Smriti

Memory Archives

CSE Newsletter
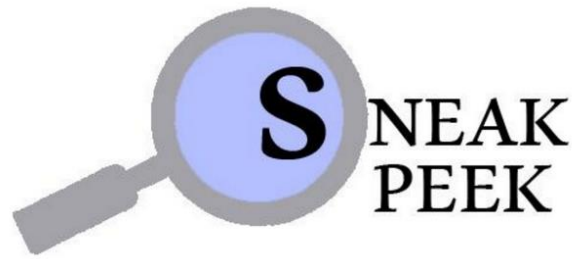
SNEAK PEEK

H.O.D's DESK

As we begin this even semester, another issue of our newsletter Smriti is being rolled out. It is a proud moment for our department when our alumnus V. Neela Niranjani received a gold medal in the convocation of Anna University, for securing the highest CGPA in the Computer Science and Engineering discipline among all the colleges affiliated to Anna University. Congrats Niranjani! My best wishes to her to get admission in a graduate school of her interest.

My heartfelt appreciation to our faculty member Shomona for receiving the Best Young Teacher Award from the GRABS Educational Charitable Trust and also for bagging an external-funded project grant from DST under the Young Scientist Scheme. My best wishes to her to scale further heights during her career.

It was very heartening to see the entrepreneurial ventures of our final year students M. Arvind and Nivetha Thiru appearing in the popular Tamil magazine "Aval Vikatan". My congratulations to Arvind and Nivetha! My best wishes to both of them for realizing their technical dreams.

Congratulations to the 3 students Mohnapriya, Divya Brindha and Shivani for receiving a job offer from SAP labs during their maiden visit to our campus for recruitment. Ashwin Kumar S, Kearthana P and Vignesh S have also received job offers from Global Analytics. Congratulations to them too.

I am also extremely glad to see that a company named as "SlamdunQ", that focuses on wearable technology, started by a 2003 alumnus Maduvanti, was among the top five startup companies in the "Start-Up India" event. This would definitely inspire other budding entrepreneurs with a unique vision.

On a non-technical note, we are very proud to note that a 2013 alumnus, Aravind Soundararajan, has received the "Bharat Ratna Dr. M.S. Subbulakshmi Fellowship" for Music for three years (Rs. 1 lakh per year) from Mr. Devendra Fadnavis, Chief Minister of Maharashtra at Mumbai.

I wish all the faculty and students another productive semester leading to new opportunities and achievements.

FACULTY ACTIVITIES

1.   **Dr.Chitra Babu, Dr.R. Kanchana** and **Dr.V.S.Felix Enigo** along with students visited Caterpillar India Ltd to discuss the progress in the collaborative projects on 21st December 2015.

2.   As a part of Industry-Institute Collaboration, the following three projects have been completed for ACI Automation Private Limited, Chennai. The projects were carried out by III year BE students during 2015-2016 ODD semester under the guidance of **Dr. T. T. Mirnalinee, Dr. R. Kanchana** and **Dr. V.S. Felix Enigo.**
>   1. Computer Vision based Automated Surface Type Classification for Textile Industries
>   2. Mobile App based Efficient Products delivery System
>   3. Real-time Colour Change Detection of Fumes in Manufacturing Industries.

3.   **B.Senthil Kumar, K.R.Sarath Chandran** developed the web pages for the programme: *FDP on Design and Analysis of Algorithms* organized by CSE, ACM Education.

4.   **Ms. S. Kavitha**, gave a talk on *FDP - Artificial Intelligence*, conducted at St.Joseph's College of Engineering, Chennai.

5.   **Dr. B. Bharathi** attended a *winter school on speech and audio processing* (WISSAP 2016) at SSN College of engineering during 8-11, January 2016.

6.   **B.Senthil Kumar** participated in the *12th International Conference on Natural Language Processing* - ICON2015 held at IIITM-K, Technopark, Trivandrum during 11-14, Dec 2015. The conference was organized by IIIT-Hyderabad, NLP Association India (NLPAI), LDC-IL, CIIL Mysore, IIITM-K

7.   **Dr. R. Kanchana** reviewed a research paper titled *"MODEL OF CLOUD COMPUTING REALISATION ON THE BASE OF INFRASTRUCTURE IAAS"* for the International journal on Advances in Electrical and Electronic Engineering ISSN 1804-3119.

8.   **Dr. R. Kanchan**a and **Dr. V.S. Felix Enigo** visited Tamil Nadu Horticulture Development Agency and met **Shri. Muthu Durai**, Technical Director, Micro Irrigation and Smt. **Shanthi Swaminathan**, Asst. Director to discuss about *precision irrigation*.

FACULTY ACTIVITIES

9.   **Dr. Chitra Babu** and **Dr. A. Chamundeswari** attended *"George Boole Symposium"* at IITMadras, Chennai.

10.   A Patent has been filed, application no: 5729/CHE/2015, filed date: 26/10/2015, Patentee**: Satish Palaniappan,Naren T Kesh, Naveen H, Vidhyalakshimi S, Angel Deborah S**, Titled: *"Universally Compatible and Accessible, Software Controlled, Expandable Home Automation System, for Energy Conservation and the Differently-Abled"*.

11.   **Mr. K. R. Sarath Chandran** attended two day workshop on "*System Design on Zynq using SDSoC*" at IIT Chennai during 2-3 January 2016 conducted by CoreEL technologies and IITM, Chennai.

FACULTY PUBLICATIONS

1.   **V. Sasikumar** and **Chitra Babu** published a research paper titled *"Technology Mapping of Layers in a Scalable Distributed Architecture for Big Data Processing*" in the First International Conference on Computational Methods and Software Engineering(CoMSE) that was held in CEG, Anna University, December 28-30, 2015.

2.   **Dr.Shomona GJ** published a paper along with **R.Geetha Ramani** and **Revathy.P**, entitled "*Prediction of users webpage access behaviour using association rule mining*", Sadhana, Indian Academy of Sciences, 40(8), 2353-2365,(SCI IF:0.476 - Annexure 1) DOI 10.1007/s12046-015-0424-0.

3.   **Dr. R. Kanchana** presented her research paper titled "*Achieving academic excellence in Engineering Education through improved Teaching-Learning Process*" during the IEEE International Conference on Teaching Assessment and Learning for Engineering (TALE 2015) held in United International College, Zhuhai, China during 10-12 December 2015.

4.   **S.Rajalakshmi, R.Brindha Priyadharshini, G.Dineshraj, R.Divya Brindha** published a paper titled " *Wheat Grading System using Image Processing and Neural Networks*", In International Conference on Mathematical Computer Engineering (ICMCE 2015) organized by VIT University, Chennai December 14 &15, 2015.

FACULTY PUBLICATIONS

5.   **Beulah A., Divya Bharathi B. K.**, published a paper titled " *A Study of Automated Vertebrae Localization on MR Images*", In International Conference on Mathematical Computer Engineering (ICMCE 2015) organized by VIT University, Chennai December 14 &15, 2015.

6.   **S. Angel Deborah** published a paper titled "*Comparison of RBF-NN and Updated Dynamic Learning Algorithm in INS and GPS Data Integration for Land Vehicle Navigation*" in International Journal of Pure and Applied Mathematics, Vol 101(5), 2015. DOI:10.12732/ijpam.v101i7.22.

7.   **S. Lakshmi Priya** and **S. Anguselvi** published a paper titled "*A Hybrid technique for Automatic Classification of MRI Brain Images*" in Australian Journal of Basic and Applied Sciences, 9(33) October 2015, pp.385-391 ISSN:1991-8178

8.   **Kanchana Rajaram** and **Shanmuga Priya R**, "*Monitoring Flow of Web Services in Dynamic Composition using Event Calculus Rules* ", In Proceedings of IEEE International Conference on Computer, Communication and Control (IC4), pp. 1-6, Indore, INDIA. Sep. 2015. (IEEE Xplore) doi: 10.1109/IC4.2015.7375693

9.   **Kanchana Rajaram** and **Chitra Babu**, "*QUANCE: Quality driven Automated Negotiation for Composite Web Services*", In Proceedings of International Conference on Communication, Computing and Power Technologies (ICCCPT 2015), Advs in Intelligent Syst., Computing, Vol. 394, Subhransu Sekhar Dash et al. (Eds): Artificial Intelligence and Evolutionary Computations in Engineering Systems, Chapter 57, Springer, 2016.

10.   **S. Rajalakshmi, N. Deepika, C.S. Srivardhini, A.C. Vignesh** and **D.V. Vignesh** published a paper titled *"SDN Controller for LTE Networks"* in International Journal of Computer Applications 133(3):31-36, January 2016.
doi: 10.5120/ijca2016907782 ISBN : 973-93-80890-69-7

11.   **K. N. Akalya, M. Roshini** and **S. Revathy** of III Yr CSE, under the guidance of **Mrs. S. Manisha**, Assistant professor, did a paper on *'Detection and Recognition of Characters in License plates'* .It is published in the conference proceedings of E2IC2, 2nd International Conference of Electronics and Instrumentation Engineering department, Karpagam College of Engineering, Coimbatore and extension of the work has been accepted for publication in Asian Research Publishing Network (ARPN) journal.

Faculty Activities

Dr.Shomona Gracia Jacob, Associate Professor, Department of CSE had submitted a project proposal for possible External Funding to the Science and Engineering Research Board (SERB), Department of Science and Technology, Govt. of India entitled: **"Investigation on the effect of Gene and Protein Mutants in the Onset of Neuro-Degenerative Brain Disorders (Alzheimer's Disease and Parkinson's Disease): A Computational study."**

The project has been approved for financial support by DST-SERB in December 2015. The total cost of the approved budget is 16,10,000 INR.

Dr.Shomona Gracia Jacob, Associate Professor, Department of CSE was awarded the 'Best Young Teacher Award' 2015 by the GRABS Educational Charitable Trust at a Award Giving Ceremony held on November 1, 2015.

ACM Annual Event

It was an honor and privilege for me when I was invited to attend the ACM India Annual event that was held in Trivandrum on 21st and 22nd January, as a member of the ACM India Education Committee.

Association for Computing Machinery (ACM) that was originally founded in 1947, is the world's largest educational and scientific computing society and provides a premier digital library of the computing field. It serves its members and the computing profession with leading-edge publications, conferences and career resources. As a part of ACM India, there is an education committee that comprises of 5 members, Mr. Venkatesh from Tata Research Development and Design Centre (TRDDC), Prof. Madhavan Mukund from Chennai Mathematical Institute, Prof. Abhiram Ranade from IIT Bombay, Mr. Ashwani Sharma from Google and me. The primary focus of this committee is to try and influence the policy regarding how computer science should be taught at school/university levels.

We have been interacting through email and monthly meetings via Google hangouts, for the past 8 months. This annual event gave us an opportunity for a face to face meeting.

Prof. Alex Wolf, Global ACM President and Mr. Bobby Schnabel, CEO of ACM, attended the ACM annual event. The first technical talk was by a Turing Award winner, Dr. Edward Feigenbaum who is known as the "Father of Expert Systems". During his talk, he exhorted young AI researchers to become paradigm-shifters rather than incremental researchers. He advocated a right balance between combinatorial search carried out by computers and the human knowledge. He recollected meeting Prof. Raj Reddy (our distinguished Research Advisory Committee member), as a graduate student, back when he joined Stanford University as a new faculty member.


Dr.Chitra Babu with Turing Award winner, Dr. Edward Feigenbaum

The second talk was by the energetic Prof. Jennifer Widom from Stanford University who is very popular for her Database Management Systems course offered through the MOOC platform, Coursera. She narrated her magical moments in teaching and research. It was interesting to note how dropping a simple and fundamental assumption underlying traditional database systems has given rise to new research problems and have resulted in several good Ph.D theses. Similarly, she also shared with the audience how invigorating and rewarding the experience of offering a MOOC was.

The third invited talk was by Dr. Anuj Dawar from University of Cambridge Computer Laboratory, UK. He talked about the ways in which abstraction and complexity interact that have prompted an interesting study of symmetries in data. He mentioned a new near-polynomial time algorithm for the Graph Isomorphism problem which actually falls under the class NP.

On the whole, it was a memorable experience meeting several scholarly people both from India as well as abroad and sharing a lot of potential ideas.

- Dr. Chitra Babu
HOD - CSE
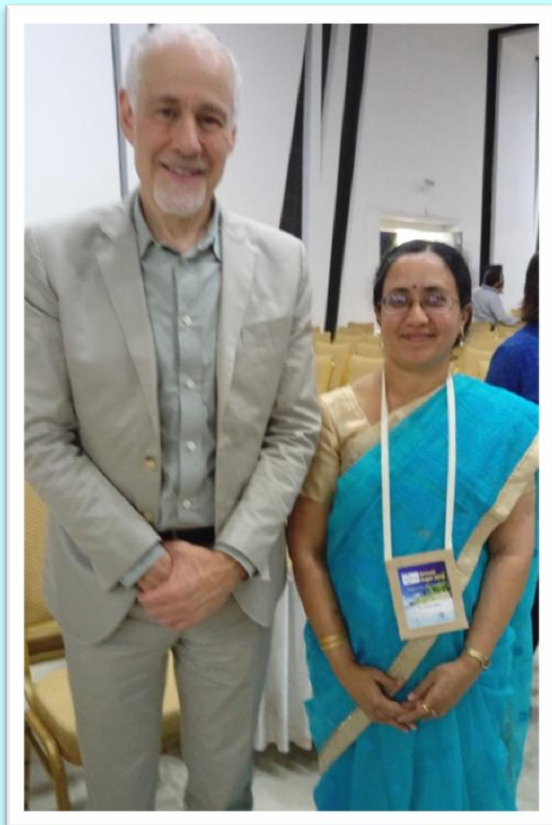
Dr.Chitra Babu with Prof.Alex Wolf, ACM President

Dr.Chitra Babu with Prof. Jennifer Widom from Stanford University

PhD Viva Voce

Mr. K. G. Madhwaraj, successfully completed the Ph.D Oral Examination – defending his thesis titled *"An Empirical Comparative Study of Two Metric Suites towards Prediction of Maintainability of Object Oriented Software."* He completed his Ph.D under the guidance of **Dr. Chitra Babu**, HoD, CSE with the Doctoral committee members being **Dr. K. Vivekanandan**, Professor – CSE, Pondicherry Engineering College and **Dr. S.V. Albal**, Director, SSN School of Advanced Career Education.

The Ph.D Viva-Voce was convened on 30.10.2015 and was attended by **Dr. D. Manjula**, Professor and Head, Dept. of CSE, College of Engineering, Guindy and **Dr. Anjaneyulu Pasala**, Principal Research Scientist, Infosys Labs, Infosys Ltd, Bengaluru.

Report on Big Data Analysis workshop

I got the opportunity to attend a three days hands-on training programme on Big Data Analytics tools organized by Department of Information Technology, MIT Campus, Chennai on October 30th, 31st and November 1st, 2015. About 30 participants attended the course. Participants were a good mix of academicians, IT professionals and students. The resource persons for the hands-on sessions were Mr.V.Solai Murugan and Mr.P.Vignesh Raja from C-DAC Bangalore. The programme started with a lecture on introduction to big data concepts and the various tools needed for its analysis.

The afternoon session continued with a hands-on training on Hadoop installation pseudo node setup. Hadoop installation procedures were continued with multi-node setup on the second day also. On the third day, we were given training on all the tools and software needed for big data analysis. It included a step by step procedure on how to install Hbase, Mongodb, R and Gephi (an open source visualization software for networks and graphs).

Some basic concepts of Pig, a data flow language and MapReduce programming were also part of the course. The programme ended with a presentation on KNIME, an open source analytics platform. The resource persons were patient and helpful throughout and explained all the concepts in detail and also were very helpful in the hands-on sessions. It was an interesting and useful programme and helped the participants to get a good working knowledge on big data tools.

Lakshmi Priya S
Assistant Professor

Workshop on Cloud Computing

Ms. Y. V. Lokeswari and **Mr. N. Sujaudeen** from our college attended a TEQIP – II sponsored four day hands-on workshop on Cloud Computing, organized by the Department of IT, Thiagarajar College of Engineering, Madurai.

The workshop started with an introduction to *Virtualization and Cloud Computing*, followed by a talk on using a simulator called *CloudSim*. The organizers, **Mr. M. Thangavel**, AP/IT, TCE and **Ms. K. Indria AP/ IT**, TCE gave a demo on *single node and multi-node clustering in Hadoop* followed by a hands-on session on *OpenMP* and *MPI* (Message Passing Interface).

Subsequently, **Mr. E. Mahendran**, CDAC, Chennai discussed about the basics of *Virtualization*, and elaborated on the different Hypervisors available for virtualizing hardware resources. He gave a description of the different services provided by AWS - Amazon Web Services. He later conducted two hands-on sessions: one on *KVM hypervisor installation*, and one on installing *OpenStack*, an open source software for setting up a private cloud.

Following this, **Mr. M. Thangavel**, AP/IT, TCE gave a demo on installing *Eucalyptus Faststart* with CentOS in a VMWare. Later, he discussed about configuring front-end and host machines using *OpenNebula* – an open source software to set up a private cloud. Finally all participants were asked to draw a mind map depicting the 4 day workshop.

Lokeswari Y. V.
Assistant Professor, Dept of CSE.

WiSSAP 2016

A **Winter School on Speech and Audio signal Processing** (WiSSAP 2016) was conducted by Department of Information Technology, SSN College of Engineering during Jan 8-11, 2016. The objective of the workshop was to throw light upon concepts on speech prosody.

On the first day of the workshop, the first session was handled by **Dr. Hema A Murthy** from IIT Madras. She gave on overview of S*peech Prosody*. In the second session, an introduction to A*coustics of Speech Prosody* was given by **Dr. Preeti Rao** from IIT Bombay. **Dr.Kalika Bali**, a Researcher at Microsoft Research Lab, handled the third session on *Linguistic functions on Speech Prosody*. In the fourth session, **Yi Xu**, a professor from Department of speech, University College London explicated *the Tonal Mechanisms related with Speech Prosody*, following which; **Prof. V. Ramasubramanian** gave a lecture on *Computational models of prosody for Text to Speech Synthesis*.

On the other three days, the following sessions were held. **Mark Hasegawa-Johnson**, a Professor from Electrical and Computer Engineering department at University of Illinois explained various concepts namely *speech production, speech perception and phonology, prosody transcription and multivariate state models for speech recognition.* He made the audience learn on how to handle limited data settings. Later, **Prof. Priyankoo Sarmah**, Department of Humanities and social sciences, IIT Guwahati, handled a session on *Analyzing tonal features of Tibeto-Burman languages*. **Prof. Israel Cohen**, Department of Electrical Engineering, Israel Institute of Technology, Israel, explained the *Garch model for speech enhancement technique*.

Dr. B. Bharathi, Assoc. Prof.

ICON – 2015

IIITM-K Trivandrum

The conference began with pre-conference tutorial on 11th Dec. The tutorial on *"Domain Adaptation: Principle, Applications and Systems"* by **Himanshu** and **Manjira** from Xerox Research Center, Bengaluru was for the people who use ML algorithms to train and test the systems. This Domain Adaptation belongs to the concept of Transfer Learning (TL). Main goal of DA is to efficiently adapt the models trained on labeled data from one domain to categorize the data in another domain with different data distribution, with high accuracy. This technique was discussed along with the Sentiment Categorization application, which explained the benefits of cost efficiency and re-usability of model in DA. Post lunch, I attended the tutorial on *"Universal POS-Tagging and Dependendcy Relations"* by **Prof. Hima Bindu**, North Orissa University. The tagging is independent of the language and its genre. The universal dependencies allows researchers to compare various languages and understand their similarities and differences. This promotes cross-lingual learning and research on language structure usage.

The next day 12th Dec, the main conference began with an invited talk by **Prof. Yuji Matsumoto**, Nara Inst. Of Science and Technology (NIST), Japan on *"Scientific Paper Analysis"* using document structural similarities. This was followed by paper presentation in various areas including Statistical Methods, WSD and Lexicon, Sentiment analysis and emerging areas like analyzing code-mixed data from social media. Post lunch, many researchers presented their posters and shared their ideas and their works.

The next day 13th Dec, the conference began with the panel discussion on *"NLP and Linguists"* chaired by **Dr.Sobha.L**, AU-KBC, Chennai. **Dr.Yuji Matsumoto**, **Dr.Rajeev Sangal**, **Dr.Pushpak Bhattacharya**, **Dr.Kalika Bali**, **Dr.Amitabha Mukerjee** were the panel members. The panel discussed the issues on differences between the research in NLP tasks and Linguists tasks, and asked the researchers from both communities to strike a balance and also discussed the need for linguists and computer science people to collaborate and develop a rich corpora of languages and language processing tools for the diverse languages in India. As the government is heading towards the goal of "*Education in mother-tongue*", **Prof. Rajeev Sangal**, Director IIT-BHU, pointed out that there is a huge demand for linguist and NLP research people in various languages to develop resources such as corpora, tools, applications in their respective languages. The panel discussion was followed by paper presentations on Statistical Machine translation, MT, Dialog and QA systems, NLP tools contests on Code-mixed data.

Post the conference, on 14th Dec, I attended the one-day tutorial on *"Deep Learning and Distributed Word Representations"* by **Sudha Bhingaradive**, IIT Bombay. The tutorial covered the introduction, need for deep learning, neural networks in deep learning, representation SSL models (count-based, prediction-based) and deep learning applications in NER, Sentiment analysis, WSD. This was followed by a hands-on session using *Theano*, an open source python library to develop a deep learning structures, Word2vec – word vector representation tool by Microsoft Research.

The conference was filled with audience of eminent persons from both industry and academia. To name a few: Dr. Yuji Matsumoto, NIST Japan, Dr. Bjorn Gamback, NTNU Norway, Dr. Rajeev Sangal, Director IIT-BHU, Dr. Pushpak Bhattacharya, Director IIT-Patna, Dr. Sivaji, Jadavpur Univ, Dr. Amitabha Mukerjee, IIT Kanpur, Dr. Sobha, AU-KBC, Dr. Dipti Mishra, IIIT-Hyderabad, Dr. Amitava Das, IIIT-Sricity, Dr. Elizabeth sherly, IIITM-K, Dr. Kalika Bali, Microsoft India, Dr Manjira, Xerox Research. The conference was organized by IIIT Hyderabad, NLP Association of India (NLPAI), LDC-IL CIIL Mysore, IIITM-K and Microsoft Research.

Mr. B.Senthil Kumar

AP/CSE

💡 Did You Know?

128 bit SSL Encryption is so strong that it would take much, much longer than the age of the universe to crack a message encrypted using it. Even 20 years from now, if computers are a million times faster, it would still take longer the age of the universe to crack it!

Teaching, Assessment, and Learning for Engineering (TALE)

Date(s): 10- 12, December 2015.   Venue: Zhuhai, Guangdong Prov., China

Conducted by: United International College (UIC)

The IEEE International Conference on Teaching, Assessment, and Learning for Engineering (TALE) is held each year in the Asia-Pacific region (IEEE Region 10). The aim of TALE is to provide an excellent platform for both academicians and practitioners to share their experience and knowledge in engineering education at all levels. The theme this year was "Think Big in Engineering Education".

 There were two interesting keynotes:
1. Engineering Education Research and Reflections of an American Teaching Engineering in China by Dr. Susan Lord, Professor at University of San Diego, CA, USA
2. Discovering OERs in cOmputER Disciplines by Sorel Reisman, Professor of IS at CSU Fullerton, Managing Director, MERLOT.ORG, California State University, past president of the IEEE Computer Society

There were two informative workshops

1. MathWorks Workshop – "Why creating ALGORITHMS will be the 'new literacy'" by Eunju Hwang, MathWorks
2. TUTORIAL – Teaching Software Testing Skills: etamorphic Testing as Vehicle for Creativity and Effectiveness in Software Testing by Dave Towey, The University of Nottingham Ningbo China, China, Tsong Yueh Chen, People's Republic of Swinburne University of Technology, Victoria,Australia

There were 4 parallel sessions of paper presentations with two tracks in each session. 38 papers were presented in total. The conference had an acceptance ratio of 20%.

There was a poster session where 14 papers/works were exhibited. The participants were from USA, Canada, Pakistan, China, Hong Kong, Japan, South Africa, UK, Sri Lanka, Malaysia, Germany, France, Australia and Thailand.

There was a very enlightening interaction among participants. Almost every presented paper received rigorous feedback and suggestions and were discussed in detail. The standard of the conference was truly exemplary. The student volunteers of UIC as well as the organizers were very hospitable and provided a conducive learning atmosphere for the participants. The coordination of the Co-Chair Dr. Kai Pan Mark, Professor, UIC, China, Board of Governors, IEEE Education Society was excellent indeed.

Dr. R. Kanchana presented a research paper whose details are given below:

Achieving Excellence in Engineering Education through Improved Teaching-Learning Process

Authors:
Dr. S. Selvakumar, Dept of CSE, NIT, Tiruchirappalli and
Dr. R. Kanchana, Dept of CSE, SSN College of Engg, Chennai

Abstract:
Policies of engineering education system, learning styles of most engineering students, and teaching practices of engineering professors are incompatible in several dimensions. These mismatches lead to poor student performance, professorial frustration, and the society looses many potentially talented engineers. Most of the students focus on the results and recruitments. Unfortunately, focus towards acquiring knowledge takes a back seat. In consequence, students become bored and inattentive in class which further affects the quality of the student. Towards improving the quality of engineering graduates, this paper advocates for a paradigm shift in the mindset of education providers, policy makers, recruiters, parents, and future technocrats, and proposes a few practices for strengthening the knowledge acquisition process.
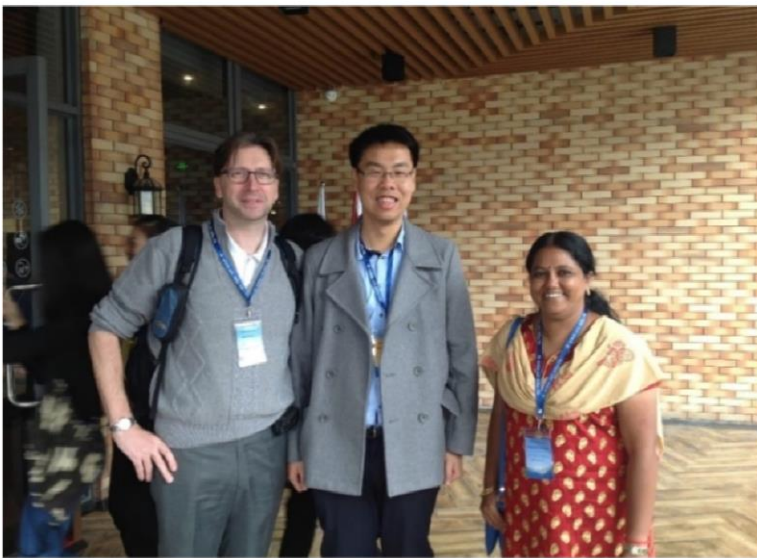
- Dr. Kanchana

Associate Professor

Research Internship at IMSc, Chennai

This winter I got an opportunity to take up a research internship under Dr. Ronojoy Adhikari from the Institute of Mathematical Sciences, Chennai. The story of how I got this internship is actually more interesting, I had participated in the "32 Hours Start-up Challenge" organized by SSN Lakshya, this semester and that is when I met Mr. Dorai Thodla who is the CEO of iMorph and a Tech Entrepreneur. He was one of the judges at this event, reviewing our start up idea, and as we were explaining our idea and how we have implemented it with Business Intelligent systems integrated, that were built using Python, ML and NLP, he was really impressed with the kind of coding I did. So, he was ready to offer me an internship at iMorph, but first I had to clear a 4-hour Python test, which I did. Then I demanded something related to ML to work on, rather than plain Python coding and this is when Mr. Dorai introduced me to Dr. Ronojoy Adhikari from IMSc, we both had a talk at IMSc and decided on what we were going to do during my research internship.
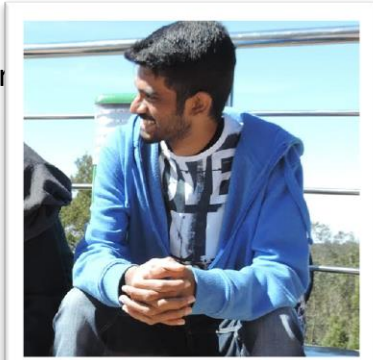
Now I am working on Optical Character Recognition, the very idea might be kind of very saturated to work on, but the characters that we choose to decipher were from the Indus Script of the Harappan Civilization. This script had 417 symbols/signs (as per Mahadevan Corpus/M77 Corpus) and all of it was inscribed on Pottery, Seals, etc. The data that we had includes photographs or scans of these seals and other artifacts that had these inscriptions. My task was to use Image Processing, ML and CNN to extract entire texts rather than just single signs/symbols from these images by building an OCR engine especially for this purpose. This problem gets really interesting as we go deeper into it, though it might sound simple and easy initially. People have been working to decipher this script since the 1990s and still there is no solid solution to it, but all I tried to do is OCR and nothing related to deciphering the text recognized thereafter. I am still working on it and I should say, this has been my first "proper" research project till date, that I have worked on.

- Satish Palaniappan,
CSE, 4th Year.

CBC Canada Article

KENTVILLE - She had never seen an apple tree before or experienced temperatures as cold.

Coming to Nova Scotia from south India in late May, Mitacs Globalink Exchange student Vinetha Jagadeesan had never been abroad before and, having not brought a jacket, found the temperatures downright frigid.

"I've never experienced that kind of cold before," she said.

However, the 20-year-old computer sciences student quickly adjusted and the brief bout of temperature shock hasn't affected her appreciation for Canada and the research experience she's doing.

The experience has been quite different than working at home in India, where she simply works with data and doesn't get to go into the field to collect it.

"This is a really big program and I'm really happy that I got selected," Jagadeesan said. "It kind of gives me global exposure. I get to witness first-hand how research is carried out. It's a great experience for me."

Taking part in the program helped her explore her independence and step outside her comfort zone, Jagadeesan said.

Jagadeesan is working with Sean Myles of Dalhousie University, Canada research chair in agricultural genetic diversity, and his team. They are working to identify and cross breed more than 1,000 varieties of apples. Jagadeesan is improving the lab's data analysis capabilities by incorporating barcodes.

Every tree has its own barcode and the barcodes are applied to boxes of apples as they're harvested, tested and measured. All the information is digitized and stored in a highly structured database. Apples are examined for size, weight, sweetness, flowering time, acidity and DNA.

This is Myles's second year involved in the program - he worked with student from Vietnam last summer – and says the students from abroad enhance the culture of the lab.

"Young people who want to go and do science internationally coming to your lab are generally super highly motivated and the selection process is very stringent," he said.

There were between 150 and 200 applicants for four Globalinks exchange positions from Jagadeesan's home university in Chennai alone. Once selected, the students get to choose which available project he or she will be placed with. Myles said the Canadian government funds the exchange.

It isn't a one-way street, though. Myles said this opens the door for students from other countries to potentially have research careers in Canada and vice versa. It also builds connections between universities internationally. Myles said these links are important to establish early in the careers of young research scientists."It ends up fueling a bit of bilateral collaboration between the two countries," Myles said.

About Mitacs Globalink Exchange

- It's a competitive program for international undergraduates from Brazil, China, France, India, Mexico, Saudi Arabia, Turkey and Vietnam. It seeks to raise Canada's profile on the international stage as a top research and innovation destination.

- The program started in 2009 with 17 students from India as a way to build connections between Canada and top international research talent. It has since expanded to 750 students at more than 40 universities across Canada this year.

- From May to September, top ranked applicants participate in a 12-week research internship under the supervision of Canadian university faculty members in a variety of academic disciplines.

- Since its inception, students have participated in research projects on topics such as multimedia security, cancer detection, protein mutations, carbon capture and many more.
- Alumni interested in returning to Canada for graduate studies are eligible for the Globalink Graduate Fellowship.

Sean Myles of Dalhousie University, Canada Research Chair in Agricultural Genetic Diversity, and Mitacs Globalink Exchange student Vinetha Jagadeesan with a piece of lab equipment that automatically weighs apples and determines acidity, firmness and sweetness

Magazine Articles

Article on **Naam Designs** that appeared on **Aval Vikatan**

Link: *http://www.Vikatan.com/article.php?module=magazine&aid=112187*

naam Designs

(1) அரவிந்த்

கம்பெனி ஆரம்பிச்சதுக்கும் ததுவே முதல் படி!

மார்க்கெட்டிங்?

வாடிக்கையாளர்களுக்கு என் வேலை பிடிக்க, அவங்களோ மத்தவங்களுக்கும் என் கம்பெனியை ரெகமெண்டு பண்ணுவாங்க. தவிர, வாட்ஸ்அப், ஃபேஸ்புக் எல்லாம் எதுக்கு இருக்கு? நம்ம புரோமோஷனுக்குதான். அப்புறம்... என் வெப்சைட்டை 3D-ல் டிசைன் செஞ்சுருக்கேன்!

சவால்கள்?

ஒவ்வொரு புராஜெக்ட்டும் தனித்தன்மையோட இருக்கணும். என்னோட இந்த கொள்கைதான் எனக்கு சவாலே, சவாலில் ஜெயிச்சுகிட்டு வர்றேன்!

இந்த வேலைக்கு ரொம்பப் படிக்கணுமா?

அதெல்லாம் இல்ல, Html, cssனு அடிப்பட

டெக்னிக்கல் அறிவு போதும். ஆர்வம் மட்டும் இருந்தால், அனுபவத்திலேயே எல்லாம் கத்துக்கலாம்!

வருமானம்?

அது புராஜெக்ட்ஸைப் பொருத்தது. சில சமயம் கிடைக்கும், சில மாசங்கள் �டியாய இருக்கும். எல்லாம் நேரத்துல நான் ஆர்டர் எடுத்துக்க மாட்டேன். ஒரு புராஜெக்டோட மதிப்பு ரூபாய் 2,000 முதல் ரூபாய் 40,000 வரை கூட போகும். அப்படிப் பார்த்தா மாசம் கிட்டத்தட்ட ரூபாய் 6,000, 7,000 வரை கிடைக்கும். முதல் சம்பளத்தை ஒரு குழந்தையோட கல்விக்குக் கொடுத்தது, கிரேட் ஃபீல்!

ட்ரீம்ஸ்?!

MS படிக்கணும். என் கம்பெனியை பெரிய லெவலுக்கு கொண்டு வரணும். பயன்பாடுள்ள நிறைய மென்பொருட்கள் உருவாக்கணும்!

✏ தா.நந்திதா ◉ ச.பிரசாந்த் ↑

Income

கஸ்டமர்கள், குறிப்பா மணமக்கள் அவங்களோட போட்டோஸ் அனுப்பி பெயின்ட்டிங்கா வரைஞ்சு வாங்கும் ஆர்டர்கள் நிறைய வருது. அந்த பெயின்ட்டிங்ஸை என் வெப்சைட்டில் அப்லோடு பண்ண, பிசினஸ் இன்னும் ஸ்பீட்அப் ஆயிருச்சு. ₹2,000 முதல் ₹16,000 வரையிலான ஓவியங்கள் என் வெப்சைட்டில் இருக்கு. பொதுவா, ₹5,000... 6,000 மதிப்பினாலான ஓவியங்கள் சீக்கிரமா மூவ் ஆகும். பார்ட் டைமாவே மாசம் ₹4,000 சம்பாதிக்கிறேன். இந்தப் பணத்தை தொழில் வளர்ச்சிக்கே முதலீடு செய்றேன்.

Recent Activities

தஞ்சாவூரின் இன்னொரு சிறப்பம்சமான தஞ்சாவூர் தட்டுகளையும் விற்க ஆரம்பிச்சிருக்கேன். செம்பும் பித்தளையும் கலந்து செய்யப்பட்ட இந்தத் தட்டில், வெள்ளியில் கடவுள் அல்லது மயில் போன்ற உருவங்கள் செதுக்கப்பட்டிருக்கும்.

Marketing and sales

சோஷியல் மீடியாதான் எனக்கு மார்கெட்டிங் சப்போர்ட். ஃபேஸ்புக், ட்விட்டர், வாட்ஸ்அப்னு எல்லா மீடியம்களிலும் என் வெப்சைட் ஷேர் பண்ணி, பெயின்ட்டிங் கலெக்ஷன்ஸ், அவற்றின் சிறப்பு, விலைனு விவரங்களுடன் மக்களை ரீச் பண்றேன். நியாயமான விலை என்பதால நல்ல வரவேற்பு. பெரிய தொழிலதிபர்களை நேரடியா சந்திச்சும் பெயின்ட்டிங்ஸ் விற்பேன்.

Future Plan

தஞ்சாவூர் மட்டுமில்லாம நம் நாட்டின் மற்ற கலைப் பொருட்களையும் என் வெப்சைட்டில் கொண்டு வரணும். ஆந்திர நிர்மல் ஓவியங்கள், மைசூர் ஓவியங்கள், மகாராஷ்டிராவின் வார்லி ஓவியங்கள்... இதையெல்லாம் மக்களுக்கு சரியான விலையில் கொண்டு சேர்க்கணும்; அந்தக் கலைஞர்களை உலகுக்கு அறிமுகப்படுத்தணும்!

அ.ஸௌம்யா, தா:நந்திதா, எஸ்.கேபிரேம்குமார், அ. பார்த்திபன், ச.பிரசாந்த்

STUDENT PLACEMENTS

1. ***Mohana Priya K***, ***Divya Brindha R*** and ***Shivani Kandavelu*** were placed in **SAP Labs**, Bangalore.
2. ***Ashwin Kumar S***, ***Kearthana P*** and ***Vignesh S*** were placed in Global Analytics.

Congratulations to them!

University Rank Holders

| B.E CSE	
Name	**Rank**
NEELA NIRANJANI V	1
VENKATRAGHAVAN S	6
NAMITHA K	20
PRASANTHI S	29
KALAIMATHI R	34
MOHAMEDASHIQUE A	37
APARNA A	37
ASHRAYA RAVIKUMAR	39
PREETHIKA P	39
SANJANA M	40
CHANDRASEKAR G	40
PIRIYANGA J	42
SHANMATHI S	44
ANANDH V	48
SARAVANAN I	50
SIVARAMAN L	50
M.E CSE	
INDU JOSEPH	24
KAVITHARANI R	31
KALYANI S	32
KRIPA SEKARAN S	36
KARTHIKA V T	42
POONKUZHALI SHRE GM	48

Extendsapk

I was extremely happy and delighted when I came to know from my friend that my startup **"ExtendsApk"** was listed as one of the world's most promising startups by **"LaunchingNext"** on their official website and their Twitter page Tweets. It was more like a great motivation for me to run further strong and achieve even more rather than an accomplishment for the works I've already done. Recognition and appreciation are the best two things any budding young entrepreneur could ever wish for. That made my day so special and wishes came from all my beloved friends and my beloved teachers. That will always be my driving force to achieve better and better in the progressing years to come and makes me remember this *"Be the change"* – ExtendsApk's motto.

LaunchingNext link: http://www.launchingnext.com/s/extendsapk/16310/

ExtendsApkWebsite: http://extendsapk.weebly.com

Chaaran S

IV Year, CSE
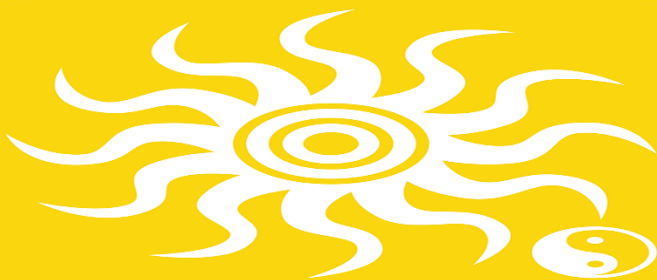
Day toDay

A daily horoscope app, which find your zodiac sign from your birthday and gives you a *"Day Tag"*- a simple one word prediction of how your day is going to be in an interactive and intuitive way by using the highlighting feature of the app the *"Wave Feature"* which utilizes the Proximity sensors of the phone to detect the user's hand motion and make screen navigation correspondingly. The App fetches the User his Horoscope for the day to view every morning with a notification. The App can also read the horoscope to the user using the *"Speak Feature"*.

Link:
https://play.google.com/store/apps/details?id=com.extendsapk.daytoday&hl=en

My store: http://extendsapk.weebly.com

The Meaning of Christmas!

I just sat down to think
Christmas was round the corner but where were the Carols?
Then I recalled, may be the floods caused the songs to sink!
There was none to Hark the Herald!

The season of Love, Joy and Peace
Fading away amidst tears, loss and grief!
Will lives ever be the same gain for the many unfortunate souls??
God, Faith and Celebration – seem far away across the poles!

But Yes, There's not much time to waste
People there need us - Let's make haste!
Sermons, Songs and Scriptures – no doubt are the fame of this season!
But selfless service, fearless faith and unfading hope – Christ came for this reason!

Not all can stride out on the battlefield!
But yes our presence- our cheers can make souls to seek and not to yield…
Because we are all called to be Lights that Shine!
Maybe you in your small corner and I in mine!

As we have been chosen to hopefully enter this New Year,
May we learn – each other's burdens to bear!
That together we can make the difference needed to succeed!
Doing away with vices like hatred, envy and greed!

Dr.Shomona G Jacob
Asso. Prof/CSE

Change-Christmas

Despite being a Tamil Brahmin, other religions never failed to amaze me. So, during the chaos of Chennai floods, with no electricity for days in a row and with Christmas around the corner, I decided to read the famous fables of Bible. A book full of simple stories portraying love and wisdom, faith and trust, it's a great book with some simple yet outstanding teachings. I had always been curious and interested in Christianity, the stories, the mysteries left behind by one man, who changed the faith of the world. Here is an extract from the Bible.

Scripture Reference:

Genesis 6:1 - 9:17

Noah's Ark and the Flood - Story Summary:

God saw how great wickedness had become and decided to wipe mankind from the face of the earth. However, one righteous man among all the people of that time, Noah, found favor in God's eyes. With very specific instructions, God told Noah to build an ark for him and his family in preparation for a catastrophic flood that would destroy every living thing on earth.

God also instructed Noah to bring into the ark two of all living creatures, both male and female, and seven pairs of all the clean animals, along with every kind of food to be stored for the animals and his family while on the ark. Noah obeyed everything God commanded him to do.

After they entered the ark, rain fell on the earth for a period of forty days and nights.

The waters flooded the earth for a hundred and fifty days, and every living thing on the face of the earth was wiped out. As the waters receded, the ark came to rest on the mountains of Ararat. Noah and his family continued to wait for almost eight more months while the surface of the earth dried out.

Finally, after an entire year, God invited Noah to come out of the ark. Immediately, he built an altar and worshiped the Lord with burnt offerings from some of the clean animals. God was pleased with the offerings and promised never again to destroy all the living creatures as he had just done. Later God established a covenant with Noah: "Never again will there be a flood to destroy the earth." As a sign of this everlasting covenant God set a rainbow in the clouds.

This story reminded me of the floods we faced recently in certain ways. With tens of thousands losing homes and in search for food, hundreds dying because of no help, this was really an eye opener. The people who came to rescue are the ones I would like to focus on. Individuals, mainly the youngsters, united worked together to reach out to people with food and other things which were required immediately. Amongst many such volunteers, RJ Balaji, Siddarth, Raghava Lawrence deserve special mention. While "Namma singara Chennai" almost became "sink ara Chennai", these people along with thousands of volunteers carried out the immediate management, planning meticulously. If the cabinet consisted of qualified, hardworking youngsters each one hailing from a different background from diverse cultures, then that way the requirements of a good governance, motivation, knowledge, will and energy is met. When power is given to them, well, the rest will go down in history. Films like Mudhalvan and Ayudha Ezhuthu are just not for entertainment alone, its message are the need of the hour. Fancy statues and hilarious memes have not only highlighted the mistakes of the parties; it has established the opinions of people, having said that those aren't enough.

This thanksgiving, there is a lot to be thankful for the disaster we faced, made us understand as to where we stand and what we want. It now goes to how we can achieve it and who can help us get there. The national media (north Indian media) maybe late to cover the disaster and the opinions but the people, from New York to Paris showed their support instantly which constantly reminds that we as a whole are bounded by love, we are one big family. Christmas is the season of love, a festival of hope. With the love of people giving the emotion, with the need to solve the problems of the people as motivation, with the trust of people as the confidence, the stage is set, elections   2016.

Change is inevitable. Merry Christmas and a happy new year!!
Blog: https://vjraghavan.wordpress.com/

**R.Vijayaraghavan**

CSE-B, III year.

The Storm

Conquering the bright blue the sky like a warhorse,

You came, resembling a giant devouring the light.

Dark and grim, you drank away the warmth.

Intimidating you were, but rejoice did we,

Beings whose throats and lands were parched alike.

And in a split second, the air was drowned in thy tears.

Raging on and on, for hours and days,

With splintering screams and blinding lights you ransacked,

Wrecking havoc everywhere you go, unapologetically.

No more were the lands parched but struggled to hold on,

To every twig or tree, as your breath swept them away,

Swooping in like an eagle, you plucked away our beloved and owned.

When your wrath did mollify, and you went back to slumber,

There only was left behind footprints of your devastation -

Drowned cities, mounds of carcass and a grim reminder
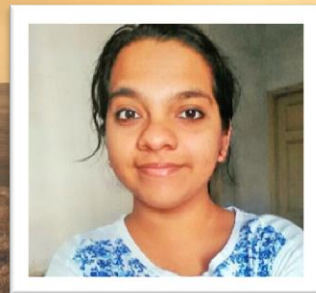
HELL TO SELL

Many times, a scene keeps flashing in my mind: "Around five years from now, a man goes to a restaurant to have lunch. The waiter gives him the menu card. He is amazed to see the price of his favourite dish to be **'1250 bucks';** He orders it anyway as he is hungry. While having the last spoon of food, he thinks about the reasons for the soar in prices of all these cereals and pulses."

On the other hand, many peasants opt to end their lives with a **bottle of poison.** Thinking about the various reasons for such social evils, a few came to my mind.

Firstly, all markets and retail shops in town purchase the necessary cereals and pulses from these farmers at a very low rate. This margin is not enough for these farmers for their next agricultural venture. Secondly, extreme weather conditions turn out to be disastrous for cultivation. Torrential downpour carries away the silt making the land marshy and unfit for cultivation. At the other extreme, a plethora of cultivation is stopped due to drought conditions.

Last but not the least, fertile lands have now changed to grounds for sky high buildings. This seems to be the stopping factor for agricultural activities in suburban areas. All these **real estate crocodiles** turn these lands into plots and sell them under the terms TOWNSHIP, COMMUNITY, BUILDERS, PROMOTERS, URBANISATION. Sunday mornings are the worst, because, whatever channel you switch to, there will be an advertisement featuring a media personality **bluffing** about that township community. If one of these real estate promoters goes to hell – he will be amused with its ambience. He will negotiate with Yama to surrender the HELL TO SELL. This metaphor is enough to explain the implied truth.

It is of course true that the world is getting globalised and we need to **find room** for everyone. But remember- **More these sky high buildings, more is the depletion of ground water resources.** A recent study reveals that there are almost negligible amounts of ground water resources in OMR and ECR.

Basic necessities for life include **food, shelter and clothes o**f which, two depends on agriculture for its existence. If there is no cotton being cultivated, forget about cotton sarees and dhotis. If there are no plants for mulberry worms to feed on- forget silk. Also we are in a world where we buy drinking water for money.

To sum up, agriculture is essential for life. And the sad fact is that – it is at risk because of these real estate crocodiles. So let's put a full stop to this by creating awareness amongst people. Thanks is due to some recent Tamil movies which threw light upon all these concepts. Hopefully, they had an impact on the audience.

Sri Raghav

III Year, CSE

ALUMNI ACTIVITIES

One of the passed out student, Madhuvanthi (2003 passed out) started a company focusing on wearable technology name "SlamdunQ". Her company is selected as one of the top five startups company in "Start-Up India" event. In order to win the contest public voting is also one of the criteria.

Please do vote for our student Madhuvanthi.

Here's the link:

http://www.google.co.in/landing/startupindia/

The following news item about Ms. Neela Niranjani CSE 2015 batch appeared in "The Hindu" on 21st Jan 2016

THE ❦❦❦ HINDU

» TODAY'S PAPER » TAMIL NADU

CHENNAI, January 21, 2016

Double joy for gold medallist

- Staff Reporter

For Neela Niranjani, a graduate from SSN College of Engineering, who received a Gold Medal at the Anna University Convocation, the day was doubly special: in the morning, she had tied the knot.

The Computer Science graduate said the convocation had originally been scheduled in December and had got postponed to January.

"Thankfully, I was able to complete all the ceremonies by 3 p.m. and arrive in time to receive my gold medal. My family including my husband came to see me graduate," she said. The gold medallist plans to pursue her masters abroad.

Parampara 2015

Mr. Aravind Soundararajan CSE 2009-13 Batch

Singing on the penultimate day of Parampara 2015, Kalyanapuram S. Aravind, disciple of Madurai T.N. Seshagopalan, did his guru proud. There was never a dull moment in the two-hour essay, with diligent selections and a bright tempo the hallmarks of the evening. The singer's self-assurance was pleasing and he did ample justice to Darbar varnam and 'Thulasidhala'. The niravals and swaras for this mayamalavagowla kriti were measured renditions.

The beginning of the Shanmukhapriya alapana from the top shadjam blossomed into a high calibre performance. The singer's open-mouth approach aids him a lot. K.J. Dileep's replies were with a striking grace. 'Marivere' saw Aravind venture into swaras with phrases that had a mathematical symmetry about them. He also showed remarkable authenticity in the Sahana ('Vandanamu,' Tyagaraja) raga alapana. Dikshitar's Anandabhairavi kriti 'Manasa Guru Guha' was performed at a leisurely pace after a fireworks filled swaraprastara for 'Samaja Vara Gamana.' The evening's highlight was Sankarabharanam (a favourite of his guru too).

development was interesting, but the edifice he built took a hit when he meandered into another raga on 'swara-bedha' technique, a cheap gimmick. A faithful rendition of 'Akshaya Linga' was completed with niraval and swaras in logical patterns.

About Aravind:

He recently (September 2015) got *Bharat Ratna Dr. M.S. Subbulakshmi Fellowship for Music* for three years (Rs. 1 lakh per year) from *Mr. Devendra Fadnavis*, Chief Minister of Maharashtra at Mumbai. He has also performed at HCL Concert series at Music Academy, Chennai in May 2015. *Congratulations to him!*

Read More about Parampara here:
http://www.thehindu.com/features/friday-review/music/parampara-2015-featured-kalyanapuram-s-aravind-and-chaitrra-sairam/article7869747.ece

UPCOMING EVENTS

(i) One Day National Seminar on **Predictive Analytics** - **Big Data and Healthcare** - February 12, 2016.

(ii) Third National Workshop on **Natural Language Processing**, Feb 22-23, 2016.

(iii) National Conference on **Internet of Things and Data Analytics (IoTDA)** during March 18-19, 2016.

M.R. Sudha,
CSE, III

G.J. Varshitha
CSE. III

Our Team

Staff In-Charge

Bharathi B
Madheshwari K
Angel Deborah S
Shomona Gracia Jacob

Editorial

Sri Raghav
Varna Suresh
Ananya Ganesh
Keerthika Rajvel

$2+2 = 3\ 4$

Design

Ruban B
Arvind M
Akshay R
Sudha M R
Lohith A R

Photography

Sharath Kumar
Ashwin Alagappan