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CSE Newsletter

SMRITI

memory archives...

Sneak Peek

From HOD's Desk 1

Workshops 2

Guest Lectures 5

Funded Projects 5

Papers 6

Student activities 7

Student Achievements 9

Placements 12

Tribute -2013 10

The Secret sauce 11

Gadget world 2

Upcoming Events 11

From HOD's Desk

The best way to predict the future is to invent it. True to this saying of Alan Kay, I have a vision that our department students should be pioneers in tomorrow's technology. I fervently wish that we realize this dream with the combined efforts of all faculty members and enthusiastic students.

I appreciate Prof. T. T. Mirnalinee for receiving the "Best Paper Award" from the Indian Society of Remote Sensing. It is good to see that more number of faculty members have registered for their Ph.D. program.

It is a matter of pride for the department that our student Ajay Bhargav has been placed in Microsoft, Redmond, Washington. Congratulations to Ajay for achieving this significant feat. I would like to congratulate the undergraduate project team which received an internal funding from our management. In future, I want more number of student teams to apply for this internal project funding and benefit from the scheme.

I would like to congratulate our student Anaka, who was felicitated by Dr. Shiv Nadar for her various sports achievements including the winning of Asian Junior Squash Championship.

Dr. Chitra Babu,

HOD, Dept of CSE, SSNCE

Gadget World

HTC Butterfly:

So, looks like the average high end Smartphone that half the people are carrying around these days, huh? What's so special? Here's what. The HTC Butterfly is the world's first phone with a full HD display! That's right, 1920x1080 resolution on a mobile phone. This, giving it a 448 ppi screen density, sets it a class apart from other smartphones of the same category. It also packs in the Quad Core S4 Pro at 1.5 GHz, meaning this is no slouch. Games come to life with this speed and display, making it one of the top phones on the market today. The HTC M7 is expected to be announced on March 19th with upgraded features including HTC Sense 5.0, more memory and a faster processor. A faster processor than the S4 Pro just did get announced, the Tegra 4 from nVIDIA.

Workshops

Online Education

Dr.Chitra Babu

I was invited to attend a workshop on "Online Education" conducted by Microsoft Research India(MSR) at Bangalore. The objective of this workshop is to discuss how technology can facilitate a new way of pedagogy and help tackling the challenges faced by the engineering education scenario in India.

Massive Open Online Courses (MOOC) which are aimed at large scale participation and open access via web are becoming widespread in United States of America. Coursera, edX and Udacity are some of the Predominant MOOCs floated by Stanford University, MIT and other Ivy League schools of U.S. John Hennessey, President of Stanford University had opined in one of the IEEE Spectrum issues last year that online education and the role of technology in education are going to be transformative. The objective of MOOCs is to increase the reach of quality education to more number of interested students.

With this in mind, the workshop was convened by MSR. The researchers of **Technology for Emerging Markets** group of MSR discussed with academicians from various states of India such as Tamil Nadu, Karnataka, Andhra Pradhesh and Uttar Pradhesh. There were break-out sessions discussing the curriculum and the role of teachers.We all need to ponder upon the famous quote of Plutarch, "Mind is not a vessel to be filled, but a fire to be kindled". Prof. M. S. Ananth, ex-director, IIT, Madras used to say it in a different way, "It is not important to cover the syllabus, but to uncover it for the students".

The workshop also discussed regarding how technology can help in automating some part of the evaluation and also in curbing plagiarism in assignments. . Flipped classroom and blended learning models where the teacher could play a supplementary role were discussed. It was concluded that any solution that tries to completely exclude the live teaching will not work. However, we can hope to provide quality education within the reach of every engineering college with a model that has the right mix of in-class and out-of-class learning components.

Matlab based training and simulation on supervised learning neural networks and differential evolution algorithm

This workshop was attended by Ms. S. Angel Deborah on 20/12/2012 & 21/12/2012 at Coimbatore conducted by Anna University, Coimbatore.

The objective of the workshop was to discuss about the recent advances, new paradigms, technological trends and challenges in the field of supervised learning neural networks and differential evolution algorithm. The workshop started with basics of neural networks on the first day for the beginners to understand. Detailed explanation about implementation of perceptron, adaline and back propagation neural network using matlab was given. Even problems were solved during hands on session and challenges faced during training and testing using supervised learning neural networks were discussed. The second day of the workshop began with introduction to genetic algorithm. The introduction helped the participants to understand the difference between genetic algorithm and differential evolutionary algorithm. The steps involved in differential evolutionary algorithm were completely explained with example and implementation using matlab was taught during hand on session.

Tegra 4 Processor:

Here's the Tegra 4 in a nutshell. It's fast.

No, really. It's mindblowingly fast compared to other mobile processors on the market now. It uses nVIDIA's unique 4 PLUS 1 architecture, which makes use of a fifth low power core when performance is not needed.

But what about performance? The Tegra 4 is no slouch there either. With 4 main cores of the A15 Cortex architecture and 4G LTE support, this is the first quad core processor which supports LTE. But the area where the Tegra 4 truly impresses, is graphics. It has 72 cores purely for rendering graphics.

72 cores is the same amount as the PS3 in 2011. This means that rendering console quality games on a mobile device is no longer a dream.

Project SHIELD

Project SHIELD, though sounds like a top secret military project, is the name of nVIDIA's latest hand console powered by the Tegra 4. With a 5 inch screen, Android 4.2 Jellybean and future support from game vendor giant Steam, this is one of the biggest things to happen to the gaming industry since the introduction of the Xbox 360 and PS3.

Now, let's move on to a bit lesser used aspect of our life, when compared to the mobile phone.

A One day Faculty Development Workshop on "How to Mentor"

The workshop was attended by Ms. M.Saritha , Ms. K.Lekshmi and Ms. K.Madheswari on 20/12/2012 at SSN College of Engineering conducted by English Department, SSNCE.

The rapid changes and increasing pace of change in the way colleges and Institutions function today, compels faculty to adapt and use newer and better ways in getting results with the students. Coaching & Mentoring is a practical alternative with growing importance in today's campus environments. Coaching and Mentoring turns the focus on individuals to take far more responsibility for their own learning and growth resulting in high motivation and commitment among students rather than deploying strict rules and disciplinary measures to bring about change.

Workshop on "Software Architecture for Managers"

The workshop was attended by Ms. S.Radha Meena, Ms. K.Madheswari on 7.12.2012 & 8.12.2012 at Hotel Aruna, Sterling Road, Chennai conducted By SSN School of Advanced Software Engineering

This workshop teaches a structured approach for realizing a system that supports the intended business goals. While realizing the intended functionality is important, it is often the extent to which the system supports or inhibits additional properties such as scalability, reliability, modifiability, and security that make the difference between success and failure. Traditional approaches miss this fact, paying only cursory attention to these properties resulting in systems that are brittle or unstable, lack the desired performance or throughput, or are difficult and expensive to evolve and maintain. While it is clear that supporting multiple markets implies that the system is flexible, or increasing the user base relies on the scalability of the system many things have to happen to realize these properties.

AICTE Sponsored Short Term Course on "Recent Trends in Computer Architecture"

The workshop was attended by Mr. K.R.Sarath Chandran on during 17/12/2012 – 21/12/2012 at IIT Madras conducted By Department of CSE, IITM.

The course was very helpful in making the basic concepts of computer architecture stronger as well as to get some insights into the recent trends in the design of processor architecture. The sessions were handled by professors from IIT madras and experts from industries like Intel, IBM and Honeywell. The program was helpful in exploring the new areas of research in this field. The sessions like multi-core design issues, network on chip opened the challenges in the micro architecture design of multi-cores. All afternoons were allotted for lab sessions where they introduced some simulators like Edu MIPS64, Multi2Sim. These simulators are helpful in analyzing the performance of different levels of micro architecture and can be used in research too. In short, this program brought on more confidence and knowledge to properly guide the projects in this area.

Big Data Analytics

Mr. N.Sujaudeen and Mr. B.Senthil Kumar attended a workshop on "Big Data Analytics" from 18-1-2013 to 20-1-2013 at Anna university, conducted by the department of Information Science & Technology.

In everyday activities, enormous amount of data is being generated and require proper storage. Obviously, there is a need to move on for Big Data concepts. A span of three day workshop on the same helps in analyzing the finer details on Hadoop and its research directions. Several topics on Big Data not limited to Hadoop Distributed File System, Map-Reduce Programming Model, IBM Big Insights, Infosphere Streams, Data Visualization & Democratization, Big data in advertising, Big data platforms and challenges were presented. Several issues and challenges in Big data were also discussed which gave exposure to future research in Big data.

Guest lectures

Dr. R.S Milton delivered a talk on "Functional Programming in Haskell" in a Refresher Course in Computer Science on 5/12/12 conducted in the University of Madras.

Dr. R.S Milton presented a talk on "Diagrammatic Reasoning in Program Construction" in a Refresher Course in Computer Science on 20/11/12 conducted in the University of Madras.

Dr. R.S Milton addressed a gathering of students on Reasoning in Program Construction" in a Refresher Course in Computer Science on 30/11/12 conducted in the University of Madras.

Funded Projects

Dr.Chitra Babu is doing an ongoing project on "Novel SOA Transaction Frameworks for e-Governance Applications" which is funded by SSN institutions. A grant of 9.75 Lakhs has been given for this project.

Rangarajan T R, Sasi Kumar M,Shanthosh Shankar S under the guidance of Dr. T.T. Mirnalinee are doing a project titled "Hand gesture based intelligent wheelchair for physically challenged" which is also funded by SSN institutions. The amount allocated for the project is 0.25 Lakhs.

Papers

Dr.T.T.Mirnalinee has been awarded the best paper award for her paper titled "An integrated multi-stage framework for automatic road extraction from high resolution satellite imagery" by the Indian Society of Remote sensing during the annual convention at New Delhi.

Dr.T.T.Mirnalinee published a research paper titled "**An Integrated Multistage Framework for Automatic Road Extraction from High Resolution Satellite Imagery"** in the Journal of the Indian Society of Remote Sensing Volume 39, Issue 1 , pp 1-25 , Cover Date 2011-03-01, DOI 10.1007/s12524-011-0063-9, Print ISSN 0255-660X, Online ISSN 0974-3006, Publisher Springer-Verlag

Mr. K. R. Sarath Chandran, T. Suganthi Krishnavathi, R. Kavitha and S. Aiswarya published a research paper titled "**An Efficient Multiprocessor Memory Management Framework Using Multi-Agents**" in Computer Science and Engineering: An International Journal (CSEIJ),ISSN 2231-3583, Vol. 2, No. 6, December 2012,pp 69-85,DOI:10.5121/cseij.2012.26506.

S.Chandrasekar, R.Dakshinamurthy and P.G.Seshakumar, Prabhavathy.B and Dr.Chitra Babu published a research paper titled "**A Novel Indexing Scheme for Efficient Handling of Small Files in Hadoop Distributed File System" ,** Proceedings of International Conference on Computer Communication and Information(ICCCI – 2013), Coimbatore, January 4-6, 2013.

Ms. B.Prabavathy , R.Amrita , M.Manju published a research paper titled "**IE browser compatability for web applications"** in the ACM SIGWEB Newsletter, Issue Autumn, Autumn 2012, Article No. 5, Publisher: ACM New York, NY, USA , ISSN: 1931-1745 EISSN: 1931-1435 doi>10.1145/2362631.2362636

Ms.Kanchana and Maheswaran Angamuthu published a research paper title"**PASIC: A Novel Approach for Page-Wise Web Application Security**" Proceedings of the Fourth International Conference on Networks and Communications (NetCom 2013), Nabendu Chaki, Natarajan Meghanathan, and Dinaharan Nagamalai (Eds.), LNEE Vol. 131, Springer, 2013

Student activities

Lyrical Experience

Akshaya Bhat, II Year

Listening to an awesome composition when you are travelling? You love the music but can't get the lyrics ? And you want it now , on your mobile , as you are listening? Not to worry. In the world of smartphones , with android apps being developed for everything imaginable, nothing is impossible !

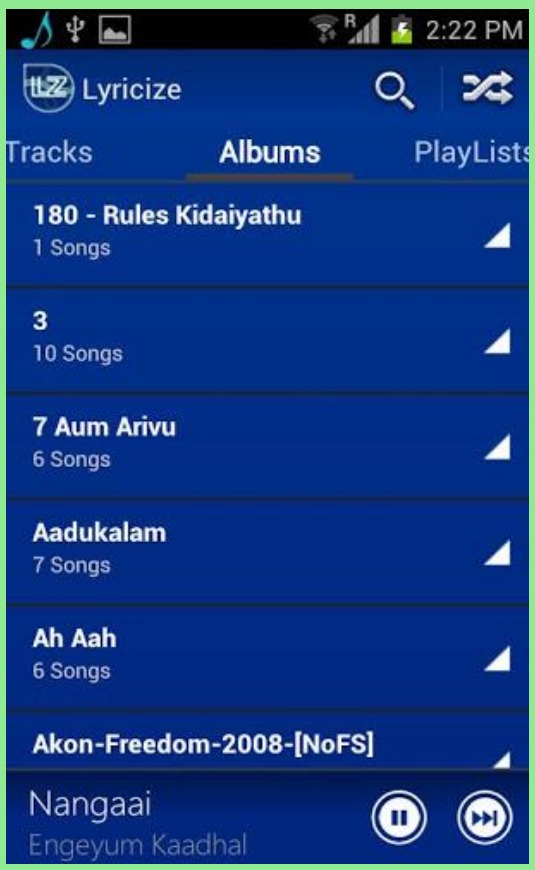
Lyricize is a music player, was developed by Mukund M, Prabakaran and Abhinandan R. It's a player that gets lyrics for most English, Bollywood and Kollywood songs a smartphone. It is the only app that gets you the lyrics for songs in Tamil and Hindi.

It offers the various features such as full-screen mode and auto-scrolling- the lyrics get scrolled as the song plays . The listener can list a song as a favourite using the "favourites" tab in the homescreen. You can shuffle between songs as you please. And, if the lyrics do not match , you can load different lyrics and go with the one you find most accurate. The app can be added as a widget in your home screen and can be used even when the screen is locked . The user can play , pause and stop without going into the trouble of unlocking the screen.

And most important of all , if the lyrics of a song are not available , the user can report it and it'll be made available in 48 hours !

https://play.google.com/store/apps/details?id=com.festalize.LyricMatch&hl=en

Screen Shots of Lyricize



ACM Activities

- Nikitha.J, Palukurthi Bhavishya, Harshinee.V.C, Mahati Kumar and Soumya.S accompanied by Dr.Chitra Babu attended ACM-W event at IIT, Madras on 24/01/2013.
- D.V.Vignesh, M.C.Sreevatson, Krishnan.R, Ranjith Kumar.M and Mukundan.S along with our HOD attended the ACM main event at IIT, Madras on 25/01/2013.
- An Android Hands-On workshop was organized by the SSN ACM Student Chapter, which was conducted by our department alumni Anand and Brighton ("!Works") on 02/02/2013.

L-R: D.V.Vignesh, Ranjith, Dr.Chitra Babu, **Turing award recipient Dr.Vinton G.Cerf, Vice President and Chief Internet Evangelist, Google**, Sreevatson, Mukundan.S, Krishnan.R

ACM India Annual Event

Mukundan, IV year

As a part of the SSN ACM Student chapter which was started in September 2012, a set of five students along with the CSE department head attended the ACM India Annual Event which was held on January 25th at IIT Madras. This Annual Event included a series of events from January 23rd to 25th conducted by ACM India.

The inaugural address was given by three prominent speakers :- Dr. P J Narayanan, the President of ACM India, Dr. John White, CEO ACM and Dr. Vinton G Cerf, the President of ACM. The next part of the event was the distribution of the "ACM India Doctoral Dissertation Award for the first time. The winner of this award was chosen by a board consisting of various Indian members from global institutes. This award was given to Dr. Ruta Mehta from IIT Bombay for her thesis work "Nash Equilibrium Computation in Various Games". A Honourable Mention award was also presented to Dr. Srikanth Srinivasan from IMSc Chennai for his work "New Directions in Arithmetic and Boolean Complexity".

After the presentation ceremony, a Keynote Lecture was given by ACM Turing Award winner and President of ACM Dr. Vinton G Cerf on the topic "Computer Science in the 21st Century". After this talk we had a Tea Break and then we had an interesting Technical Session on "Polynomials from a Computational Perspective" delivered by Dr. Manindra Agrawal from IIT Kanpur. The third part in the series of 4 lectures had Dr. Joseph Sifakis, a CNRS researcher on the topic "A System Centric Vision for Computing" where he discussed about the changing nature of human computer interaction and the challenges that arise while designing systems for better human interaction. The final lecture for the day was given by D. Sriram Rajamani Assistant Managing Director at Microsoft Research, India on the topic "Automating Program Verification – The search for abstractions using counter-examples".

As a whole the event was fully engaging and all the lectures dealt with current issues and the current topics trending in the field of Computer Science. The event kindled the research interest in all those who attended.

Student Achievements

- Anaka Alankamony (2nd year) , an international squash player was awarded the 'Anandha Vikadan award" recently. She was also felicitated by our founder, Dr.Shiv Nadar for her achievements. http://www.thehindu.com/todays-paper/tp-sports/anaka-alankamony-felicitated/article4355771.ece

- S.Nitin (3rd year), an international chess player finished second in the Mangalore International Open held from 2/10/12 to 6/10/12, he finished third in the Allepey International Open held from 7/10/12 to 12/10/12 and he won the bronze medal in the Commonwealth Championship held from 23/11/12 20 1/12/12.

- P.Vignesh ,Thiagesh,Vignesh.S and Vignesh Sha (2nd year cse B) won second place in Debugging competition held at Hindustan University.

- M.R.Gunasundari (III yr CSE) secured the gold medals in the shot put and Discus throw events, in the Anna University Inter Zone – 3 Athletic meet held at Kongunadu Engg College from 05.01.13 to 07.01.13

- Rahul Sridhar won 1st place in IIT Saarang for Light Music

- Karthik Narayanan won 2nd place in classical music at IIT Sarang.

- Akshaya Bhat - 1st place in creative writing in litrapture conducted by crescent college of engineering

- Akshaya Bhat, Ashraya Ravikumar and R.Kalaimathi training-cum-internship in Aricent group from Dec 17 to 31 on socket programming

- Aishwarya Sreenivasan and Megha Umesha - second place in south zonals tennis tournament conducted by Anna University

- B.Ashok, II year student took part in the "Vidiyal" camp held by the NSS at Krishnagiri for 5 days. The camp was held to create awareness about higher education in rural areas.

SSN founder Shiv Nadar felicitates Anaka Alankamony.

Alumni Activities

Tribute - 2013

The Tribute is an annual alumni get together, where the students from the past batches of SSN meet up for a night of catching up and more importantly, to elect the next President.

This time around, the 2004,05,07,09,11 and 12 gathered on the 5th of January for an interesting evening. The evening started out with speeches from our President Mrs. Kala Vijayakumar, our Principal Dr.S.Salivahanan and our Dean Dr.Kasturi.

After the speeches, came the most awaited moment- the election of the new President and Vice President of the Alumni Association. Sathyamoorthy Manickavelu and Ram Raghuraman were elected unanimously as the President and the Vice President.

It was followed by a cultural event where Dakshinamurthy; last year pass-out of our department performed for the gathering. And finally, came the much awaited dinner.

The Secret Sauce

Why is Stanford such a hub of tech entrepreneurship?

Hari Ganesh, 2007 batch

Stanford University is one of the world's leading centers for tech innovation and a breeding ground for the entrepreneurs who created –and continue to shape – Silicon Valley . A relatively less known fact is that Stanford in the 60's provided the impetus for the growth of Silicon Valley. The list of famous tech companies founded by Stanford Alumni is endless- Google, Yahoo, HP , Cisco, Sun etc. to enumerate a few. So what makes this place so special? After spending a few years on campus , I have to come to believe that the reasons are as follows : An incredibly talented pool of students, academics that are truly multidisciplinary and Institutional support for startups at every level. Believe it or not , at Stanford most students want to startup rather than go work at a large company like Google, Facebook etc. In fact to some extent that path is even looked down upon. Another key ingredient to this spirit of entrepreneurship is the acceptability of failure. Failure is never personalized. If a startup fails - people get up and move onto the next startup. There is no stigma attached to failure. This something unique which I believe is hard to replicate in other parts of the world. Perhaps this acceptability of failure is the "secret sauce" of Stanford!.

Please

see http://engineering.stanford.edu/sites/default/files/Stanford_Alumni_Innovation_Survey_Report_102412_1.pdf
for a detailed report.

Upcoming events

- Faculty development programme on Recent Advances in Computer Architecture during February 14-16, 2013 organised by Department of CSE, SSNCE.
- SSNCE cultural fest *Instincts* on March 7,8,9.

  http://instincts.org.in/
- E - week events during Feb 9-15, 2013 orginised by SSN E-cell Lakshya.

  http://ssnlakshya.com/
- ACM events begin this February 6th and go on till March 2nd.

  http://ssn.acm.org/
- Techofes, CEG cultural kicks off on February 28.

  http://www.techofes.org/home.php
- Summer Fellowship programme 2013 at IITM.

  http://www.iitm.ac.in/iitm-summer-fellowship-programme-2013

Placements*

Name of the company	***Salary per annum (Rs. in lakhs)***	***Students placed***
Thought Works Technologies Ltd	6.23	1
Lister Technology Ltd	5.00	3
Athena Health Technology Ltd	5.48	1
Zoho Corporation Ltd	4.00	10
Ascendant Technology	5.40	4
Ericson India Global Service Ltd (New)	3.69	7
Mu Sigma	4.05	1
Renault Nissan Tech & Business Centre India Pvt. Ltd.	BE – 3.00 / ME – 3.20	2
Ford Technology Services India.	4.75	4
Global Analytics India (New)	4.30	2
Cognizant Technology Solutions Ltd.	3.015	49
Infosys Ltd	UG – 3.25 / PG – 3.50	11
HCL Technology Ltd	3.50	2
Tata Elxsi Ltd	3.00	2

*Results from certain companies are yet to be announced and some more companies are expected for recruitment.

Ajay Bhargav B, Final year

En Route Microsoft

Ajay Bhargav B

Microsoft interview process started with two computer based rounds at SSN followed by a phone interview. Finally four personal interviews were held at Microsoft IDC, Hyderabad on December 3. The travel and hotel arrangements were made by Microsoft. Each interview lasted around 45 minutes and they were purely technical. The questions were mainly focused on data structures, algorithms and projects. After the four interviews I got the offer. I got recruited as the software development engineer in test for the Microsoft Server and Tools Business team in Redmond, Washington. It was a terrific interview experience.

Anubhav Siddharth S

Microsoft Corporation's interview process started with 2 online rounds in college followed by a phone interview. I was shortlisted after these rounds and attended my interview on January 19 at Bangalore. I arrived at my interview centre in formals, which is very unusual for me I must admit, and I later learnt that it wasn't necessary at all! The first thing I noticed was the chilled out atmosphere and the casual, informal wear and the outgoing conversations between employees at the company. The actual interview process lasted three rounds, mainly focused on algorithms, data structures and a small, but interesting application. At each step, the interviewers were more than willing to help me on my way in case I didn't know what to do. It didn't matter if you don't get the answer right in the first, second or even the third (in my case!) attempt. They drop hints at every time, and they see if we can take those hints and build upon them. The best advice I would give is to be relaxed and not put pressure on yourself. Just convince yourself you'll do well beforehand! Overall, I'd say that the interview experience was quite enjoyable (except for the air conditioning, which was set too high and had me shivering all the way through!). Nothing would make me happier than seeing the number of SSNites being recruited by Microsoft increase every year, and I hope this is of some use to you guys. Needless to say, I'm always open to hearing from you.

Go get 'em!

Anubhav's results are yet to be announced.

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