1*, Vikrant Bhateja2 and S. C. Satapathy3
1SOPRA STERIA Pvt. Ltd., Noida, U.P., India
2Department of Electronics and Communication Engineering, Shri Ramswaroop Memorial Group of Professional Colleges (SRMGPC), Lucknow-227105(U.P.), India
3Department of Computer Science and Engineering, ANITS, Visakhapatnam (A.P.), India.

The most destructive crimes that are been committed by terrorists, tops the chart in perpetrating the world’s worst crimes. Nowadays, explosives are planted at crowded places to create a loss to multitude of people lives. Special bomb detection squad is required to search and diffuse the bomb herein termed as Improvised Explosive Devices (IED’s). Yet, there is dearth of independent techniques where detection of IEDs could be carried out in an automated fashion without the usage of man-force. This paper presents an automated approach for simplified detection of IED without the physical presence of bomb diffusion squad. The detection model proposed in this work consists of infrared sensors, AVR programmer, ATMEGA micro-controller and GSM module. The operational principle of the proposed model is based on the idea that an individual/machine carrying IED is detected by the sensors and at the same time this information is forwarded as a text message to the nearest workstations. The demonstration of prototype model reports the effectiveness of the detection approach with minimal complexity.

EIDPS: An Efficient Approach to Protect the Network and Intrusion Prevention

Rajalakshmi Selvaraj1, Venu Madhav Kuthadi2 and Tshilidzi Marwala3
1Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa & Department of Computer Science, BIUST, Botswana
2Department of AIS, University of Johannesburg, South Africa
3Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

Nowadays, Network Security is growing rapidly because no user specifically wants his/her computer system to be intruded by a malicious user or an attacker. The growing usage of cloud computing provides a different type of services, which leads users to face security issues. There are different types of security issues such as hacking intrusions worms and viruses, DoS etc. Since the entire needed
resources are associated with everyone and are centrally monitored by main controller in cloud computing area it creates a simplest way for intruders. In addition, an experienced or knowledgeable attacker can get to make out the system’s weakness and can hack the sensible information or any resource and so, it is essential to provide protection against attack or intrusion. Additionally, to handle poor performance or low latency for the clients, filtering malicious accesses becomes the main concern of an administrator. Some of the traditional Intrusion Detection and Prevention Systems fail to overcome the abovementioned problems. As a result, this research proposes a novel approach named Enhanced Intrusion Detection Prevention System to prevent, protect and respond the various network intrusions in the internet. Our proposed system use client-server architecture, which contains main server and several clients. Clients record the doubtful actions taking place in the Internet and record the suspicious information. Then, this recorded information is forwarded to the main server for further usage. After that, the main server analyses the received data and then make decision whether to provide a security alert or not; then the received information is displayed via an interface. In addition, server verifies the data packets using IDPS and classifies the attacks using Support Vector Machine. Finally, as per the attack type Honeypot system sends irrelevant data to the attacker. The experimentally deployed proposed system results are shown in our framework which validates the authorized users and prevents the intrusions effectively rather than other frameworks or tools.

A short run length descriptor for image retrieval

Nishant Shrivastava1, Vipin Tyagi2
Department of Computer Science and Engineering
Jaypee University of Engineering and Technology Raghogarh, Guna - (MP), 473226 India

In this paper an image retrieval technique based on a novel Short Run Length Descriptor (SRLD) is proposed. SRLD can effectively represent image local and global information. It can be viewed as an integrated representation of both color and texture properties. HSV color space is quantized to 72 bins and SRLD is computed using short run lengths of size two and three for each color in different orientations. Short run lengths at all orientations are combined to get Short Run Length Histogram (SRLH) feature. SRLH can thoroughly describe the spatial correlation between color and texture and have the advantages of both statistical and structural approaches of texture representation. The experimental results clearly demonstrate the effectiveness of the proposed descriptor in image retrieval applications.
Slot Utilization and Performance Improvement in Hadoop Cluster

K Radha1, Dr. B. Thirumala Rao2
1,2 KL University, Guntur, Andhra Pradesh, India

In Recent Years, Map Reduce is utilized by the fruitful associations (Yahoo, Facebook). Map Reduce is a prominent High-Performance figuring to prepare huge information in extensive groups. Different algorithms are proposed to address Data Locality, Straggler Problem and Slot under usage because of pre-arrangement of particular map and reduce phases which are not interchangeable. Straggler issue will happen because of unavoidable runtime dispute for memory, processor and system transmission capacity. Speculative Execution Performance Balancing is proposed to adjust the usage for single jobs and cluster of jobs. Slot Prescheduling accomplishes better data locality. Delay Scheduling is viable methodologies for enhancing the data locality in map reduce. For Map Reduce workloads job order optimization is challenging issue. MROrder1 is proposed to perform the job ordering automatically consequently the jobs which are arrived in Hadoop FIFO Buffer. Reducing the expense of Map Reduce Cluster and to build the usage of Map Reduce Clusters is a key testing issue. Restricted of accomplishing this objective is to streamline the Map Reduce jobs execution on clusters. This paper exhibits the key difficulties for performance improvement and utilization of Hadoop Cluster.

An Efficient Educational Data Mining Approach to Support E-Learning

Padmaja Appalla1, Venu Madhav Kuthadi2 and Tshilidzi Marwala3
1,3 Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa
2 Department of AIS, University of Johannesburg, South Africa

Currently, data mining technique has become popular in online learning environment for learning as this technique works on huge amount of dataset. There are several e-learning systems which are based on the classroom, providing the natural interface of human-computer and the communication among to multi-modality, and the computing technology of integrated pervasive in the classroom. The pervasive computing for the development of some of the requirements is being raised for system openness, scalability and extensibility. Everyone could access the materials of learning from anywhere with the help of internet. Increased access of users also leads to security requirements and higher efficiency in data retrieval. To address these concerns, we propose an educational data mining approach and OTP system for improving the efficiency of data retrieval and security. This system provides more accuracy in data mining and secure data transmission.
Big Data Management System for Personal Privacy Using SW and SDF

Kashinath Sarjapur1, Suma V2, Sharon Christa3, Jawahar I Rao4
1Post graduation student, Department of Information Science and Engineering, Dayananda Sagar College of Engineering,
2Professor, Department of Information Science and Engineering, Dayananda Sagar College of Engineering,
3Assistant Professor, Department of Information Science and Engineering, Dayananda Sagar College of Engineering,
4Research Scholar, Department of Industrial engineering and Management, Dayananda Sagar College of Engineering.

In this world of internet and social network, privacy is the one word that concerns everyone. All the data concerned to a person will get updated in the web and is available at ease. Hospitals and health centers when computerizing their center will knowingly or unknowingly be a part of this. Health related data is a very sensitive data that people are reluctant to disclose. Hospitals should go an extra mile to preserve the privacy of their clients. The techniques that are available in preserving privacy don’t serve its purpose. Thus a novel method completely new in the field of big data is introduced in privacy preservation namely personalized anonymity. The central idea of this technique can be distributed into two main components. The component one of the work deals with attributes in the patient data which is used as a flag and can be used to differentiate sensitive attribute. The attributes include sensitive disclosure flag (SDF) as well as sensitive weight (SW). The second component deals with a new demonstration called Frequency Distribution Block (FDB) and quasi-identifier Distribution Block (QIDB), which uses the SW and SDF for anonymity. The paper provides an overview of personalized anonymity technique in medical big data which in turn enhances the privacy of users.

An Amalgated strategy for Iris Recognition employing Neural Network and Hamming Distance

Madhulika Pandey, Madhulika

Biometric comprises of strategies for particularly perceiving people based upon one or more inherent physical or behavioral characteristics. Iris recognition system is one of the fundamental techniques that are used in biometrics for access control, identification system. It is essentially a pattern distinguishing technique that utilizes iris structures and patterns that are measurably novel, with the goal of user identification. It is relentless for the term of the life and serves as a living visa or a
code word that one need not remember and recall however is present always. This study concentrates on the novel approach that emphasizes on the characterization methodology of the iris designs by utilizing a collaborative methodology of neural networks and hamming distance. The proposed system additionally uses the support vector machine with the end goal of grouping of the iris as the left iris design or as the right iris of a person.

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**A Novel Approach for Horizontal Privacy Preserving Data Mining**

*HanumanthaRao Jalla* and *P N Girija*

1*Department of Information Technology, CBIT, Hyderabad, T.S, India*
2*School of Computer and Information Sciences, UoH, Hyderabad, T.S, India*

Many business applications use data mining techniques. Small organizations collaborate with each other to develop few applications to run their business smoothly in competitive world. While developing an application the organization wants to share data among themselves. So, it leads to the privacy issues of the individual customers, like personal information. This paper proposes a method which combines Walsh Hadamard Transformation (WHT) and existing data perturbation techniques to ensure privacy preservation for business applications. The proposed technique transforms original data into a new domain that achieves privacy related issues of individual customers of an organization. Experiments were conducted on two real data sets. From the observations it is concluded that the proposed technique gives acceptable accuracy with K-Nearest Neighbour (K-NN) classifier. Finally, the calculation of data distortion measures were done.

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**Randomized Cryptosystem Based on Linear Transformation**

*Adi Narayana Reddy K a, Vishnuvardhan B b, Shyam Chandra Prasad G c*

a*Department of CSE, ACE Engineering College, Hyderabad, India*
b*Department of IT, JNTU Jagityala, Karimnagar*
c*Department of CSE, Matrusri Engineering College, Saidabad, Hyderabad*

The secure transmission of any form of data over a communication medium is primary important across the globe or in research arena. Cryptography is a branch of cryptology and it provides security for data transmission between any communicating parties. The Hill cipher is one of the symmetric key substitution algorithms. Hill Cipher is vulnerable to known plaintext attack. This paper presents randomized cryptosystem based on linear transformation using variable length sub key groups. The proposed technique shares a prime circulant matrix as a secret key. The security analysis and performance of the method are studied and presented.
Literature Survey to Improve Image Retrieval Efficiency by Visual attention Model

T.Venkata Ramana1, K.Venugopal Rao 2, G.Shyama Chandra Prasad3
1 Research Scholar, JNTU Hyderabad
2 Professor & HOD CSE Department, Narayanaamma Engineering College, Hyderabad
3 Professor, CSE Department, Matrusri Engineering College, Hyderabad

Now a day’s CBIR is facing several performance issues because of the growth of digital world. To overcome the issues of CBIR, one challenging task is using the simulation of the visual attention model. To implement visual attention model several factors to be considered like similarity measures, Saliency model. Whereas the traditional CBIR focuses on image features. This paper presents analysis of different concepts which are used to improve the image retrieval efficiency. After analyzing it was understood that there exists some gap to concentrate in increasing the effectiveness of image retrievals. In accomplishing the gap we are presenting a kind of scope which improvises the performance issues in image retrievals.

Substrate Integrated Waveguide based 4-port Crossover for Beam-forming applications

Rahul Lal P, Prasanth M.Warrier and Dr. Sreedevi K.Menon
Department of Electronics and Communication Engineering, Amrita School of Engineering, Amrita Vishwavidyapeetham, Clappana P.O., Kollam

In this paper an effective crossover is designed using Substrate Integrated Waveguide (SIW) technology. Reflection, transmission and isolation of the crossover is studied along with the electric field to substantiate the effectiveness of the crossover. At the operating frequency, an isolation better than 35 dB is achieved between the decoupled ports with a transmission of ~ 1 dB through the coupled ports.
Computational Model Of Pixel Wise Temperature Prediction For Liver Tumor By High Intensity Focused Ultrasound Ablations.

P. REVATHY and V. SADASIVAM
Department of Computer Science and Engineering PSN College of Engineering and Technology Tirunelveli

Medical imaging is a challenging research field. High-intensity focused ultrasound (HIFU) is a developing medical imaging method for non-invasive ablation of tumors. Based on the patients image of the tumor region, a computational model is proposed for planning and optimization of the HIFU treatment. A pixel wise temperature prediction based on the grey scale intensity values was done using MATLAB code making improvement in the Pennes Bio-Heat Transfer Equation (PBHTE). Also the defects in other heat equations like wulff and Klinger are considered in the proposed heat equation. As peak temperatures above 850c – 900c causes cavitation to the tissue exposed, the present study aims at maintaining the thermal dose applied to tumor tissue to be within the limit. Simulated temperature values lie in the patients safe limit avoiding preboiling and thus cavitation of tumor tissue is avoided.

A proposed framework to adopt mobile app in 'eDistrict' projects to move one step ahead for successful implementation

Prof. Manas Kumar Sanyal 1, Sudhangsu Das 2, Sajal Bhadra 3
1 Department of Business Administration, Kalyani University
2 Department of Business Administration, Kalyani University
3 Department of Business Administration, Kalyani University

Government of India (GI) have been driving the e-Governance projects rolling out program in India with serious note, keeping in mind to deliver Government services in real time at anywhere and at any time on the basis of citizen's needs. The primary focus of GI is to do proper transformation of Indian rural and urban society for adopting technology to facilitate Government services. GI is putting lot of effort and money for transferring India to Digital India considering the fact for shifting behaviors and expectation of common citizens on the matter of Government services. The reflections of changes among the Indian societies already have been accounted and it has been noticed that common citizens are showing tremendous interest to use e-Governance applications as front end interface for their daily Government interactions. In these initiatives, GI has deployed 'e-District'
as one of the major project of Mission Mode Project (MMP) under National e-Governance plan of GI to offer citizens centric services which falls under district administration portfolio. The “e-District” project has been designed and build with based on three infrastructure pillars, the State Wide Area Network (SWAN) for communication, State Data Centre (SDC) for central data repository, and Common Service Centers (CSCs) for common citizens service counter. But, it has been observed that there is huge GAP in between Government expectations (services at door step) and its actual implementation of “e-District” projects. In the present implementation approach, essentially citizens have to attend KIOSK or Common Service Center (CSC) to avail Government services. Now-a-days, there is no way to deny that the acceptability of smart phone is growing and spreading and reaching to people very rapidly. Carrying this understanding, it could be anticipated that ‘e-district’ mobile apps could be solution to minimize this GAP and Government services can reach out at citizens door steps very easily. In this study, author’s main objective is to propose a framework to introduce mobile app for brining Government services at common citizen’s door steps. This improvement and enhancement of existing ‘eDistrict’ project is supposed to ensure sustainability of e-Governance because it will change attitude and mentality of society towards acceptance of e-Governance in case government services, thus it will transform our society in one steps a-head for accepting and implementing digital Governance in India.

A Semantic Framework to Standardize Cloud Adoption Process

Kumar Narander1, Saxena Swati2
1, 2 Babasaheb Bhimrao Ambedkar University (A Central University) Lucknow, India

The term Cloud computing defines one of the most popular internet based technology which benefits a business organization in terms of costaffordability, transparency, efficiency, technical flexibility and working freedom. It enables a business organization to transfer its major share of computation, platform and software to a cloud so that it is managed by a cloud provider instead of an in-house team. Cloud transfer or adoption, however, has its own share of risks and challenges which are dealt in the present paper by using a semantic cloud adoption framework. This framework can act as an agreement between the provider and the adopting party so as to eliminate any future issue. A proper ans systematic follow-up of the presented framework ensures success and truct towards the cloud computing technology. Based on the presented framework, a sample comparison of various cloud providers is also given as an example for better understanding of one’s preferences while using a cloud platform.
Analysis of Efficiency of Classification and Prediction Algorithms (kNN) for Breast Cancer Dataset

Rashmi G D, A Lekha, Neelam Bawane
PES Institute of Technology, Bangalore

Breast cancer is one of the regularly found cancer in India. In this paper the data mining techniques are used to provide the analysis for the classification and prediction algorithms. The algorithms used here are kNN classification algorithm and kNN prediction algorithm. The algorithms are used to find whether the tumour is either benign or malignant. Data sets are taken from the Wisconsin University database to find the success rate and the error rate. This is used to compare with the original success rate and the error rate.

A Novel Genetic Algorithm and Particle Swarm Optimization for Data Clustering

Malini Devi Gandamalla (Dept. of CSE, GNITS, Hyderabad-8, India)
Dr. Seetha Maddala (Dept. of CSE, GNITS, Hyderabad-8)
Dr. K. V. N. Sunitha (BVRIT Hyderabad, College of Engineering for women, Hyderabad-90, India)

Clustering techniques suffer from fact that once they are merged or split, it cannot be undone or refined. Considering the stability of the Genetic Algorithm and the local searching capability of Swarm Optimization in clustering, these two algorithms are combined. Genetic Algorithms, being global search technique, have been widely applied for discovery of clusters. A novel data clustering based on a new optimization scheme which has benefits of high convergence rate and easy implementation method is been proposed were in local minima is disregarded in an intelligent manner. This paper, we intend to apply GA and swarm optimization (i.e., PSO) technique to optimize the clustering. We exemplify our proposed method on real data sets from UCI repository. From experimental results it can be ascertained that combined approach i.e., PSO_GA gives better clustering accuracy compare to PSO-based method.
Design Issues of Big Data Parallelisms

Koushik Mondal
Indian Institute of Technology Indore

Data Intensive Computing for Scientific Research needs effective tools for data capture, curate them for designing appropriate algorithms and multidimensional analysis for effective decision making for the society. Different computational environments used for different data intensive problems such as Sentiment Analysis and Opinion Mining of Social media, Massive Open Online Courses (MOOCs), Large Hadron Collider of CERN, Square Kilometer Array (SKA) of radio telescopes project, are usually capable of generating exabytes (EB) of data per day, but present situations limits them to more manageable data collection rates. Different disciplines and data generation rates of different lab experiments, online as well as offline, make the issue of creating effective tools a formidable problem. In this paper we will discuss about different data intensive computing tools, trends of different emerging technologies, how big data processing heavily relying on those effective tools and how it helps in creating different models and decision making.

User – interface design framework for e-learning through mobile devices

Ankita Podder, Tanushree Bhadra, Rajeev Chatterjee,
National Institute of Technical Teachers' Training & Research, Block – FC, Sector – III Salt Lake City, Kolkata

User-interface plays an important role in e-learning., Good and user - friendly interfaces help in better understanding of the system and reduces the cognitive load of a learner during the process of learning. The advancement in mobile technology has influenced a number of users to learn using mobile and handheld device that provides not only flexibility of learning but also allow them for learning at any-time and any-where or on the go. This has already created a requirement of a user-interface design framework for mobile devices that can help the designers to design e-learning interface for the same. This paper proposes a user-interface design framework after understanding of the requirements at the level of a user for the mobile and handheld devices.
Revised ECLAT Algorithm for frequent Itemset mining

Bharati Suvalka1, Sarika Khandelwal2, Chintal Patel3
1 M.Tech. (CSE) Geetanjali Institute Of Technical Studies, Udaipur
2 Associate Professor (C.S.E.), Geetanjali Institute of Technical Studies, Udaipur
3 Assistant professor, dept. MCA, Geetanjali Institute of Technical Studies, Udaipur

Data mining is now a day becoming very important due to availability of large amount of data. Extracting important information from warehouse has become very tedious in some cases. One of the most important application of data mining is customer segmentation in marketing, demand analyzes, campaign management, Web usage mining, text mining, customer relationship and so on. Association rule mining is one of the important techniques of data mining used for discovering meaningful patterns from huge collection of data. Frequent item set mining play an important role in mining association rules in finding interesting patterns among complex data. Frequent Pattern Itemset Mining from “Big Data” is used to mine important patterns of item occurrence from large unstructured database. When compared with traditional data warehousing techniques, MapReduce methodology provides distributed data mining process. Dataset can be found in two pattern one is horizontal data set and another one is vertical data set. Tree based frequent pattern Map Reduce algorithm is considered more efficient among other horizontal frequent itemset mining methods in terms of memory as well as time complexity. Another algorithm is ECLAT that is implemented on vertical data set and is compared with my proposed revised ECLAT Algorithm. As a result the performance of ECLAT Algorithm is improved in proposed algorithm revised ECLAT. In this paper will discuss improved results and reasons for improved results.

Evaluation of Genetic Algorithm’s Selection Methods

Bharati Suvalka1, Sarika Khandelwal2, Chintal Patel3
1 M.Tech. (CSE) Geetanjali Institute Of Technical Studies, Udaipur
2 Associate Professor (C.S.E.), Geetanjali Institute of Technical Studies, Udaipur
3 Assistant professor, dept. MCA, Geetanjali Institute of Technical Studies, Udaipur

The focus of this paper is towards analyzing the performance of various selection methods in genetic algorithm. Genetic algorithm, a novel search and optimization algorithm produces optimum response. There exist different selections method available – plays a significant role in genetic algorithm performance. Three
selection methods are taken into consideration in this study on travelling salesman problem. Experiments are performed for each selection methods and compared. Various statistical tests (F-test, Posthoc test) are conducted to explain the performance significance of each method.

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Application of three different Artificial Neural Network Architectures for Voice Conversion

Bageshree Sathe-Pathak1, Shalaka Patil2, Ashish Panat3
1 Research Scholar, Priyadarshani College of Engineering, Nagpur, India
2 Post graduate student, Cummins College of Engineering, Pune, India
3 Research Guide, Priyadarshani College of Engineering, Nagpur, India

This paper designs a Multi-scale Spectral transformation technique for Voice Conversion. The proposed algorithm uses Spectral transformation technique designed using multi-resolution wavelet feature set and a Neural Network to generate a mapping function between source and target speech. Dynamic Frequency Warping technique is used for aligning source and target speech and Overlap-Add method is used for minimizing the distortions that occur in the reconstruction process. With the use of Neural Network, mapping of spectral parameters between source and target speech has been achieved more efficiently. In this paper, the mapping function is generated in three different ways, using three types of Neural Networks namely, Feed Forward Neural Network, Generalized Regression Neural Network and Radial Basis Neural Network. Results of all three Neural Networks are compared using execution time requirements and Subjective analysis. The main advantage of this approach is that it is speech as well as speaker independent algorithm.

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Foreground Background Segmentation For Video Processing through dynamic Hand Gestures

C.Swapna, Shabnam S Shaikh
Computer Engineering Department, AISSMS College of Engineering, Pune, India.

The main idea of the paper is to apply the dynamic hand gestures for the video in-painting technique of video processing, as video in-painting is an advanced enhancement technique in multimedia environment. The mouse operations of a computer are controlled by the implemented gesture events. The extraction and replacement of object i.e., foreground, background segmentation in the video frames are achieved through dynamic hand gesture using few hardware devices. The algorithm used for the object replacement in video is pixel based rather than the patch based which allows faster in-painting, improving the overall outline image quality.
Load Encroachment Detection Algorithm for Digital Signal Processor Based Numerical Relay

Shanker Warathe1, R N Patel2
1 Department of Electrical Engineering, Government Polytechnic Durg, India
2 Department of Electrical and Electronic Engineering

In this paper we have described the cause of Indian grid failure during the stressed condition and developed the algorithm for numerical relay to prevent the unforeseen blackout. Indian power grid is consists of five regional grids and one of the largest power supply utility in the world. There was a major grid disturbance occurred in the Northern Region of India causes major shut down in many state leading to a entire blackout in eight states. The regional wise power import, export and generation give the idea of stressed condition and skewed power generation among the grid. The voltage profile of regional buses also indicates the insufficient reactive power compensation. In this work the impact of increase of load and loss of generation on angular separation is observed and the performance of developed algorithm for numerical relay is tested for different stressed condition and gives the expect result.

K-Nearest Neighbor and Boundary Cutting Algorithm for Intrusion Detection System

Punam Mulak1, D. P.Gaikwad2, N. R.Talhar3,
1 Computer Department, AISSMS Collage of Engineering, Kennedy Road, Pune

Intrusion detection system is used for securing computer networks. Different data mining techniques are used for intrusion detection system with low accuracy and high false positive rate. Hicuts, HyperCuts, and EffiCuts are decision tree based packet classification algorithm which performs excellent search in classifier but requires high amount of memory. So in order to overcome these disadvantages, new approach is provided. In this, we present a hybrid approach for intrusion detection system. Boundary Cutting Algorithm and K-Nearest Neighbor using Manhattan and Jaccard coefficient similarity distance is used for high detection rate, low false alarm and less memory requirement. KDD Cup 99 dataset is used for evaluation of these algorithms. Result is evaluated using KDD CUP 99 dataset in term of accuracy, false alarm rate. Majority voting is done. This approach provides high accuracy and low memory requirements as compare to other algorithm.
Parameters Quantification of Genetic Algorithm

Hari Mohan Pandey  
Department of Computer Science & Engineering Amity University, Sector-125, Noida, Uttar Pradesh, India

This paper presents the importance of parameters tuning in global optimization algorithms. The primary objective of an experiment is to recognize the process. The experiments are carried out to learn the effect of various factors at different levels. Hence, identifying the optimal parameters setting is important for robust design. One of the most popular global optimization algorithms: genetic algorithm is considered in this study. The domain of inquiry is travelling salesman problem. The present study employs the Taguchi method that involves the use of an orthogonal array in the estimation of the factors. Taguchi approach has been widely applied in experimental design for problems with multiple factors. The use of Taguchi design is a novel idea – leads to efficient algorithms – can find a satisfactory solution in a few iterations, which improves the convergence speed and reduces the cost. Experimental results show that the Taguchi design is less sensitive to initial value of parameters. Two versions of genetic algorithms (with tuning and without tuning) are implemented. The analysis shows the superiority of genetic algorithm with tuning over genetic algorithm without tuning.

Analysis of Electromagnetic Radiation from Cellular Networks considering Geographical distance and height of the Antenna

S.Venkatesulu1, S.Varadarajan2, M.Sadasiva3, A.Chandrababu4, L. Hara  
Hara Brahma 5  
1 Associate Professor, Dept. of ECE, YITS, Tirupati  
2 Professor of ECE, SV University, Tirupati  
3 Assistant Professor, Dept. of ECE, YITS, Tirupati  
4 Associate Professor, Dept. of ECE, YITS, Tirupati  
5 Assistant Professor, Dept. of ECE, KEC, Kuppam

In this article, an analysis of the electromagnetic radiation emitted by Cellular Networks and other wireless communication devices located in urban and rural areas, is carried out by taking the different exposure situations into account. The emitted RF radiation power values are estimated through the derived theoretical analysis. As per the FCC, TRAI and DOT standards, it is less hazardous if the observed radiation is below -30 dBm. From these standards, the compliance distance from the cellular base stations antenna can be determined. The EM radiation emitted from the different RF sources is analyzed by computing the
radiation power theoretically at given distance from the cellular base station antenna. This analysis is further enhanced by considering the some more parameters like distance of separation between the situated antennas, frequency of operation besides the parameter of distance from the RF source. This improved analysis adds accuracy in determining the compliance distance beyond which the emitted radiation is not significant.

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**Revitalizing VANET Communication using Bluetooth Devices**

*Dr.G.Jaya Suma1, R.V.S.Lalitha1*

1 Associate Professor & H.O.D, JNTUK-Vizianagaram,India,  
Associate Professor, SSAIST,Surampalem,India

Nonetheless, the number of accidents has continued to expand at an exponential rate. Due to dynamic nature of VANET positions, there will be considerable delay in transmission of messages to destination points. With attention to emergency message transmission incidentally, the data dissemination techniques are to be refined for fast and accurate transmission of messages. In order to track the information of vehicle positions proximity sensors plays crucial role in the real time world. Since the sensing capability of proximity sensors is limited, sometimes there may be information loss due to its poor quality. To enhance the high precision accuracy, we require an efficient methodology to collect information instantaneously and storing it in a local database for further use. In this paper, An App is developed using App Inventor tool to collect data from near by nodes using Bluetooth. The dictum of customizing Bluetooth communication through this App, is to store the communication held between the two communication parties in a local database for further analysis in case fake message transmission occurred. The vehicle information is collected by Bluetooth device available in the Android mobiles ensembles the accuracy of information collected. In collecting neighborhood information, Bluetooth provides adequate solutions in fast collection of data. Evidently this mechanism reduces loss in collection of information from near by nodes and provides means for establishing effective way of communication among VANET nodes. In this paper, a comparative analysis is made with the sensor communication to the Bluetooth communication in connection with the communication capabilities.
Virtual Manipulation: An On-Screen Interactive Visual Design for Science Learning

Sanju Saha¹ and Santoshi Halder²
¹Department of Education, University of Calcutta, Alipore Campus, 1 Reformatory Street, Kolkata 700027, India
²University of Calcutta, Alipore Campus, 1 Reformatory Street, Kolkata 700027, India

Interactivity in e-learning environment is an innovative approach in teaching-learning. Predominantly theoretical justification of interactive learning environment has been discussed on the basis of the process of visual and auditory information in the memory system emphasizing the result oriented perspective in the sense that they have given importance on computer response to learner action rather than learner activity and engagement in computer programming. However, by definition interactivity is described as ‘to act’. In this viewpoint the present research attempts to explore the effectiveness of enactment by manipulating virtual features in interactive visualization when compared with visual animation. To investigate the effectiveness of different visual condition researchers have developed two different types of instructional module (interactive virtual manipulation and animated visual). Total 360 students have been selected to implement the study with different matching criteria. MANOVA is conducted to find out the group difference in different condition. Result showed a momentous mean difference in different condition i.e., in virtual manipulation (execution of action) condition where student perform virtually in the on-screen object better than animation (observed action) in respect to various learning outcome. Result is discussed critically from several theoretical focal points.

Bundle Block detection using Genetic Neural Network

Padmavathi Kora and K.Sri Rama Krishna GRIET

Abnormal Cardiac beat identification is a key process in the detection of heart ailments. This work proposes a technique for the detection of Bundle Branch Block (BBB) using Genetic Algorithm (GA) technique in combination with Levenberg Marquardt Neural Network (LMNN) classifier. BBB is developed when there is a block along the electrical impulses travel to make heart to beat. The Genetic algorithm can be effectively used to find changes in the ECG by identifying best features (optimized features). For the detection of normal and Bundle block beats, these Genetic features values are given as the input for the LMNN classifier.
Tools for Data Visualization in Business Intelligence: Case Study Using the Tool Qlikview

Ayushi Shukla, Saru Dhir Amity University, Uttar Pradesh, India

This research paper, discusses the different data visualization tools that are implemented for Business Intelligence by different organizations for the purpose of business analysis. Even though all tools are basically used for the same purpose, that is, data visualization, exploration and analysis, but each tool are very different from the other. Here we draw comparisons between all the tools and see that which tool proves to be most efficient and most effective in fulfilling the user demands. A case study on a project university analysis application is also discussed using the business intelligence and data visualization tool Qlikview. Hypothetical data of the last 5 years are used to analyze the placement record of both the universities. At the end of the case study a comparative analysis is shown in between two universities and analyze the performance of both the universities.

Application of Support Vector Machines for Fast and Accurate Contingency Ranking in Large Power System

Sanju Saha¹ and Santoshi Halder²
¹ Department of Education, University of Calcutta, Alipore Campus, 1 Reformatory Street, Kolkata 700027, India
² University of Calcutta, Alipore Campus, 1 Reformatory Street, Kolkata 700027, India

This paper presents an effective supervised learning approach for static security assessment of power system. The approach proposed in this paper employs Least Square Support Vector Machine (LS-SVM) to rank the contingencies and predict the severity level for a standard IEEE -39 Bus power system. SVM works in two stage, in stage 1st estimation of a standard index line Voltage Reactive Performance Index (PIVQ) is carried out under different operating scenarios and in stage II (based on the values of PI) contingency ranking is carried out. The test results are compared with some recent approaches reported in literature. The overall comparison of test results is based on the, regression performance and accuracy levels. Results obtained from the simulation studies advocate the suitability of the approach for online applications. The approach can be a beneficial tool to fast and accurate security assessment and contingency analysis at energy management centre.
A Novel Circular Monopole Fractal Antenna for Bluetooth and UWB applications with subsequent increase in gain using Frequency Selective Surfaces

Divyanshu Upadhyay, Indranil Acharya and Ravi Prakash Dwivedi
Vellore Institute of Technology, School of Electronics Engineering (SENSE) Chennai, Tamil Nadu, India

In this paper a novel monopole circular fractal disk is analyzed in details. The antenna is mounted on a FR4 substrate having a dimension of 30 x 35 mm2. A 50 ohm impedance matched microstrip line is used as feeding mechanism for the antenna. The antenna exhibits stable radiation patterns and has a bandwidth of 9.64 GHz. A U-shaped slot having appropriate dimensions is etched from the patch in order to make the antenna compatible for Bluetooth applications. In the later section, different types of Frequency Selective Structures (FSS) are introduced for enhancing the gain of the antenna. A gain of 8.94 dB is observed with the introduction of slot type FSS structures beneath the ground plane. All the analysis of the antenna is done in HFSS 2013.

Performance Evaluation of Basic Selfish Node Detection Strategy on Delay Tolerant Networking Routing Protocols

Upendra B. Malekar1, Shailesh P. Hulke2
1Department of Information Technology, MIT, Pune- India
2Department of Computer Engineering, College of Engineering, Pune- India

A Delay Tolerant Network (DTN) is a network of regional networks with characteristics of intermittent connectivity, opportunistic contacts, scheduled contacts, asymmetric data rates and high error rates. Main applications of DTN are Satellite communication, interplanetary communication and underwater communication networks. Selfish nodes may present in the network which degrades the performance of DTN. DTN nodes are resource constraints is a root cause of selfishness problem. DTN nodes have limited battery power, limited buffer space and limited computational resources. Hence, every DTN node tries to save their resources to achieve more lifetimes in the network. Selfishness of DTN nodes can collapses the well designed routing scheme in DTN and jeopardizes the whole network. Hence, selfish nodes in DTN should be detected and punished to increase the performance of DTN. Basic selfish node detection strategy is used to detect the selfish nodes in DTN, which when used with different DTN routing protocols behave differently in terms of number of selfish node detection. Thorough analysis is done on Basic selfish node detection strategy when used with different DTN routing protocols and found that Direct Delivery router detects least number of selfish nodes and Spray and Wait router detects highest number of selfish nodes in DTN.
Performance analysis of fully depleted ultra thin-body (FD UTB) SOI MOSFET based CMOS inverter circuit for low power digital applications

Vimal Kumar Mishra and R.K. Chauhan
Department of Electronics and Communication Engineering Madan Mohan Malaviya University of Technology

This paper demonstrates the integration of fully depleted ultra thinbody Silicon on Insulator MOSFET (FD UTB SOI n and p- MOSFET) into CMOS inverter circuit. The proposed MOS device shows the better Ion to Ioff ratio, lower subthreshold slope and low threshold voltage at 50nm gate length. The proposed CMOS circuit shows the good inverter VTC curve, and minimum delay has been obtained at 50nm gate length. The proposed structures were designed and simulated using Sentaurus device simulator.

Mathematical Vector Quantity Modulated Three Phase Four Leg Inverter

Bhaskar Bhattacharya and Ajoy Kumar Chakraborty
Department of Electrical Engineering National Institute of Technology, Agartala, India

In this paper it has been shown that any unbalanced and distorted three-phase currents can be efficiently generated as output from a four-leg (4L) inverter with mathematical implementation of three dimensional (3D) space vector pulse width modulation (SVPWM) in á-â-ã frame. The 3D SVPWM technique in á-â-ã frame is a computation intensive method. It depends on correct mapping of the reference signal vector within a predefined tetrahedron space that is defined with three concurrent non-zero (NZ) switching state vectors (SSV). A SSV represents a valid switching state (SS) of the inverter under modulation. The on/off timings of individual switches are worked out analytically in vector domain and gate pulses for corresponding timings are sent out in time domain. A fast mathematical execution is necessary for proper functioning of 3D SVPWM. A MATLAB simulation of a 4L voltage source inverter working on the proposed method has been presented to validate the proposition.
21st C New Technologies A Pathway to Inclusive 
And Sustainable Growth

Dr Pradnya Chitrao, 
Symbiosis Institute of Management Science (SIMS), Pune

The 21st C began with many profound technological, economic and social 
transformations. Improved quantity and quality of information are resulting in rapid 
advances in science and engineering. Today a megabyte of semiconductor memory 
is very affordable for the common man. By 2020, one desktop computer will equal 
all the computers currently in Silicon Valley. The 21st C highly competitive IT sector 
is making things faster, cheaper and smaller. Information technologies are 
connecting every part of the world, and also enabling development of major new 
technologies like automated knowledge work tools, advanced robotics and 3 D 
printing. IT progress will revolutionize production, transportation, energy, commerce, 
education and health. While this will certainly result in more environmentally 
sustainable products through a less wasteful production process, there will also 
be a serious impact on the demographic equilibrium of the world, if effective 
countermeasures are not put in place by business leaders and policy makers.

It will affect the way business is done. Intermediaries are now fast disappearing, 
and businesses can pass on the benefits to the customers. Tomorrow’s Information 
Technologies will radically improve the capacity to communicate and simulate. It 
will lead to learning by “doing”, joint experimental research and moving at one’s 
own pace for every “wired” person. But increasing technology has increased the 
risk of natural & man made threats. It is also difficult to adopt new attitudes, and 
accept alternative approaches to risk management. It requires concerted efforts 
on part of individuals, businesses and policy makers.

The paper analyses the 21st C scenario and the various measures that need 
to be taken to counter the risks and threats. The author concludes that public 
opinion will have to ensure that emerging new technologies, which by their very 
nature vest in the hands of corporate giants, are harnessed for the common good 
and for sustainable development. This research which is primarily based on 
secondary sources can be enriched by a primary investigation of the methods 
employed by the corporates, the governments and the non-government bodies to 
face the challenges and the risks arising out of the technologies emerging in the 
21st century.
Dual Image Based Reversible Data Hiding Scheme Using Three Pixel Value Difference Expansion

Giri Debasis1, Jana Biswapati2 and Mondal Shyamal Kumar3
1Department of Computer Science and Engineering, Haldia Institute of Technology, Haldia, West Bengal, Pin-721657
2 Department of Computer Science, Vidyasagar University, Midnapore, West Bengal, Pin-721102, India
3Department of Applied Mathematics with Oceanology and Computer Programming, Vidyasagar University, Midnapore, West Bengal, Pin-721102, India

In this paper, we proposed dual image based reversible data hiding scheme using three pixel value difference and difference expansion. We take consecutive three pixels from original image and embed 13 bits secret data by using three pixel value difference (TPVD) and difference expansion (DE) method. Using TPVD, we get modified three pixel values and using DE, we get another three modified pixel values after embedding secret data. These two sets of three stego pixel values are stored on dual images to achieve reversibility. We extract the secret data successfully using TPVD and DE method using two sets of three pixel values from dual images. The classical PVD and TPVD was not reversible data hiding scheme, we achieve reversibility using DE and dual image that means, we recover original cover image from dual stego images without any distortion. Finally, we compare our scheme with other state-of-theart methods and obtain reasonably better performance in terms of data embedding capacity.

Design of Adaptive Filter using Vedic Multiplier for Low Power

Pratyusha Chowdari Ch1, Dr. J.Beatrice Seventline 2
1 Assistant Professor, ECE Department, GRIET, Hyderabad, India
2 Associate Professor, ECE Department, GITAM University, Visakhapatnam, India.

This paper deals with an architectural approach of designing an adaptive filter(AF) with Vedic Multiplier(VM) and is an efficient method in achieving less power consumption without altering the filter performance- called as Low Power Adaptive Filter with Vedic Multiplier(LPAFVM). AF consists a variable filter(VF) and an algorithm which updates the coefficients of filter. Generally, Filters plays the major role in effecting power in an adaptive system; Power will be significantly reduced by cancelling number of unwanted multiplications, based on the filter
coefficients and amplitude of data at input. In less number of steps, VM performs multiplication. LMSA-Least Mean Square algorithm is used for designing the FIR filter. Adaptation process takes place by performing convergence of output computed by the VF to a desirable output of an LMS algorithm is used. The Xilinx ISE 14.6 is used to simulate and synthesize the proposed architecture. Power is calculated on Xpower Analyzer in Xilinx ISE suit.

**Issues and Approaches to Design of a Range Image Face Database**

*Suranjan Ganguly, Debotosh Bhattacharjee and Mita Nasipuri*

*Department of Computer Science and Engineering, Jadavpur University, India*

Development of new databases contributing much among researchers for solving many challenging tasks that might have an important role during the implementation of efficient algorithms to handle all difficulties for an automatic system. In this paper, authors have introduced the issues and approaches that have been considered during image acquisition procedure during designing of own face database. This database consists of almost all the challenges in the domain of computer vision especially face recognition. Acquisition of database’s images are done in our own institute’s laboratory with variations of facial actions (i.e. movement of facial units, expression), illumination, occlusion, as well as a pose. Along with the 3D face images, corresponding 2D face images have also been captured using Structured Light Scanner (SLS). Particularly, this image acquisition technique is not harmful as laser scanner does. Moreover, authors have made the visualization of practical representation of laboratory setup within this article that would again be helpful to the researchers for better understanding the image acquisition procedure in detail. In this databases, authors have accomplished the X,Y planes along with range face image and corresponding 2D image of human face.
A Secure Homomorphic Routing Technique in Wireless Mesh Network (HRT for WMN)

Geetanjali Rathee1, Hemraj Saini1
1 Jaypee University of Information Technology, Computer Science Department, Waknaghat, Solan, Himachal Pradesh, India

As Wireless Mesh Network (WMN) is deliberated as a key technology in today’s networking era, security during designing of such system plays a significant role. A number of techniques (i.e. PANA, LHAP) have been proposed by several researchers in order to provide the security, but leads to certain vulnerability i.e. computational overhead, network congestion and encryption/decryption timing delay. In order to overcome against such drawbacks, this manuscript gives a novel technique based on homomorphic encryption (HE). Homomorphic encryption is a technique employed to heighten the security using algebraic operations without increasing the computational overhead. The suggested technique is evaluated against encryption/decryption parameter and proves the efficiency in comparison of existing protocols.

Fuzzy based Fault Location Estimation during Unearthed Open Conductor Faults in Double Circuit Transmission line

Aleena Swetapadma and Anamika Yadav
1 Department of Electrical Engineering, National Institute of Technology, Raipur, India

In this paper fuzzy inference system (FIS) has been designed for faulty phase identification and fault location estimation during unearthed open conductor faults in double circuit transmission line. Inputs given to the proposed relay are the fundamental component of current of both circuits of double circuit line measured at one end of the line only. Output of the proposed method will be in terms of fault location in each phase circuit-1: LA1, LB1, LC1 and circuit-2: LA2, LB2 and LC2 in time domain from which fault location and faulty phase(s) will be estimated. Proposed method is tested for varying fault type, fault location, fault inception angle, fault resistance and power flow angle. Faulty phase identification accuracy is very high and percentage error in fault location estimation lies within 1% for large number of test fault cases.
Optimization in Round Robin Process Scheduling Algorithm

Anurag Upadhyay1, Hitesh Hasija2,
1 Delhi Technological University, Delhi, India
2 Delhi Technological University, Delhi, India

Round Robin (RR) scheduling algorithm certainly is one of the most popular algorithms. In this algorithm, a static time quantum is given to each process. However it suffers from certain problems which are mainly related to the size of time quantum. Larger the time quantum, larger is the response and waiting time of processes. Similarly if the time quantum is too small then the overhead of CPU increases because CPU has to perform greater number of context switches. This paper focuses on the optimization techniques in Round Robin algorithm. Several algorithms have been proposed which use a dynamic time quantum, rather than a static one. The concept of mean, median, dispersion and others are used to calculate time quantum for processes in ready queue based on their remaining burst time. An approach based on multiple time quanta has also been proposed in this paper. Finally it has been shown through implementation and results that these algorithms are able to solve the problems of conventional Round Robin algorithm. A better turnaround time, response time and waiting time has been achieved through the implementation of these algorithms.

Frequency Dependent Lumped Model Of Twin Band MIMO Antenna

Vilas V. Mapare1, Dr. G. G. Sarate2
1 Sant Gadge Baba Amravati University, Amravati
2 Government Polytechnic Amravati

Latest communication systems support interactive multimedia, voice, video, wireless internet, other broadband services with very high speed, high capacity and low cost/bit. To compounds these with the desire of mobile operators to expand their band allocation with compact devices as smart phones or similar devices and what result is a difficult design arena. These advanced features can be confined within compact devices by the development of smaller and admissible MIMO antenna. The simulated and the measured results are in a good agreement. The proposed structure minimizes the frequency dependent lumped component with proper arrangement of array element and covers the 3G/4G range of 2.1GHz to 2.29 GHz.
A Novel Framework for Integrating Data Mining Techniques to Software Development Phases

B.V. Ajay Prakash 1 D.V. Ashoka 2 V.N. Manjunath Aradhya 3
1 Dept. of Computer Science and Engineering, SJBIT, Bengaluru
2 Dept. of Computer Science and Engineering, JSSATE, Bengaluru
3 Dept. of MCA, Sri Jayachamarajendra College of Engineering, Mysuru

In software development process, phases such as development effort estimation, code optimization, source code defect detection and software reuse are very important in order to improve the productivity and quality of the software. Software repository data produced in each phases have increased as component of software development process and new data analysis techniques have emerged in order to optimize the software development process. There is a gap between the software project management practices and the need of valuable data from software repository. To overcome this gap, a novel integrated framework is proposed, which integrates data mining techniques to extract valuable information from software repository and software metrics are used in different phases of software development process. Integrated framework can be used by software development project managers to improve quality of software and reduce time in predicting effort estimation, optimizing source code, defect detection and classification.

Survey of Improved k-means Clustering Algorithms: Improvements, Shortcomings and Scope for further Enhancement and Scalability

Anand Khandare1, A.S. Alvi2
1PG Department of CSE, SGB Amravati University, Amravati, India
2Department of CSE, PRMIT&R, Badnera, Amravati, India

Clustering algorithms are popular algorithms used in various fields of science and engineering and technologies. The k-means is example unsupervised clustering algorithm used in various applications such as medical images clustering, gene data clustering etc. There is huge research work done on basic kmeans clustering algorithm for its enhancement. But researchers focused only on some of the limitations of k-means. This paper studied some of literatures on improved k-means algorithms, summarized their shortcomings and identified scope for further enhancement to make it more scalable and efficient for large data. From the literatures this paper studied distance, validity and stability measures, algorithms for initial centroids selection and algorithms to decide value of k. Then proposing objectives and guidelines for enhanced scalable clustering algorithm. Also suggesting method to avoid outliers using concept of semantic analysis and AI.
Attack Identification Framework for IoT Devices

Jagan Mohan Reddy Danda and Chittaranjan Hota
Birla Institute of Technology and Science-Pilani, Hyderabad Campus
Shameerpet, R.R. District, Telangana, India

With the emergence of Internet and embedded computing, Internet of Things (IoT) is currently becoming an area of interest amongst researches. IoT enable interconnection of embedded devices capable of running application like smart grid, smart traffic control, remote health monitoring etc. As the IoT devices can be connected virtually as well as physically, cyber attacks are likely to become a major threat. An attacker who have an access to the on-board network connecting IoT devices or appliances can spy on people, can inject malicious code into these embedded devices creating serious security concerns. In this work, we propose a framework to monitor security threats possible on IoT devices. The framework consists of several modules like data capture, anomaly detector and alert generator. The data capture module collects the application level data, transport and network headers of the traffic that goes into the IoT device. The anomaly detector module uses a signature based approach to detect threats. The proposed framework is tested on a testbed comprising of Arduino boards with Wiznet Ethernet shield as the IoT device communicate with Samsung Android smart-phone over a bridge connected through WiFi. We ran SNORT Intrusion Detector on the bridge with rules for generating alerts for intrusion.

Compact Coalescence Clustering Algorithm (C3A) -
A GIS Anchored Approach of Clustering Discrete Points

Anirban Chakraborty (Department of Computer Science, Barrackpore Rastraguru Surendranath College, Kolkata)
J. K. Mandal (Department of Computer Science & Engineering, University of Kalyani Kalyani, W.B., India)
Pallavi Roy & Pratyusha Bhattacharya (Department of Computer Science Barrackpore Rastraguru Surendranath College, Kolkata)

GIS is a subject with multi-disciplinary applications, ranging from military applications, weather forecasting, recognizing biodiversity prone regions to hotspot identification for socio-economic purposes. The main focus of the work is identification of neighboring tourist hot spots based on the Compact Coalescence Clustering Algorithm (C3A). In order to achieve this goal, firstly various tourist spots, along with the major cities and towns are identified (digitized) and based on the proposed clustering algorithm, which actually works in two phases, various
existing clusters of neighborhood tourist hot spots are generated. In the first phase of the process using Clustering of Noisy Regions (CNR), several clusters of tourist spots are formed based on certain threshold distance value and accordingly the centroid is computed and updated every time the cluster is expanded. The soft clustering approach Fuzzy C-Means (FCM) is applied on the result produced in order to enhance the compactness of the clusters formed. Furthermore, the location of the tourist spots neighborhood to major cities and towns are displayed graphically on the map.

**Miniaturized UWB BPF with a Notch band at 5.8 GHz using cascaded structure of highpass and lowpass filter**

*Arvind Kumar Pandey, Yatindra Gaurav and R. K. Chauhan*

*Electronics and communication Engineering Department, M.M.M.U.T.*

The objective of this paper is to reduce the size of UWB filter with a notch without any via or DGS to make fabrication easier. The proposed filter is designed by cascading high pass and low pass filter. High pass structure is created by a planar Interdigital structure and low pass is created by a Hairpin line, which make the overall size of the filter much miniaturized. The frequency response of the filter has pass band frequency between 3.1 to 10.6 GHz with wide stop band. There is a notch in pass band at 5.8GHz with attenuation around 16dB to avoid interference from the WLAN. The overall size of the filter is 3.36X4.132mm2 which is much smaller than many previously reported structure of filters.

**Dual-Band Microstrip Fed Monopole Patch Antenna for WiMAX and WLAN Applications**

*Chandan and B.S.Rai Electronics and Communication Engineering Department, M.M.M.U.T., Gorakhpur*

A compact dual-band monopole patch antenna is designed for WiMAX and WLAN applications. The proposed antenna operates over two bands a lower band for WiMAX system (3.1-3.9GHz) and higher band for WLAN system (IEEE 802.11a standard) with resonance at 3.46 GHz and at 5.48 GHz respectively. It consists of double C-slots on a rectangular patch which is directly fed by a 50-Ω microstrip line and a truncated ground with two slots cut in it. Wider bandwidth is achieved by cutting slots in the ground plane. The antenna presented is quite small with dimension of 10×15×0.8mm3 and quite wide impedance bandwidth of 22.85% at resonant frequency 3.46GHz and 35.42% at resonant frequency 5.48 GHz. To investigate the designed antenna, various parameters of the antenna are studied such as S-parameter, current distribution, VSWR and radiation pattern.
SCRIPT BASED TRILINGUAL HANDWRITTEN
WORD LEVEL MULTIPLE SKEW ESTIMATION

M. Ravikumar1, D. S. Guru1, S. Manjunath2, V. N. Manjunath Aradhya3
1Dept. of Studies in Computer Science, University of Mysore, Mysuru,
Karnataka, India
2Dept. of Computer Science, Central University of Kerala, Kerala, India
3Dept. of MCA, S.J. College of Engineering, Mysuru, Karnataka, India

Skew estimation and correction plays an important role in document analysis. In the present work, we proposed a model to estimate multiple skews present in trilingual such as Devanagari, English, and Kannada handwritten documents at word level with a priori knowledge about the corresponding scripts. The idea of using different skew estimation techniques for different scripts such as Hough transform (HT) for Devanagari words, Gaussian Mixture Models (GMM) and convex hull for Kannada and English words is proposed. The effectiveness of these approaches has been reported by testing on a dataset consisting of 1000 words in each script. Experimental results show that the proposed approaches are effective in estimating and correcting the handwritten skew words.

A Clustering-Based Generic Interaction Protocol for Multiagent Systems

Dimple Juneja1, Rashmi Singh2, Aarti Singh3, Saurabh Mukherjee4
1Dronacharya Institute of Management and Technology, Kurukshetra, Haryana,
India
2,4Banasthali University, Banasthali, Rajasthan, India
3Maharishi Markandeshwar University, Mullana-Ambala

The paper proposes a clustering based Generic Interaction Protocol for Multiagent Systems (GIPMAS) that exploits clustering methodology for establishing interaction among agents operating in a network of multiagent systems. GIPMAS is a hierarchical protocol that supports intelligent formation of clusters and dynamic election of cluster head and executive cluster head as well. It also describes a recovery mechanism in case cluster head relocates from its respective cluster.
An Improved Content Based Medical Image Retrieval System Using Integrated Steerable Texture Components and User Interactive Feedback Method

B.Jyothi1, Y.Madhavee Latha2, P.G.Krishna Mohan3
1 Dept of ECE, MRCET, JNTUH. India
2 Dept of ECE, MREC W, JNTUH. India
3 Dept of ECE, IARE

The advancement in medical technology has resulted in a huge number of medical images saved in a data-base. Content Based Medical Image Retrieval (CBMIR) mechanisms help the radiologist in retrieving the required medical images from an immense database. This paper envisages an effective content based procedure in which the region of the image is taken into account by determining the borders of the image region using gray level gradient method instead of considering the image as a whole. Later, the content within the boundary region of the image is described through the steerable filter in different orientations followed by extracting the second-order statistical components as feature vectors. Medical images correlated to the query image are retrieved by computing the Euclidean distance as a similarity measure between database images and the query image. To enhance the accuracy of the medical retrieval system, Instant Based Relevance Feedback has been used. In this procedure, the user interacts with the system and selects the most relevant image for searching again. The above search procedure is repeated for finding out more precise images by sorting out the first search and the second search similarity distances. Eventually, the corresponding top ranked images are displayed. These results reveal that the proposed algorithm outperforms by of increasing Recall Rate and reducing Rate of Error.

Improvement of Stability by Optimal Location with Tuning STATCOM using Particle Swarm Optimization Algorithm

P.K.Dhal (Department of Electrical and Electronics Engineering, Vel Tech Dr. RR & Dr. SR Technical University, Chennai)

Now a day’s modern power system demands promptly increasing but so many problems are facing by utilities. The problems include power flow violation in the system i.e. voltage dips in the buses, static/dynamic instability and voltage collapse etc. In this paper transient stability is analyzed via optimal location of the Western Science Coordinated Council (WSCC) 9 bus system. The FACT device i.e STATCOM is introduced properly, when voltage goes down. It is helpful using
PSAT software. The system performance has been analyzed by applying three-phase fault. It is assumed the fault time at 1.05 sec and clearing time 1.15 sec. similarly fault time 3.15 sec and clearing time 3.5 sec. in this fault condition, the STATCOM is used in the position of optimal location in 9-bus system. The particle swarm optimization algorithm technique is implemented with STATCOM for better improvement of stability.

Identifying Crop Specific Named Entities from Agriculture Domain using Semantic Vector

Ashish Kumar, Payal Biswas, Aditi Sharan, Jawaharlal Nehru University, New Delhi, India

Named entity extraction is the most primitive task in the field of text mining. This paper is a preliminary attempt to identify domain specific named entities, specifically crop names from text documents in Agriculture domain. The task is challenging as the names of these entities are very generic and hence word level features are not very helpful in differentiating them from routine words. Thus in this paper we have suggested a semantic vector based approach. Two different methods have been suggested, that are based on exploiting the context of the words in order to extract these entities. The methods accept few seed entities, identify their context and then find other words that are sharing the similar context. These words sharing the similar context are expected to be newly identified entities. Considering this as an initial attempt, the results are motivating and inspire us to move further in this direction.

MED-HYREC: A Recommendation System for Medical Domain

Venkata A. Paruchuri
Florida A&M University, Tallahassee, Florida 32307, USA

Artificial intelligence is widely used in identifying human diseases and their treatments. Every day, millions of people get sick and receive treatments. However, there is no system that can accept the information related to the symptoms, diseases, timelines, medical procedures, and medications experienced by various people and use this information to recommend treatments and to predict possible future diseases to other similar people. The purpose of this research is to develop such a system. Case-based reasoning, which is a subfield of artificial intelligence, is used for this purpose. An algorithm is developed for this purpose. The system has been evaluated to determine its adaptability for change of trend in the field.
Statistical and Linguistic Knowledge based Speech Recognition System: Language Acquisition Device for Machines

Challa Sushmita1, Challa Nagasai Vijayshri2, Krishnaveer Abhishek Challa3
1Challa Sushmita, Andhra University, Visakhapatnam, India
2Challa Nagasai Vijayshri, Andhra University, Visakhapatnam
3Krishnaveer Abhishek Challa, Gayatri Vidya Parishad, Visakhapatnam, India

Today’s speech recognizers use very little knowledge of what language really is. They treat a sentence as if it would be generated by a random process and pay little or no attention to its linguistic structure. If recognizers knew about the rules of grammar, they would potentially make less recognition errors.

Highly linguistically motivated grammars that are able to capture the deeper structure of language have evolved from the natural language processing community during the last few years. However, the speech recognition community mainly applies models which disregard that structure or applies very coarse probabilistic grammars.

This paper aims at bridging the gap between statistical language models and elaborate linguistic grammars. Firstly an analysis of the need to integrate the conventional Statistical Language Models with the modern Linguistic Knowledge based language models is made, thereby justifying the Statistical and Linguistic Knowledge based Speech Recognition System which is asymptotically error free.

Envelope Fluctuation Reduction for WiMAX MIMO-OFDM Signals using Adaptive Network Fuzzy Inference Systems

K. Pachori (Department of Electronics and Communication Jaypee University of Engineering and Technology)
A. Mishra (Department of Electronics and Communication Thapar University)
R. Pachauri (Jaypee University of Engineering and Technology)
N. Singh (Jaypee University of Engineering and Technology)

In this article, the envelope fluctuation i.e., peak-to-average power ratio (PAPR) reduction technique is developed and analyzed using an Adaptive Network based Fuzzy Inference System (ANFIS) for multiple input multiple output combined with orthogonal frequency division multiplexing (MIMO-OFDM) system under fading environment. The proposed method involves the training of ANFIS structure by the MIMO-OFDM signals with low PAPR obtained from the active gradient project (AGP) method, and then combined with partial transmit sequence (PTS) PAPR reduction technique. This method approximately reaches the PAPR reduction as the active partial sequence (APS) method, with significantly less computational complexity and convergence time. The results depict that proposed scheme performs better other conventional than that of the other conventional schemes.
Modeling and Performance Analysis of Free Space Quantum Key Distribution

Minal Lopes, Dr. Nisha Sarwade
Veermata Jijabai Institute of Technology, Department of Electronics Engineering

With the technological development, the demand for secure communication is growing exponentially. Global secure communication have become crucial with increasing number of internet applications. Quantum Cryptography (QC) or Quantum Key Distribution (QKD) in that regime, promises an unconditional security based on laws of quantum principles. Free space QKD allows longer communication distances with practical secure key rates to aid secure global key distribution via satellites. This is encouraging many research groups to conduct QKD experimentation. But it is observed that such experiments are very complex and expensive. This paper thus attempts to establish a model for analysis of free space QKD through simulation. The model will be verified against experimental results available from different literature. It can be seen that the simulation approach stands effective for performance analysis of such complex systems. The developed model, test parameters like quantum bit error rate and secret key rate against mean photon number of laser pulses and quantum channel loss, and proves to fit well with the experimental results.

Design of a Low-delay-write Model of a TMCAM

N.S.Ranjan1, Soumitra Pal2, Aminul Islam3
1,3Electronics and Communication Engineering 1,3Birla Institute of Technology, Mesra
1,3Ranchi, Jharkhand, India, Pin-835215
2Applied Electronics and Instrumentation Engineering 2C. V. Raman College of Engineering
2Bidya Nagar, Mahura, Janla,, Bhubaneswar 752054, India

In this paper, a novel version of Ternary Magnetic-Content Addressable Memory (TMCAM) is proposed for a low-delay-write operation. This is attained from the connections of circuit and majorly due to the exceptional operational features of CAM integrated with MTJ. While the previous TMCAM required each one of the MTJ to be written separately, this model attempts to nullify the problem. Consequently, a reduction in delay by almost twice is obtained in comparison to the previous TMCAM with a 22-nm CMOS technology used for simulation purposes. This can be effectively employed in adaptive biomedical signal processing applications where writing is often and hence, delay cannot be compromised.
SLA Based E-Learning Service Provisioning in Cloud

Mridul Paul1 and Ajanta Das2
1,2 Department of Computer Science & Engineering, Birla Institute of Technology, Mesra, Deemed University, Kolkata Campus, Kolkata

Cloud services allow individuals and businesses to use software and hardware that are managed by third parties at remote locations. The cloud computing model allows access to information and computing resources from anywhere through only the successful network connection. Cloud computing provides Infrastructure, Software and Platform as-a-service to its users with huge data storage, networks, processing power, and applications. Compared to traditional computing, its resources and services are available and scalable according to consumers need. Hence, e-Learning has been an interesting area where use of cloud can be leveraged, to reach online education across the globe. Provisioning of specific services is always depending on relevant Service Level Agreements that need to be agreed by both parties: provider and consumer. The objective of this paper is to provision e-Learning service on cloud. In order to accomplish this goal, negotiation of corresponding SLA parameters specific to the e-Learning service is necessary.

Estimating the Similarities of G7 Countries using Economic Parameters

Swati Hira1, Anita Bai2, P.S.Deshpande3
Visvesvaraya National Institute of Technology Nagpur, India

The contribution of this paper is to estimate the equality and differences between and within G7 countries: Canada, France, Germany, Italy, Japan, United Kingdom and United States. We used five parameters (GDP per capita, Employment, Population, General government revenue, General government total expenditure, Gross national savings) which widely correlate economic growth in the G7 countries. The means of the seven countries are identically equal is considered as a null hypothesis for each five parameters. We are using Oneway analysis of variance statistical technique. Furthermore, the complete data set is evaluated to test the equivalence of the means between the G7 countries and each of a seven countries. The results show significant gaps between the group of G7 countries as well as selected parameters.
Offline Malayalam Character Recognition: A Comparative Study Using Multiple Classifier Combination Techniques

Anitha Mary M.O. Chacko, Dr K.S. Anil Kumar (Department of Computer Science, Sree Ayyappa College)

Malayalam character recognition has gained immense popularity in the past few years. The intrinsic challenges present in this domain along with the large character set of Malayalam further complicate the recognition process. Here we present a comparative evaluation of different multiple classifier combination techniques for the offline recognition of Malayalam characters. We have extracted three different features from the preprocessed character images- Density features, Run-length count and Projection profiles. These features are fed as input to three different neural networks and finally the results of these three networks were combined and evaluated using six different classifier combination methods: Max Rule, Sum Rule, Product Rule, Borda Count Rule, Majority Voting and Weighted Majority voting schemes. The best recognition accuracy of 97.67% was attained using the Weighted Majority scheme considering top 3 results.

A Comparative Study on Load balancing algorithms for SIP servers

Abdullah Akbar1, S. Mahaboob Basha2 and Syed Abdul Sattar3
1Jawaharlal Nehru Technological University, Hyderabad
2Al Habeeb College of Engineering & Technology, Chevella
3Royal Institute of Technology & Science, Chevella

The widespread acceptance and usage of smart phones deployed with high end operating systems have made Voice over IP applications extremely popular and prevalent globally. A large set of users amongst these use a plethora of Internet based applications after configuring them on their devices. SIP Proxy servers are predominantly used in these VOIP networks for the routing challenges arising from the requirement of supporting millions of VOIP concurrent / subsequent calls and also increasing the QoS (Quality of Service) of the routed calls. For intelligent load balancing, call dispatchers are used to achieve high throughput and minimum response times by balancing the calls amongst SIP proxy servers. Several load balancing algorithms are used like round robin, Call-Join-Shortest-Queue (CJSQ), Transaction-Join-Shortest-Queue (TJSQ) and Transaction-Least-Work-Left (TLWL). In this paper, we present a comparative analysis of load balancing algorithms for SIP servers with respect to call response time and server throughput performance.

Sai Krishna Vaddadi 1,2, Shashikant Sadistap2
1 Academy of Scientific and Innovative Research, Pilani, India-333 031
2AEG, CSIR-CEERI, Pilani, India-333 031

This paper proposes an process/environmental parameters monitoring framework based on Wireless Sensor Networks (WSNs) using embedded systems. The developed system will have many applications particularly in the area of aquaculture, tea plantations, vineyards, precision agriculture, green houses monitoring etc.,. The complexity of the system increases for applications involving aquaculture. The developed systems are tailored for sensing in wide farmland’s without (or) very little human supervision. The fully designed and developed system consists of sensors for monitoring the parameters, sensor node with wireless network topology, gateway for collecting the information from the sensor node and transmitting the information to the central control unit. Data base, real-time monitoring and visualization facilities, controlling of sensor nodes and sensors are provided at the central control unit. Sensor nodes, sensor assembly and gateways should with stand demanding environmental conditions like rain, dust, heat, moisture, relative humidity etc., With these systems deployed in large farm’s bodies the scientist’s will have more and more field data with very little human intervention. The acquired data can be used to provide quantitative indications about the farm’s status, thus easy for analysis and decision making. In this paper we are focusing our discussion about WSNs in the field of aquaculture.

Touch-to-learn: A tangible learning system for hard-of hearing children

Mitali Sinha, Suman Deb, Sonia Nandi
(Computer Science and Engineering Department, NIT Agartala)

Children’s learning styles can be categorized mainly into visual, auditory, tactile and kinesthetic learning. The lack of auditory learning capability deprive the hard-of-hearing children from indulging into traditional learning environment. To facilitate the learning of the stone-deaf children we propose a “Touch-to-learn” system, a manifestation of a tangible learning system for the elementary learners. A prototype of the system is presented focusing on children’s dental health and proper eating style which can be extended in other learning areas. The system effectively make use of the technological development embedding technology into learning. It also bridges the gap between the physical and digital interaction by introducing the technologies like RFID and Wii Remote providing a tangible learning environment and thus accelerating the learning process of hard-of-hearing children.
Creating low cost multi-gesture device control by using depth sensing

Sonia Nandi, Suman Deb, Mitali Sinha
(National institute of technology, Agartala)

In real life, most of the works are done in a gradient manner of interaction. That means binary result do not come of every actions. Holding, touching and reacting requires the knowledge of weight, surface, friction etc and depending on that user applies force and hold on the object. In this paper we tried to introduce similar kind of sensation for interacting with an object. The goal is to build a natural way to interact with different devices. Natural interaction involves gradient control of limbs which can be named as ‘Gradient gestures interact of things’. It has been long practice for gesture control devices like TV, electric appliances control, air condition control, etc. but by introduction of gradient gesture interact, switching on or off will be far beyond binary controls. It can control intermediate different segments of operation which can be termed as gradient control. For example, the intensity of light, the speed of fan, air condition temperature can be controlled by the proximate distance or closeness from the device. The Gradient Gestures interact of things is mostly important for gaming and interaction where depending on people’s proximate distance from each other we can introduce new gaming rules which can be used in more natural way. It can be used for entertainment purpose also.

Evaluation of Glomerular Filtration Rate by Single Frame Method applying GATES formula

A Shiva1, Palla Sri Harsha2, Kumar T Rajamani3, Siva Subramanyam4 and Siva Sankar Sai5
1 Sri Sathya Sai Institute of Higher Learning
2 Sri Sathya Sai Institute of Higher Learning
3 Robert Bosch
4 Sri Sathya Sai Institute of Higher Medical Sciences
5 Sri Sathya Sai Institute of Higher Learning

This paper aims to assess the utility of the single frame Method in the calculation of Glomerular Filtration Rate(GFR) by using GATES equation and compare it with GFR calculated by grouping frames. The DICOM image has number of frames in which the timely report of the activity of tracer is acquired accordingly at various instances of frames. Here we take a single frame from an image collection of 60 frames where the activity of the radio tracer is at maximum. The activity is expected to be maximized at the 40th frame which is a conjunction of filtration phase and excretion phase, which is proved by visual perception of the image. The GFR is calculated by using gates formula and the counts are obtained by semi-automatic segmentation tool called Fiji, ImageJ. This renal uptake study provides all the structural and functional information, in accordance to the traditional methods and proves to efficient when compared to the mathematical complexity.
Design and Development of Cost Effective Wearable Glove for Automotive Industry

Sangeetha Manoharan1, Gautham Raj Vijayaragavan2, R.L. Raghav3 and K.P. Phani4
1,2,3,4 Department of ECE, SRM University, Kattankulathur, Chennai, India.

In an automotive production unit considerable amount of time is spent on testing and observation. Therefore a need arises to address this issue with the help of any automation technique. In this paper, a cost effective wearable glove for monitoring automotive parameters such as temperature, flaw detection, Electro Motive Force (EMF) leakage and Direct Current (DC) measurement etc. To perform these measurements, various sensor units like temperature sensor for monitoring temperature, ultrasonic sensor for flaw detection are interfaced with the Arduino board and the monitored parameters are displayed in a graphical Liquid Crystal Display (LCD). The proposed design for wearable glove using Arduino Board enables time efficient continual monitoring of the parameters.

Tampering Localization in Digital Image using First Two Digit Probability Features

Archana V Mire1, Sanjay B Dhok2, Narendra J Mistry1, Prakash D Porey1,
1 Sardar Vallabhbhai National Institute of Technology, Surat, India
2 Visvesvaraya National Institute of Technology, Nagpur, India

In this paper, we have used the first digit probability distribution to identify inconsistency present in the tampered JPEG image. Our empirical analysis shows that, first two digits probabilities get significantly affected by tampering operations. Thus, prima facie tampering can be efficiently localized using this smaller feature set, effectively reducing localization time. We trained SVM classifier using the first two digit probabilities of single and double compressed images, which can be used to locate tampering present in the double compressed image. Comparison of the proposed algorithm with other state of the art techniques shows very promising results.
Classification of Bank Direct Marketing data using subsets of training data

Debaditya Barman1, Kamal Kumar Shaw2, Anil Tudu3, Nirmalya Chowdhury3
1Department of Computer and System Sciences, Visva-Bharati, Santiniketan, India
2Tata Institute of Fundamental Research, Colaba, Mumbai
3Department of Computer Science and Engineering, Jadavpur University, Kolkata, India

Nowadays, most business organizations practice Direct Marketing. One of the promising application areas of this type of marketing practice is Banking and Financial Industry. A classification technique using subsets of training data has been proposed in this paper. We have used a real-world direct marketing campaign data for experimentation. This marketing campaign was a telemarketing campaign. The objective of our experiment is to forecast the probability of a term-deposit plan subscription. In our proposed method we have used customer segmentation process to group individual customers according to their demographic feature. We have used X-means clustering algorithm for customer segmentation process. We have extracted few appropriate collections of customers from the entire customer database using X-means cluster algorithm, on the basis of demographic feature of individual customers. We have tested our proposed method of training for classifier using three most widely used classifiers namely Naïve Bayes, Decision Tree and Support Vector Machine. It has been found that the result obtained using our proposed method for classification on the banking data is better compare to that reported in some previous work on the same data.

Oûine Writer Identiûcation and Veriûcation - A State-of-the-art

Chayan Halder1, Sk Md Obaidullah2, and Kaushik Roy1
1 Dept. of Computer Science, West Bengal State University, Kolkata-126, WB, India
2 Dept. of Computer Science & Engineering, Aliah University, Kolkata, WB, India

In forensic science diûerent unique bio-metric information of humans are being used to analyses forensic evidence like únger print, signature, retina scan etc. The same can be used applied on handwriting analysis. The Automatic Writer Identification and Verification (AWIV) is a study which combines forensic analysis âeld and computer vision and pattern recognition âeld. This paper presents a survey of literature on the oûine handwritten writer identiûcation/veriûcation with the type of data, features and classiûcation approaches attempted till date in different languages and scripts. The analysis of the approaches has been described for further enhancement and adaptation of these techniques in diûerent languages and scripts.
Handwritten Oriya Digit Recognition using Maximum Common Subgraph based Similarity Measures

Swaranndu Ghosh, Nibaran Das, Mahantapas Kundu, Mita Nasipuri
Department of Computer Science, Jadavpur University, Kolkata

Optical Character Recognition have attracted the attention of lots of researchers lately. In the current work we propose a graph based approach to perform a recognition task for handwritten oriya digits. Our proposal includes a procedure to convert handwritten digits into graphs followed by computation of the maximum common subgraph. Finally similarity measures between graphs were used to design a feature vector. Classification was performed using the Knearest neighbor algorithm. After training the system on 5000 images an accuracy of 97.64 % was achieved on a test set of 2200 images. The result obtained shows the robustness of our approach.

Design of Non-Volatile SRAM Cell Using Memristor

Soumitra Pal1, N.S.Ranjan2
1Applied Electronics and Instrumentation Engineering C. V. Raman College of Engineering Bidya Nagar, Mahura, Janla,, Bhubaneswar 752054, India
2Electronics and Communication Engineering Birla Institute of Technology, Mesra

Emerging chip technologies employ power-off mode to diminish the power dissipation of chips. Non-volatile SRAM (NvSRAM) enables a chip to store the data during power–off modes. This non-volatility can be achieved through memristor memory technology which is a promising emerging technology with unique properties like low-power, high density and good scalability. This paper provides a detailed study of memristor and proposes a memristor based 7T2M NvSRAM cell. This cell incorporates two memristors which store the bit information present in the 6T SRAM Latch, and a 1T switch which helps to restore the previously written bit in situations of power supply failures, thereby making the SRAM non-volatile.
Evolutionary algorithm based LFC of single area thermal power system with different steam configurations and nonlinearity

K. Jagatheesan1, B. Anand2, Nilanjan Dey3

1Dept. of EEE, Mahendra Institute of Engineering and Technology, Namakkal, Tamilnadu, India
2Dept. of EEE, Hindusthan College of Engineering and Technology, Coimbatore, Tamilnadu, India
3Dept. of CSE, BCET, Durgapur, India

Load Frequency Control (LFC) of single area thermal power system is presented in this work. Commonly used industrial Proportional-Integral-Derivative (PID) controller is considered as a supplementary controller and parameters are optimized by using evolutionary algorithm (Ant Colony Optimization (ACO)). Three cost functions are considered to optimize controller gain values. Such as, Integral Absolute Error (IAE), Integral Time Absolute Error (ITAE) and Integral Square Error (ISE) and also three different steam configurations (Non Reheat turbine, Single Stage Reheat turbine and Double stage reheat turbine) are considered in this work. Further the performance of proposed algorithm is proved by adding nonlinearity (Generation Rate Constrain, Governor Dead Band and Boiler Dynamics) into the same power system and value of Step Load Perturbation (SLP) in all three steam configurations. Time domain analysis is used to study the performance of power system with different scenarios.

Game Theory and its Applications in Machine Learning

J. Ujwala Rekha1, K. Shahu Chatrapati2, A. Vinaya Babu1

1 Dept. of Computer Science and Engineering, JNTUH College of Engineering Hyderabad
2 Dept. of Computer Science and Engineering, JNTUH College of Engineering Jagitial

Machine learning is a discipline that deals with the study of algorithms that can learn from the data. Typically, these algorithms run by generating a model built from the observed data, and then employ the generated model to predict and make decisions. Most of the problems in machine learning could be translated to multi-objective optimization problems where multiple objectives have to be optimized at the same time in the presence of two or more conflicting objectives. Mapping multi-optimization problems to game theory can give stable solutions. This paper presents an introduction of game theory and collects the survey on how game theory is applied to some of the machine learning problems.
A Study on Speech Processing

JJ. Ujwala Rekha1, K. Shahu Chatrapati2, A. Vinaya Babu1
1 Dept. of Computer Science and Engineering, JNTUH College of Engineering
Hyderabad
2 Dept. of Computer Science and Engineering, JNTUH College of Engineering
Jagitial

Speech is the most natural means of communication in human-to-human interactions. Automatic Speech Recognition (ASR) is the application of technology in developing machines that can autonomously transcribe a speech into a text in the realtime. This paper presents a short review of ASR systems. Fundamentally, the design of speech recognition system involves three major processes such as feature extraction, acoustic modeling and classification. Consequently, emphasis is laid on describing essential principles of the various techniques employed in each of these processes. On the other hand, it also presents the milestones in the speech processing research to date.

Forest Type Classification : A Hybrid NN-GA Model based Approach

Sankhadeep Chatterjee1, Subhodeep Ghosh2, Subham Dawn3, Sirshendu Hore4 and Nilanjan Dey5
1Department of Computer Science & Engineering, University of Calcutta, Kolkata, India
2, 3Department of Computer Science & Engineering, Academy of Technology, Aedconagar, Hooghly – 712121, India 4Department of Computer Science & Engineering, Hooghly Engineering & Technology College, Hooghly, India
5Department of Computer Science & Engineering, BCET, Durgapur, India.

Recent researches have used geographically weighted variables calculated for two tree species, Cryptomeria japonica (Sugi, or Japanese Cedar) and Chamaecyparis obtusa (Hinoki, or Japanese Cypress) to classify the two species and one mixed forest class. In machine learning context it has been found to be difficult to predict that a pixel belongs to a specific class in a heterogeneous landscape image, especially in forest images, as ground features of nearly located pixel of different classes have very similar spectral characteristics. In the present work the authors have proposed a GA trained Neural Network classifier to tackle the task. The local search based traditional weight optimization algorithms may get trapped in local optima and may be poor in training the network. NN trained with GA (NN-GA) overcomes the problem by gradually optimizing the input weight.
vector of the NN. The performance of NN-GA has been compared with NN, SVM and Random Forest classifiers in terms of performance measures like accuracy, precision, recall, FMeasure and Kappa Statistic. The results have been found to be satisfactory and a reasonable improvement has been made over the existing performances in the literature by using NN-GA.

Optimizing Technique to Improve the Speed of Data Throughput through Pipeline

Nandigam Suresh Kumar1, Prof. D.V. Rama Koti Reddy2, Member IEEE
1GITAM Institute of Technology, GITAM University, Visakhapatnam, Andhra Pradesh, India
2College of Engineering, Andhra University, Visakhapatnam, Andhra Pradesh, India

High speed data processing is very important factor in super computers. Parallel computing is one of the important elements mostly used in fast computers. There are different methods actively involved to satisfy the concept parallel computing. In the present paper pipeline method is discussed with its flaws and different clock schemes. In the present paper data propagation delay is discussed at different existing techniques and presented a new method to optimize the data propagation delay. The new method is compared with different existing methods and designs of new technique with simulation results are presented. The simulation results are obtained from Virtual Digital Integrator.

An Improved data hiding scheme in motion vectors of video streams

K.Sridhar 1, Dr. Syed abdul Sattar2, Dr. M.Chandra Mohan3
1Department of ECE, VREC, Nizambad, India
2Department of ECE, RITS, India
3Department of CSE, SDC, JNTUH, India

An inter frame data hiding scheme in motion vectors of the compressed video streams is proposed in this paper. The main objective of this paper is to achieve a relatively high embedding capacity while preserving the encoding and the decoding schemes where the data hiding is based on the changing of motion vectors. However this approach tries to preserve the perceptual quality of the compressed video streams there by reflecting the usage of this algorithm to real time applications. The proposed approach is also been compared against the conventional LSB based approach both subjective and objective quality analysis were recorded for different experimental conditions.
Hiding Sensitive Items using Pearson’s Correlation Coefficient Weighing Mechanism

K.Srinivasa Rao1, CH. Suresh Babu2, A.Damodaram3
1Department Of Computer Science and Engineering, Malineni Lakshmaiah Women’s Engineering College, Guntur, Andhra Pradesh, India
2Department Of Computer Science and Engineering, Sree Vaanmayi Institute of Science & Technology, Bibinagar, Nalgonda, India
3Department Of Computer Science and Engineering, JNTUH, Kukatpally, Hyderabad

Data mining algorithms extract high level information from massive volumes of data. Along with advantage of extracting useful pattern, it also poses threats of revealing sensitive information. We can hide sensitive information by using privacy preserving data mining. As association rules are a key tool for finding the pattern, so certain rules can be categorized as sensitive if its disclosure risk is above a specific threshold. In literature, there are different techniques exist for hiding sensitive information. Some of these techniques are based on support and confidence framework, which suffers with limitations including choosing a suitable value of these measures which cause losing useful information, generation of large number of association rules and loss of database accuracy. We propose correlation based approach which uses measures other than support and confidence such as correlation among items in sensitive item sets to hide the sensitive items in the database.

Opencv based Implementation of Zhang-Suen Thinning Algorithm using Java for Arabic Text Recognition

Abdul Khader Jilani Saudagar and Habeeb Vulla Mohammed
College of Computer and Information Sciences, Al Imam Mohammad Ibn Saud Islamic University (IMSIU)

The aim of this research work is to implement Zhang-Suen thinning algorithm on openCV based java platform. The novelty lies in the comparative study of the obtained results using the proposed implementation with the existing implementations of Zhang-Suen thinning algorithm viz. using Matlab, C++ and compare the performance factor viz computation time with others. The experimental results achieved by openCV based java platform are faster when compared to Matlab and C++. 
Numerical Modeling Of Twin Band MIMO Antenna

Vilas V. Mapare1, Dr.G.G.Sarate2
1Sant Gadge Baba Amravati University, Amravati
2Government Polytechnic, Amravati

Over the last decade multiple input multiple output (MIMO) systems have received considerable attention. There are some limitations while obtaining the most from MIMO, such as mutual coupling between antenna elements. Mutual coupling and therefore inter-elements spacing have important effects on the channel capacity of a MIMO communication system, its error rate and ambiguity of MIMO radar system. The effect of mutual coupling on MIMO system has been studied and then different array configurations are considered. Different configurations show different mutual coupling behaviour. After modelling and simulation, the array was designed, implemented and finally verified the result using Vector Network Analyzer. In this paper, a compact Twin bands MIMO antenna with low mutual coupling, operating over the range of 2.1GHz to 2.845GHz is proposed.

Performance evaluation of video-based face recognition approaches for online video contextual advertisement user-oriented system

Le Nguyen Bao1, Dac-Nhuong Le2, Le Van Chung1 and Gia Nhu Nguyen1
1 Duy Tan University, Da Nang, Viet Nam
2 Hai Phong University, Hai Phong, Viet Nam

In this research, we propose the online video contextual advertisement user-oriented system. Our system is a combination of video-based face recognition using machine learning models from the camera with multimedia communications and networking streaming architecture using Meta-data structure to video data storage. The real images captured by the camera will be analyzed based on predefined set of conditions to determine the appropriate object classes. Based on the defined object class, the system will access the multimedia advertising contents database and automatically select and play the appropriate contents. We analyse existing face recognition in videos and age estimation from face images approaches. Our experiment was analyzed and evaluated in performance when we integrate analyze age from the face identification in order to select the optimal approach for our system.
A Survey on Power Gating Techniques in Low Power VLSI Design

G Srikanth1, Dr Bhanu M.Bhaskara2, Dr M AshaRani3.
1. Department of Electronics and Communication Engineering, CMR Technical Campus, Kandlakoya, Medchal, Hyderabad, Telangana, India
2. Department Electrical Engineering, professor at Majmaah university, Majmaah city, Riyad.
3. Department of Electronics and Communication Engineering, Professor and Head at Jawaharlal Nehru University College of Engineering, Hyderabad, Telangana, India

The most effective technique to reduce dynamic power is the supply voltage reduction by technology scaling which reduces threshold voltage. Under deep submicron technology, reduction in threshold voltage increases leakage currents, gate tunneling currents and leakage power in standby mode. Most of the handheld devices have long standby mode cause leakage current contributing to leakage power dissipation. In this paper, various leakage power reductions, charge recycling techniques, data retention of memories. Various Power gating techniques are discussed in detail.

Phase Based Mel Frequency Cepstral Coefficients for Speaker Identification

Sumit Srivastava1, Mahesh Chandra2, G Sahoo3,
1,3 Department of Computer Science & Engineering, BIT Mesra Ranchi
2, Department of Electronics & Communication Engineering, BIT Mesra Ranchi

In this paper new Phase based Mel frequency Cepstral Coefficient (PMFCC) are used for speaker identification. GMM with VQ are used as a classifier for classification of speakers. The identification performance of proposed features is compared with identification performance of MFCC features and phase features. The performance of PMFCC features has been found superior compared to MFCC features and phase features. Ten Hindi digits database of fifty speakers is used for simulation of results. This paper also explore the usefulness of phase information for speaker recognition.
A New Block Least Mean Square Algorithm for Improved Active Noise Cancellation

Monalisha Ghosh1, Monali Dhal2, Pankaj Goel 3, Asutosh Kar 4, Shivalik Mahapatra 5, Mahesh Chandra 6
1,2 Electronics and Telecommunication Engineering, IIIT Bhubaneswar, India
3,6 Electronics and Communication Engineering, BIT Mesra, India
4 Electronics and Electrical Engineering, BITS Pilani (Hyd.), India
5 Electronics and Electrical Engineering, BITS

Acoustic noise is an undesired disturbance that is present in the information carrying signal in telecommunication systems. The communication process gets affected because noise degrades the quality of speech signal. Adaptive noise reduction is a method of approximating signals distorted by additive noise signals. With no prior estimates of input or noise signal, the levels of noise reduction are attainable that would be difficult or impossible to achieve by other noise cancelling algorithms, which is the advantage of adaptive technique. Adaptive filtering before subtraction allows the treatment of inputs that are deterministic or stochastic, stationary or time variable. This paper provides an analysis of various adaptive algorithms for noise cancellation and a comparison is made between them. The strengths, weaknesses and practical effectiveness of all the algorithms have been discussed. This paper deals with cancellation of noise on speech signal using three existing algorithms- Least Mean Square algorithm, Normalized Least Mean Square algorithm and Recursive Least Square algorithm and a proposed algorithm- advanced Block Least Mean Square algorithm. The algorithms are simulated in Simulink platform. Conclusions have been drawn by choosing the algorithms that provide efficient performance with less computational complexity.

An Improved Feedback Filtered-X NLMS Algorithm for Noise Cancellation

Bibhudatta Mishra1, Ashok Behuria 2, Pankaj Goel 3, Asutosh Kar 4, Shivalik Mahapatra 5, Mahesh Chandra 6
1,2 Electronics and Telecommunication Engineering, IIIT Bhubaneswar, India
3,6 Electronics and Communication Engineering, BIT Mesra, India
4 Electronics and Electrical Engineering, BITS Pilani (Hyd.), India
5 Electronics and Electrical Engineering, BITS

The age of unmatchable technical expertise envisages noise cancellation as an acute concern, as noise is held responsible for creating hindrances in day to day communication. To overcome the noise present in the primary signal notable traditional methods surfaced over the passage of time being listed as noise barriers,
The advanced modern day approach suppresses noise by continuous adaptation of filter weights of an adaptive filter. The change in approach was ground breaking that accredits its success to advent of adaptive filters which employs adaptive algorithms. The various premier noise cancellation algorithms include LMS, RLS etc. Further much coveted Normalized LMS, Fractional LMS, Differential Normalized LMS, Filtered-x LMS etc. ensued out of active framework in this field. The paper looks forward to provide an improved approach for noise cancellation in noisy environment using newly developed variants of Filtered x LMS (FxLMS) algorithm, Feedback FxLMS (FB-FxLMS). An initial detailed analysis of existing FxLMS algorithm and FB-FxLMS algorithm has been carried out along with the mathematics of the new proposed algorithm. The proposed algorithm is applied to noise cancellation and the results for each individual process were produced to make a suitable comparison between the existing and proposed one.

Application of Internet of Things(IoT) for Smart Process Manufacturing in Indian Packaging Industry

Ravi Ramakrishnan ,Dr Loveleen Gaur
Amity University, Noida, UP, India

Smart Manufacturing is the need of the hour in India with growing concerns of environmental safety, energy conservation and need for agile and efficient practices to help Indian firms remain competitive against the low cost mass manufacturing and imports. The twelfth five year plan in India (2012-17) (Ministry of Commerce, 2012) has identified low technology intensity, inadequate costs and high transaction costs as major constraints. Smart Manufacturing can help companies gather and consolidate data on near real time basis at each step of their operations to get meaningful insights using existing instrumentation e.g. sensors in valves, motors, pressure and energy meters by connecting them to a digital network where data generated by them is constantly stored for proactive decision making. This paper critically examines the role of Internet of Things in taking flexible packaging manufacturing to the next level in India with relevant citations from an Indian company and alleviating manufacturing pitfalls due to infrastructural issues be it energy, transportation or machine efficiency.
A New Private Security Policy Approach for DDoS Attack Defense in NGNs

Dac-Nhuong Le1, Vo Nhan Van2, and Trinh Thi Thuy Giang3
1 Hai Phong University, Hai Phong, Vietnam
2 Duy Tan University, Da Nang, Vietnam
3 Hanoi University of Science, Vietnam National University, Vietnam

Nowadays, the Distributed Denial of Service (DDoS) attack is still one of the most common and devastating security threats to the internet. This problem is progressing quickly, and it is becoming more and more difficult to grasp a global view of the problem. In this paper, we propose a new defense method used the bandwidth in second that a server can use for UDP packets is set as a parameter for controlling a DDoS attack by using the number of UDP packets available. It is registered in the private security policy as a parameter for detecting a flood attack. The efficiency of our proposed method was also proved in the experiments with NS2. DDoS attack is controlled effectively by the private security policy the bandwidth of the regular traffic would be maintained.

An effective approach for providing diverse and serendipitous recommendations

Ivy Jain1, Hitesh Hasija2,
1 Northern India College of Engineering, Delhi, India
2 Delhi Technological University, Delhi, India

Over the years, recommendation systems successfully suggest relevant items to its users using one of its popular methods of collaborative filtering. But, the current state of recommender system fails to suggest relevant items that are unknown (novel) and surprising (serendipitous) for its users. Therefore, we proposed a new approach that takes as input the positive ratings of the user, positive ratings of the similar users and negative ratings of the dissimilar users to construct a hybrid system capable of providing all possible information about its users. The major contribution of this paper is to diversify the suggestions of items, a user is provided with. The result obtained shows that as compared to general collaborative filtering, our algorithm achieves better catalogue coverage. The novelty and serendipity results also proved the success of the proposed algorithm.
Function Optimization using Robust Simulated Annealing

Hari Mohan Pandey1, Ahlya Gajendran2
Department of Computer Science & Engineering Amity University, Sector-125, Noida, Uttar Pradesh, India

In today’s world, researchers spend more time in fine-tuning of algorithms rather than designing and implementing them. This is very true when developing heuristics and metaheuristics, where the correct choice of values for search parameters has a considerable effect on the performance of the procedure. Determination of optimal parameters is continuous engineering task whose goals are to reduce the production costs and to achieve the desired product quality. In this research, simulated annealing algorithm is applied to solve function optimization. This paper presents the application and use of statistical analysis method Taguchi design method for optimizing the parameters are tuned for the optimum output. The outcomes for various combinations of inputs are analyzed and the best combination is found among them. From all the factors considered during experimentation, the factors and its values which show the significant effect on output are discovered.

Analysis and Optimization of Feature Extraction Techniques for Content Based Image Retrieval

Kavita Chauhan, Shanu Sharma
Department of Computer Science & Engineering ASET, Amity University, Uttar Pradesh

The requirement of improved image processing methods to index increasing image database that results in an alarming need of content based image retrieval systems, which are search engines for images and also is an indexing technique for large collection of image databases. In this paper, an approach to improve the accuracy of content based image retrieval is proposed that uses the genetic algorithm, a novel and powerful global exploration approach. The classification techniques – Neural Network and Nearest Neighbor have been compared in the absence and presence of Genetic Algorithm. The computational results obtained shows the significant increase in the accuracy by incorporating genetic algorithm for both the classification techniques implemented.
Parametric Curve based Human gait recognition

Parul Arora, Smriti Srivastava, Rachit Jain, Prema Tomar
Netaji Subhas Inst. Of Technology, New Delhi

In this paper we institute a baseline technique for human identification based on their body structure and gait. This paper presents a unique human identification system based on self-extracted gait biometric features. Recurring gait analysis is done to deduce key frames from the gait sequence. The gait features extracted are height, hip, neck and knee trajectories of the human silhouette from the body structure Here, we propose two new parametric curves beizer curve and hermite curve, based on gait pattern. The projected approach has been applied on the SOTON covariate database, which comprises eleven subjects. The testing samples are compared to training samples using normalized correlation, and subject classification is performed by nearest neighbor matching among correlation scores. From the conducted experimental results, it can be accomplished that the stated approach is successful in human identification.


Divya Upadhyay1, P. Banerjee2
1Computer Science & Engineering,
2Electronics & Communication Engineering Amity School of Engineering Technology Amity University Noida, India

Now a day’s Wireless Sensor Network are used in various applications where full or partial time synchronization plays a vital role. Basic aim of Time synchronization is to achieve equalization of local time between all the nodes within the network. This paper proposes a new framework for time synchronization problem of wireless sensor network. Time synchronization protocols are very popular and widely used in WSN now days. An analysis has been performed utilizing the proposed frame work, which leads to a conclusion that it consumes less energy than the traditional time synchronization protocols: Reference Broadcast Time Synchronization and Time-Sync Protocol for Sensor Network. It has been observed that the proposed frame work do not require a Global Positioning System or any other external system to coordinate with time, as a typical Network Time Protocol for wireless sensor system uses. The proposed time synchronization protocol is categorized as peer to peer, clock-correcting sender-receiver network-wide synchronization protocol depending upon the characteristics
of WSN. The maximum probability theory is used in order to analyze the clock offset. It was observed that resynchronization interval is required to achieve a specific level of synchronization correctness. Results are obtained by simulating the WSN on NS2 to demonstrate the energy efficient feature of the proposed protocol.

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**Epigenetic and Hybrid Intelligence in mining patterns**

*Malik Shamita (Amity School of Engineering Technology, Amity University, Noida, India)*  
*Singh Richa (Amity Institute of Information Technology, Amity University, Noida, India)*

The term Epigenetics science is an element of a „postgenomic“ analysis paradigm that has more and more place in the theoretical model of a unidirectional causative link from DNA′ polymer ′ supermolecule ′ constitution. Epigenetics virtually means that “above” or “on high of” biological science. It refers to explicitly modifications to deoxyribonucleic acid that flip genes “on” or “off.” These changes don’t amendment the deoxyribonucleic acid sequence, however instead, they have an effect on however cells “read” genes. Epigenetic changes alter the natural object of DNA. One example of associate degree epigenetic amendment is DNA methylation — the addition of a alkyl group, or a “chemical cap,” to a part of the DNA molecule, that prevents sure genes from being expressed. In this paper, an algorithm i-DNA-M has been proposed which would improve the result of the mining intelligent patters in dataset. Patterns further helps to reconstruct phylogenetic network. The idea behind i-DNA-M is rearranging the input sequences in a way that the new arrangement gives a better tree, since the patterns or motifs affects the outcomes of phylogenetic network.

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**A Technical Review on LVRT of DFIG Systems**

*Pretty Mary Tom1, Belwin Edward J 2, Avagaddi Prasad3, A V Soumya4, Ravi k5*  
*School of Electrical Engineering1,2,3,4,5, VIT University, Vellore, Tamil Nadu, India.*

The most important issue with doubly fed induction generator (DFIG) wind turbine is low voltage ride-through performance. To solve this problem, several techniques have been introduced. The paper discusses some of the most commonly used solutions for Low Voltage Ride Through (LVRT) of wind turbine generators which is the most important feature to be attained according to grid codes. A technical survey is presented with comparison between these techniques.
An AIS based approach for extraction of PV module parameters

Sarjila R, Ravi K, Belwin Edward J, Avagaddi Prasad, Sathish Kumar K
School of Electrical Engineering, VIT University, Vellore, Tamil Nadu, India.

This article presents the calculation of the parameter extraction of photovoltaic (PV) panel using artificial immune system (AIS) and compared with genetic algorithm (GA) using MATLAB, Simulink at different environmental conditions (for different irradiations (200w/m2-1000w/m2)). The proposed method showingIpv vsVpv curves and to compare the obtained curve to the ideal values in order to obtain the absolute error curve. For extracting parameters of a PV cell, the proposed method useful because it can handle nonlinear functions. The proposed method compared with manual data and are validated by three different types of PV modules named as, Multi-crystalline (SHELL S36), Mono-crystalline (SHELL SP70) and Thin-film (SHELL ST40). Data derived from these calculations beneficial to decide the suitable computational technique to build an accurate and efficient simulators for a PV system.

Word Sense Disambiguation in Bengali: An autoUpdated Learning Set Increases the Accuracy of the Result

Alok Ranjan Pal1 and Diganta Saha2
1Dept. of Computer Science and Engg., College of Engg. and Mgmt, Kolaghat
2Dept. of Computer Science and Engg., Jadavpur University, Kolkata

This work is implemented using the Naïve Bayes probabilistic model. The whole task is implemented in two phases. First, the algorithm was tested on a dataset from the Bengali corpus, which was developed in the TDIL (Technology Development for the Indian Languages) project of the Govt. of India. In the first execution of the algorithm, the accuracy of result was nearly 80%. In addition to the disambiguation task, the sense evaluated sentences were inserted into the related learning sets to take part in the next executions. In the second phase, after a small manipulation over the learning sets, a new input data set was tested using the same algorithm, and in this second execution, the algorithm produced a better result, around 83%. The results were verified with the help of a standard Bengali dictionary.
Efficient Methods to Generate Inverted Indexes for IR

Arun Kumar Yadav1, Divakar Yadav2, Deepak Rai3,
1 Ajay Kumar Garg Engineering College, Ghaziabad, India
2 Jaypee Institute of Technology, Noida, India
3 Ajay Kumar Garg Engineering College, Ghaziabad, India

Information retrieval systems developed during last 2-3 decades have marked the existence of web search engines. These search engines have become an important role player in the field of information seeking. This increasing importance of search engines in the field of information retrieval has compelled the search engine companies to put their best for the improvement of the search results. Therefore the measurement of the search efficiency has become an important issue. Information retrieval is basically used for identifying the activities which makes us capable to extract the required documents from a document repository. Information retrieval today is done on the basis of numerous textual and geographical queries having both the textual and spatial components. The textual queries of any IRS are resolved using indexes and an inversion list. This paper mainly concentrates on the indexing part and the analysis of the algorithm. Several structures are in existence for implementing these indexes. Hash tables, B-trees, sorted arrays, wavelet trees are few to name. For an efficient data structure there are different deciding parameters that are to be taken into account. Some important parameters considered in this paper are index creation time, storage required by inverted file and retrieval time. This paper provides a detailed comparative study of different data structures for the implementation of inverted files.

Intelligent Mail Box

Hitesh Sethi, Ayushi Sirohi, and Manish K Thakur
Jaypee Institute of Information Technology, Noida

In 21st century, email is one of the most effective ways of written communication due to its easy and quick access. But now days with each individual receiving large number of emails, mostly promotional and unnecessary mails, organization of emails in individual’s inbox is a tedious task to do. In last decade, researchers and scientific community have contributed lot for organization of individual’s inbox by classifying the emails into different categories. In this paper, we propose an intelligent mail box where email classification has been carried out on the basis of labels created by users and needs few training mails for future classification. Hence it provides more personalized mail box to the user. The proposed system has been tested with various classifiers, viz. Support Vector Machine, Naïve Bayes, etc. and obtained the highest classification accuracy (66% to 100%) with Naïve Bayes.
Learning Based No Reference Algorithm for Dropped Frame Identification in Uncompressed Video

Manish K Thakur1, Vikas Saxena1, and J P Gupta2
1 Jaypee Institute of Information Technology, Noida, India – 201307
2 Lingaya’s University, Faridabad, India – 201307

For last many years video authentication and detection of tampering in a video are major challenges in the domain of digital video forensics. This paper presents detection of one of the temporal tampering (frame drop) under no reference mode of tampering detection. In spirit of the scheme presented by Upadhyay and Singh, this paper extends the features to train the SVM classifier and accordingly classify frames of given video as tampered or non-tampered frames, i.e. detects the tampering of frame drop. Subsequently given video is classified as tampered or non-tampered video. The obtained results with enhanced features show significant improvement in classification accuracy.

MULTI – VIEW VIDEO SUMMARIZATION

Chintureena Thingom (Centre for Digital Innovation, Christ University, Bangalore, India)
GuydeukYeong (Centre for Digital Innovation, Christ University, Bangalore, India)

Video summarization is the most important video content service which gives us a short and condensed representation of the whole video content. It also ensures the browsing, mining, and storage of the original videos. The multi-view video summaries will produce only the most vital events with more detailed information than those of less salient ones. As such, it allows the interface user to get only the important information or the video from different perspectives of the multi-view videos without watching the whole video. In our research paper, we are focusing on a series of approaches to summarize the video content and to get a compact and succinct visual summary that encapsulates the key components of the video. Its main advantage is that the video summarization can turn numbers of hours long video into a short summary that an individual viewer can see in just few seconds.
Comprehensive Review of Video Enhancement Algorithms for Low Lighting Conditions

G. R. Vishalakshi1, M. T. Gopalakrishna2 and M. C. Hanumantharaju3

1/Research scholar Department of Electronics & Communication Engineering Dayananda Sagar College of Engineering Bangalore, India
2/Department of Computer science Engineering Kammavar Sangam School of Engg. & Management Bangalore, India
3/Department of Electronics & Communication Engineering BMS institute of Technology & Management Bangalore, India

Video enhancement becomes a very challenging problem under low lighting conditions. Numerous techniques for enhancing visual quality of videos/images captured under different environmental situations are proposed by number of researchers especially in dark or night time, foggy situations, rainy and so on. This paper discusses brief review of existing algorithms related to video enhancement techniques under various lighting condition such as De-hazing based enhancement algorithm, a novel integrated algorithm, gradient based fusion algorithm and dark channel prior and in addition it also presents advantages and disadvantages of these algorithms.

A Detailed Review of Color Image Contrast Enhancement Techniques for Real Time Applications

P. Agalya1, M. C. Hanumantharaju2, M. T. Gopalakrishna3

1/Department of Electronics & Communication Engineering Sapthagiri College of Engineering, Bangalore, India,
2/Department of Electronics & Communication Engineering BMS Institute of Technology & Management, Bangalore, India
3/Department of Computer Science Engineering Kammavar Sangam School of Engineering & Management, Bangalore

Real-time video surveillance, medical imaging, industrial automation and oceanography applications use image enhancement as a preprocessing technique for the analysis of images. Contrast enhancement is one of a method to enhance low contrast images obtained under poor lighting and fog conditions. In this paper, various variants of histogram equalisation, Homomorphic filtering and dark channel prior techniques used for image enhancement are reviewed and presented. Real-time processing of images is implemented on Field Programmable Gate Array (FPGA) to increase the computing speed. Further this paper focus on the review of contrast enhancement techniques implemented on FPGA in terms of device utilization and processing time.
A Conceptual Model for Acquisition of Morphological Features of Highly Agglutinative Tamil Language Using Unsupervised Approach

Dr.(Mrs).Ananthi Sheshasaayee1, Ms.Angela Deepa.V.R2, 1,2 Department of Computer Science,Quaid E Millath Govt College for Women 600002 Chennai, India

Construction of powerful computer systems to understand the human languages or natural languages to capture information about various domains demands morphologically featured modeled architected appropriately in a core way. Morphological analysis is a crucial step that plays a predominant role in the field of natural language processing. It includes the study of structure, formation, functional units of the words, identification of morphemes to endeavor the formulation of the rules of the language. Since natural language processing applications like machine translation systems, speech recognition, information retrieval rely on large text data to analyze using linguistic expertise is not viable. To overcome this issue morphological analysis using unsupervised settings is incorporated. It is an alternative procedure that works independently to uncover the morphological structure of the languages. This paper gives a theoretical model to analysis morphologically the structure of the Tamil language in an unsupervised way.

Split and Merge Multi-scale Retinex Enhancement of Magnetic Resonance Medical Images

Sreenivasa Setty1, N. K. Srinath2, and M. C. Hanumantharaju3 1 Department of Information Science & Engineering, Don-Bosco Institute of Technology, Bangalore, India, 2 Department of Computer Science & Engineering, R. V. College of Engineering, Bangalore, India, 3 Department of Electronics and Communication Engineering, BMS Institute of Technology & Management, Bangalore, India

Image contrast enhancement and highlighting the prominent details based on edge preserving are the fundamental requirement of medical image enhancement research. This paper presents the Multi-Scale Retinex (MSR) enhancement of Magnetic Resonance (MR) medical images using split and merge technique. The main limitations of the retinex based image enhancement schemes is computational complexity, halo artifacts, gray world violation, over enhancement etc. There exist various extensions for retinex methods developed by over a dozens of researchers, but most of the techniques are computationally complex. This is due to the fact
that the image details are improved at the cost of increased computational complexity. The proposed method is efficient in computation, since the original input image is split into a size of 8×8 and then gray level Fast Fourier Transform (FFT) based retinex algorithm is exploited to improve the quality of sub-image. Reconstructed image is produced by merging each of the enhanced versions to the original image resolution. This scheme is validated for MR medical images and the parameters of the retinex method is adjusted to improve the contrast, details and overall quality image. Experimental results presented confirm that the proposed method outperforms compared to existing methods.

Review On Secured Medical Image Processing
Santhosh B1, Dr. K. Viswanath2
1Department of Telecommunication Engineering, Dayananda Sagar College of Engineering, Bangalore, 2Department of Telecommunication Engineering, Siddaganga Institute of Technology, Tumkur

Medical image processing techniques require continuous improve quality of services in health care industry. In the real world huge amount of information has to be processed and transmitted in digital form. Before transmission the image has to be compressed to save the bandwidth. This is achieved by alternate coefficient representation of image/videos in a different domain. Processing of images in transform domain takes comparable less computation by avoiding inverse and re-transform operations. The fundamental behind the transform domain processing is to convert the spatial domain operations to its equivalent transform domain. This paper describes the analysis in the field of medical image processing. Keywords: Medical Imaging, compression, spatial transform, wavelet transform.

Identification of Stages of Malignant Tumor in MRM Images using Level set algorithm and Textural Analysis
Varalatchoumy. M1, Ravishankar. M2
1 Department of Information Science and Engineering, B.N.M Institute of Technology, Banashankari II stage, Bangalore, India
1Research Scholar, Dayananda Sagar College of Engineering, Bangalore
2Vidya Vikas Institute of Engineering and Technology, Mysore, India.

An efficient Computer Aided Detection and Classification system has been developed to detect, classify and identify the stages of malignant tumor. Preprocessing stage that involves image enhancement and removal of noises has been carried out using histogram equalization and morphological operators. As a novel initiative Level set method has been used for segmentation. High
accuracy at low computation time has been attained using level set method. Feature extraction stage involves extracting both wavelet and textural features. Wavelet analysis was best suited for the task as it aided in analyzing the images at various resolution levels. Initially a neural network is trained using the wavelet features to classify the tumor as normal, benign or malignant tumor. Few textural features are extracted from detected malignant tumors. Out of all textural features, energy values are used to train another neural network which is used to identify the stage of the malignant tumor. The performance of the system has been tested on 24 patient's data obtained from a hospital. An overall accuracy of 97% has been achieved for MIAS database images and 85% for patient's dataset.

Reviews Based Mobile Application Development Model (RBMAD)

Manish Kumar Thakur 1, Prasanna Kumar K.S. 2
1 Department of MCA, Acharya Institute of Technology, Bangalore
2 PM Inno Lab, Bangalore

Mobile development is the area of heavy activities in the software industry. The exponential growth in the users of smart phones has opened the doors of opportunities for e-commerce, m-commerce, banking, health and almost all walks of business. There has been a shift in software engineering models to device-centric models. The open-source technologies like Android and large number of handset manufactures under the umbrella of OHA (Open Handset Alliance) has changed the way software industry looks at mobile application development. Industry suffers from lack of a model and hence depends on best practices. This paper presents a model that has an application developed by one of the best practices and then review-based modelling is applied to enhance the overall development of the mobile application. This model assumes more importance as additional worries such as code-efficiency interaction with device resources, low-reusability and lack of portability are common in mobile application.

Three Phase Security System for Vehicles using Face Recognition on Distributed Systems

1 Rajeshwari J, 2 K.Karibasappa, 3 Gopalakrishna M.T
1 Dayananda Sagar College of Engineering
2 Oxford College of Engineering
3 K.S school of Engineering and Management

There is a continuing problem of automobile theft which is a greater challenge that needs to be solved. Traditional security system needs many sensors and it is costlier. Modern security system needs to be implemented which uses biometric verification technology in the vehicles. In the proposed method the GSM controlled
by the Renesas Microcontroller is used to find the location of the vehicle. The vehicle ignition will on only when the person accessing the vehicle authorises with the three phase security system. An SMS alert is sent to the authorised person if an unauthorised person access the vehicle who fails in the three phase security system. In this paper, Haar features are used to detect the face and Adaboost classifier is used to combine all weak classifiers into strong classifiers for deciding whether the captured image from the video is face or not. Principal Component Analysis method is used to recognize the detected face in the video. The proposed system provides an inexpensive security system for the automobiles using Face Detection and Recognition technology. This is an efficient method to authenticate the person in the vehicle security system.

SLA Based Utility Analysis for Improving QoS in Cloud Computing

Dr.(Mrs).Ananthi Sheshasaayee1, Swetha Margaret T A2,
1Research Supervisor, 2 Research Scholar
1,2 Department of Computer Science,Quaid E Millath Govt College for Women
600002 Chennai, India

A service rented or leased from cloud resource providers follows a systematic procedure on working with the resource and returning them in the same accordance. In relevant terms it can be stated like policies that a user need to adhere in order to utilize the resources. These polices are clearly declared on an agreement to define the service level policies to the cloud users. This agreement stances or acts as a legal document between the user and the resource provider. The most important role of an SLA treaty is to provide quality assured service to its users as stated on the agreement. Quality Agreement of negotiation among the contributors helps in defining the Quality of Service necessities of critical resource based progressions. Though, the negotiation process for users is a momentous job predominantly when there are frequent SaaS providers in the Cloud souk. Consequently, this paper proposes a novel briefing on negotiation agenda where a SaaS broker is employed as a resource provider for the customers to achieve the required service efficiently when negotiating with multiple providers. Negotiation framework simplifies intelligent mutual negotiating of SLAs between a SaaS agent and multiple providers to achieve different objectives for different participants. To capitalize on revenue and mend customer’s contentment levels for the broker, the paper also proposes the design of strategies based counter generation techniques.
A Descriptive study on Resource Provisioning approaches in Cloud Computing Environment

Dr. (Mrs). Ananthi Sheshasaayee1, Megala. R2,
1Research Supervisor, 2Research Scholar
1, 2 Department of Computer Science, Quaid E Millath Govt College for Women
600002 Chennai, India

Cloud computing has become a promising technology in many organizations. A huge amount of applications is accessed through Cloud at anytime and anywhere. Hence provisioning the resources at the right time is a challenging task in Cloud computing environment. The Cloud consumers utilize resources using Virtual machines based on a “Pay-as-you-go” basis. For this, the two types of resource provisioning plans were offered by the Cloud providers, namely On-Demand plan and Reservation plan. In common, the reservation scheme has low cost than OnDemand plan. Cloud computing environment provides different types of resource provisioning approaches for minimizing total cost. The good resource provisioning approach should avoid disintegration of resources, lack of resources, disputation of resources, over provisioning and under provisioning. This paper mainly focuses on giving an overview of Cloud computing, resource provisioning and descriptive analysis of various resource provisioning algorithms and techniques.

Analyzing the Performance of a Software and IT Growth with Special Reference to India

Molla Ramizur Rahman
Prin. L. N. Welingkar Institute of Management Development and Research
Mumbai, India

Effective management is essential in the software industries to produce quality software. The use of software has enabled software industries to manage effectively with reduced human effort. This paper aims to investigate the scenario of software utility in the Indian industry through a case study. This investigation has enabled to prepare a basic flowchart model for on-demand software. The paper also aims to study the number of errors made by a programmer for different projects having different number of program lines. It also identifies various parameters to rate and analyze the performance of software.
Stock Price Forecasting using ANN Method

Thangjam Ravichandra #1 and Chintureena Thingom #2
#1 Department of Professional Studies Christ University Bangalore, India
#2 Centre for Digital Innovation Christ University Bangalore, India

Ability to predict stock price direction accurately is essential for investors to maximize their wealth. Neural networks, as a highly effective data mining method, have been used in many different complex pattern recognition problems including stock market prediction. But the ongoing way of using neural networks for a dynamic & volatile behavior of stock markets has not resulted in more efficient and correct values. In this research paper, we propose methods to provide more accurately by hidden layer data processing and decision tree methods for stock market prediction for the case of volatile markets. We also compare and determine our proposed method against three layer feed forward neural network for the accuracy of market direction. From the analysis, we prove that with our way of application of neural networks, the accuracy of prediction is improved.

RECOGNITION OF HANDWRITTEN ENGLISH TEXT USING ENERGY MINIMISATION

Kanchan Keisham (Dayananda Sagar College Of Engineering Bangalore, India)
Dr. Sunanda Dixit (Dayananda Sagar College Of Engineering Bangalore, India)

In handwritten character recognition one of the most challenging task is segmentation. This is mainly due to different challenges like skewness of textlines, overlapping characters, connected components etc. This paper proposes a character recognition method of handwritten English documents. The textlines are segmented based on information energy that is calculated for every pixel in the scanned document and the characters are recognized using Artificial Neural Network (ANN). The recognition has an accuracy of almost 92%. The proposed method can also be further improved to work on other languages as well as increase the accuracy.
A Novel Codification Technique for Tacit Knowledge in Software Industry using Datamining techniques

Jeffrey Bakthakumar, Murali Manohar, R.J. Anandhi

Tacit knowledge is an important resource which comes from experience and insight, and is not in any pre-recorded form. But, it has a strong contribution to the success of decision making procedure. This paper focuses on the summarization of various efforts of codification methodologies to convert tacit to explicit knowledge of an IT company, where the later plays a key role in decision making. This paper also tries to bring out the lacuna or technical gaps of various methodologies and propose a novel method to capture the tacit technical knowledge, so that the technical knowledge transfer in case of staff relocation does not affect the growth of the small scale IT industry. The challenge in software development life cycle is clearly captured by product management software tools like JIRA. We are using text mining techniques on these reports to gather all the tacit knowledge, of technical person assigned to the project. Added to that, from our scrum report, we will extract consolidate generic knowledge. These two, will ensure that we capture most of the needed tacit knowledge of the project coding or maintenance phase. The mining results from the data are promising and future work is to include sentimental analysis.

An Analysis on the Effect of Malicious Nodes on the Performance of LAR Protocol in MANETs

Suma R1, Premasudha B G2 and Ravi Ram V1
1 Department of MCA, SSIT, Tumkur, Karnataka, India
2 Department of MCA, SIT, Tumkur, Karnataka, India

Mobile Ad Hoc Networks (MANETs) are more affected by various security problems because of the inherent characteristics such as dynamic network topology, unavailability of fixed infrastructure, lack of centralized control and high mobility of the nodes. One of the major security problems in MANETs is nodes’ misbehavior. The misbehaving nodes can advertise themselves of having a short route to the destination to transmit the data. Also, the misbehaving nodes participating in the route may stop forwarding the data at some point of time resulting in loss of packets. The main objective of our work is to analyze the effect of misbehaving nodes over the performance of Location Aided Routing (LAR) in MANETs. The work analyzes the performance of LAR protocol with the parameters such as throughput, packet delivery ratio, average delay and routing overhead using NS2 simulator. The simulation results clearly show that the routing performance of LAR decreases in the presence of misbehaving nodes. Thus there is a need for introducing authentication mechanism for secured data transmission using LAR protocol.
Qualitative Performance Analysis of Punjabi and Hindi Websites of Academic Domain: A Case Study

Rupinder Pal Kaur1, Vishal Goyal2
1Sri Guru Gobind Singh College, Chandigarh
2Punjabi University, Patiala

The dependency on websites has increased manifold. More and more websites are being developed in local languages also. However, most users feel that the websites developed in their local languages are not reliable and updated. So, the quality of the websites of Academic institutes which are in local languages have been performed. There are 49 academic institutes in India whose websites are in local languages. Using stratified sampling technique, the sample of websites that are selected for case study are 2(66.6%) of Punjabi and 20(40.8%) of Hindi. The testing has been performed on the selected websites by implementing a web quality model. According to the testing, 12(54.5%) websites’ score is less than 50%, 7(31.8%) websites’ score is between 50-60% while only 3 (13.6%) websites’ score is more than 60%.

A robust, privacy preserving secret data concealing embedding technique into encrypted video stream

Santhosh.B, Meghana N M
Department of Telecommunication Engineering, DSCE, Bangalore, India

With tremendously increasing demand for multimedia communication, it is essential to safeguard the video data from various attacks during its transmission over internet. Video encryption ensures privacy and security of the video content. For the purpose of authentication or to identify tampering if any, secret information is concealed in these encrypted videos. This paper puts forward an efficient and robust methodology for embedding the secret information directly into encrypted videos, which guarantees the confidentiality of the video content. The input video is first compressed using the popular H.264/AVC compression technique and by analyzing the properties of H.264 encoding technique, the three portions containing the sensitive data are encrypted. A standard RC4 stream cipher has been employed for encrypting the codewords of Motion vector differences, Intra prediction modes and Residual coefficients. The secret data can then be hidden by the data hider using a unique Codeword substitution technique without being aware of the video contents. Thus the technique ensures confidentiality of the video content. The hidden data can then be directly extracted by the intended authenticated receiver even without decrypting the video sequence. To validate the feasibility and the performance of the proposed work, the result metrics PSNR, SSIM and VQM have been estimated.
Trusted Execution Environment for Data Protection in Cloud

Podili V S Srinivas1, CH. Pravallika2, K. Srujan Raju3
1Department of Computer Science and Engineering, Gokaraju Rangaraju Institute of Engineering and Technology, Bachupally, Hyderabad- 500 090, India
2Department of Computer Science and Engineering, CVR College of Engineering, Vastunagar, Mangalpally, Ibrahimpatnam (M), Telangana- 501 510, India
3 Department of Computer Science and Engineering, CMR Technical Campus, Kandlakoya (V), Ranga Reddy(D), Telangana 501401

Cloud Computing has become a major part of all organizations throughout the world because of the services offered such as IaaS, SaaS, PaaS and wide availability of these services. In spite of the benefits of cloud services they must consider how the security and privacy aspects are ensured, as users are often store some sensitive information with cloud storage providers which may be untrusted. In this paper, we are going to discuss about a novel approach where the Protection to data as included as a new service which will reduce the per application development cost to provide a secure environment and also provides secure access to data stored in public clouds.

A Fuzzy Approach for the Maintainability Assessment of Aspect Oriented Systems

Dr.(Mrs).Ananthi Sheshasaayee1, Ms.Roby Jose2
1,2 Department of Computer Science, Quaid E Millath Govt College for Women 600002 Chennai, India

Maintainability of the software is well-thought-out as one of the vital quality that software should possess according to ISO standards. Software Maintainability Assessment (SMA) of aspect oriented software has been a focus of research for some time. Statistical and machine learning approaches have been used for assessing the maintainability of software. Fuzzy logic acts as an alternative approach to SMA of aspect oriented systems. Fuzzy logic has emerged as an important tool for use in a variety of applications that range from control system engineering to the design of automated intelligence systems. Fuzzy logic has the ability to deal with uncertainty and multivalued data and does not rely on historic data. This characteristic of data free model building enhances the prospect from using fuzzy logic for software metrics. The paper presents a fuzzy logic based algorithm for SMA of aspect oriented systems.


**VIEWS**

It gives me utmost pleasure to be a part of this prestigious event INDIA-2016. I am glad that we the final years who would go to work this year are given an opportunity to enhance our organizing skills and be a better human. Working for this event has given me many thoughts worth to be cherished.

Rohith Sunkarapalli (IV/IV CSE)

Since the beginning, its been a roller coaster ride of challenges, discussions, brain-storming sessions...all for that one goal of perfect organisation of the Conference. Things apart, the prime take-away has been the quantum of learning - team work, supporting and building ideas and above all, patience to pass through this phase as planned Period.

Madana Sushmita (IV/IV CSE)

I take it as a pride being a student volunteer for an international conference which provides me professionally rewarding experience in meeting authors and delegates from various fields. I enjoyed the journey of INDIA-2016, it made me learn managing skills and gave me wonderful exposure which I would cherish throughout my professional career.

Looking forward for a successful event …

Supriya Meduri (IV/IV CSE)

I feel fortunate to be a part of INDIA-2016 held by our college. Working for it gives me immense pleasure as it provides a platform to showcase our organizing skills and leadership qualities. Hope that this event will a great success and a trademark of teamwork by the Dept of CSE. Looking forward for the big day....

Sindhu Yechuri (IV/IV CSE)

I am glad to be a part of this Conference. This journey with a supportive team is a wonderful experience for ,learnt a lot..

Vani Mounika S (IV/IV CSE)

Being a member in this prestigious Conference India 2016,I am very happy and I learnt many new things of how to manage an event,etc.I will work to my best to make our event best. Because of this ,I really had good communication with many people in and out of our college which i need to know in my life…

Vasanth (III/IV CSE)
I have been fortunate to work as volunteer for INDIA-2016, Third International Conference. Working as a team has been a great learning experience for us. It has taught me so many things which has help me to focused on the task.

Usha K (III/IV CSE)

INDIA… It is giving me my maiden experience as a volunteer. It’s a matter of pride to be a part of INDIA 2016. It’s giving us a ‘C’ our HOD talks about, the ‘Chance’ to be a part of great event… It’s a wonderful experience working with our cool seniors, dedicated staff and our dynamic HOD. I feel very happy and excited to be a volunteer for this conference.

K Meghana (III/IV CSE)

I am very happy to be a part of INDIA 2016. I have a wonderful experience with team. I learned many new things...

Goruputi Dilip Kumar (III/IV CSE)

People travel far places to be a part of international events, I am glad that I am give an opportunity to be part of one such event INDIA 2016

Tanuja Tammireddy (IV/IV CSE)
Property prices are everyday skyrocketing driving developers to adopt new and better technologies in order to finish projects quickly. Major construction companies are operating multiple, often vast sites. At each site daily flow of direct employees, sub-contractors and stakeholders takes place along with movement of plant and supplies. In the event, contractors take advantage at times leading construction companies in heavy loss. Therefore, a monitoring system is essential to eliminate fraudulent and unjustified payments at the same time maintaining safety, security of all resources.

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<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>GRADES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blooms</td>
<td>Mild Steel/Low, Medium &amp; High Carbon Steel, Forging Quality</td>
</tr>
<tr>
<td>Billets</td>
<td>Mild Steel/Low, Medium &amp; High Carbon, Spring Steel, High Mn &amp; Forging Quality Steels</td>
</tr>
<tr>
<td>Rounds</td>
<td>Mild Steel/Low, Medium Carbon, Bright Bar &amp; Forging Quality</td>
</tr>
<tr>
<td>Rebars</td>
<td>Thermo Mechanically Treated (TMT) bars or different yield strengths</td>
</tr>
<tr>
<td>Structural</td>
<td>Structural and High Tensile Steel</td>
</tr>
<tr>
<td>Wire Rods</td>
<td>Low Carbon, Wire Drawing, Bright Bar, Tyre-bead &amp; other Carbon Grades</td>
</tr>
<tr>
<td>Special Steels</td>
<td>Case Hardening Steel, Cold Heading Steel, Electrode, Spring, Bearing &amp; Free Cutting Steel</td>
</tr>
</tbody>
</table>

"VIZAG TMT" Re-bars

"VIZAG UKKU" Structural Rebars

Angles

Wire Rod Coils

Rounds

Jaipur Metro Rail

Alaknanda Hydro Power

Eastern Freight Corridor

Rajpura Thermal Power Plant

SUPPORTING NUMEROUS CUSTOMERS ACROSS INDUSTRY AND BUSINESS SEGMENTS - ACROSS THE NATION