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SMRITI

DEPARTMENT OF COMPUTER
SCIENCE & ENGINEERING



SSN

SNEAK PEEK



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HOD'S DESK



It has been a hectic summer for several of us in coming up with the Regulations, Curriculum and syllabi under the autonomous scheme for both undergraduate as well as postgraduate programmes. We had several rounds of internal meetings followed by Board of Studies and Academic Council meetings. The freedom to credit a limited number of online courses instead of certain electives can definitely be expected to be utilized by students in a positive way.

Congratulations to Madheswari on successfully defending her thesis. My appreciations to Kanchana on getting the BIRAC research grant along with NIT Trichy.

I commend Muthu Annamalai and his team who won third prize in the 2017 edition of Smart India Hackathon on receiving additional grant from AICTE to continue with their project that was done with the Ministry of Postal services.

It was very heartening to see some of our students pursuing very prestigious internships with Google, Goldman Sachs, Microsoft Research Labs and Development Centre, University of Oregon and Colorado School of mines.

I am very glad that 10 undergraduate and 4 postgraduate students have secured Anna University Ranks this time. I congratulate all of them. Our ACM-W student chapter office bearers participated in the Chapter summit that was held along with the ACM India celebration of Women in Computing (AICWiC) event. I am sure it was an enriching experience for them. I also congratulate our final year student Poorvaja for winning 1st prize in the Lady Ada Programming contest that was conducted along with that event.

It was personally very satisfying to organize the expert lecture by the prestigious Turing award winner Prof. Raj Reddy as a joint event of SSN Institutions and ACM India Chennai Professional Chapter. His talk as well as his enthusiastic suggestions to the innovative projects displayed by the students would definitely be a great inspiration to everyone.

Congratulations to all the 17 students who have been placed in Microsoft, Goldman Sachs, Dell, Navis, Harphil and Global Analytics. I also commend the 2 third year students who have bagged internship at Goldman Sachs. As a department, we can be rightly proud that 17 of our students have been placed in top-notch companies, in just two weeks into the placement season.

I congratulate all the office-bearers of the Association of Computer Science Engineers. I hope the team coordinates effectively with the rest of the departments for the combined techfest *Invente* which will see the third edition this year.

Dr. Chitra Babu
HOD/CSE

FACULTY ACTIVITIES

1. **Dr. T. T. Mirnalinee** attended the HoDs meeting with Principal regarding the discussion on PG Regulations under the autonomous scheme.
2. **Mr. B. Senthil Kumar, Ms. R. Priyadarshini, Ms. S. Manisha** are members of CSE-Moodle LMS team coordinators. Created the course pages of the upcoming semester conducted by the CSE in Moodle LMS.
3. **Dr. Chitra Babu** served in one of the interview panels for the selection of candidates for the undergraduate degree program through Management quota.
4. **Dr. J. Bhuvana** attended ERP meeting at SASE as course life cycle team member.
5. **Dr. G. Raghuraman** acted as Expert Member for Ph.D Viva Voce of Ms. S. Subashka, at Saveetha Institute of Medical and Technical Sciences on 04.06.2018.
6. **Dr. J Suresh** conducted a DC meeting for her full time research scholar Ms.V. Karthika.
7. **Dr. J Suresh** conducted a DC meeting for her part time research scholar Ms. Vidhu Priya P.
8. **Dr. Chitra Babu** participated in the first Academic council meeting that was convened under the fresh autonomous scheme and presented the curriculum/syllabi for the B.E(CSE) M.E(CSE) and M.E(SE) programs.
9. **Dr. Chitra Babu** convened a department faculty meeting to discuss academic matters pertaining to 2018-19.
10. **Dr. G. Raghuraman** acted as External examiner for Ph.D Viva Voce of Ms. S. Rajeshwari, at Saveetha Institute of Medical and Technical Sciences on 21.07.2018.
11. **Dr. A. Chamundeswari, Dr. B. Bharathi, Dr. S. Kavitha and Dr. G. Raghuraman** submitted the documents to IEEE Madras Section to organize a Second International Conference on Computational Intelligence in Data Science, 21-23 Feb 2019.
12. **Dr. Chitra Babu** was invited to participate in the inauguration of the physics laboratory facility that has been commissioned under the SSN CREST. The laboratory was inaugurated by Dr. B. Venkatraman, Director, Health, Safety and Environment group of IGCAR.



EXPERT INVITEE

Dr. Chitra Babu was invited as an expert in the brainstorming session on "Security for Billions: Users and their Devices" organized on 21st May 2018 by Indian Internet Research & Engineering Forum(IIREF) team of C-DAC Bangalore, at Hotel Ramada, Egmore, Chennai.



EXTERNAL PROJECT - SANCTIONED

The project titled "Nagarik Rog Pratirakshak: Unified Smart Immunization Coverage Monitoring and Analysis" submitted by **Dr. R. Kanchana** has received external funding. Agency- BIRAC, Dept of Bio Technology, Govt. Duration - 18 months. Fund – Rs. 50 lakhs.



PROJECT PROPOSALS SUBMITTED

Dr. S. Kavitha and Dr. Mohanavalli S. submitted a research proposal titled "Geo Spatio-Temporal Image Analysis for Monitoring Unmanned Road Segments" to the division of NRDMs & NSDI, under the scheme "SDI for Urban Governance Applications" with a proposed budget of Rs. 35.15 Lakh duration of 36 months.



Dr. S. Kavitha and Dr. Mohanavalli S. submitted a research proposal titled "Predicting Learning Behaviour of Online Course Learners' using Hybrid Deep Learning Model" to the division of KIRAN, under the scheme "Cognitive Science Research Initiative" with a proposed budget of Rs. 20.4 Lakhs and duration of 3 years.

Dr. B. Bharathi as Co - investigator and **Dr. R. Rajavel** as principal investigator submitted a project proposal on,"Design and development of a software digital hearing aid", to CSRI with a proposed budget of Rs. 10.93 Lakhs and duration of 3 years.



Dr. B. Bharathi and Dr. J. Bhuvana submitted a project proposal on,"Speech Enabled Multilingual Interactive voice response system", to DST-CRG with a proposed budget of Rs. 20.39 Lakhs and duration of 3 years.



Dr. S Sheerazuddin submitted a research proposal entitled "Design and Verification of Safety-critical Client-server Systems" to Science and Engineering Research Board, Government of India in collaboration with IIT Dharwad with a proposed budget of 52.6 Lakhs and duration of 36 months.



TALKS DELIVERED



Dr. D. Thenmozhi delivered a talk on Sentiment Analysis in AICTE-ISTE induction program on "Machine Learning using R" at RMK CET during 27th April, 2018

Dr. R. Kanchana delivered a guest lecture on the following topics along with hands-on during the workshop on SOA and Web Services organized by IIIT, Tiruchirappalli for BTech III Year students of IIIT. Topics handled: SOA, Web services and composition, Research directions in SOA



Dr. D. Thenmozhi, B. Senthil Kumar handled session on "Deep Learning Hands-on sessions - ANACONDA, TensorFlow NLTK and Keras" for the "National Level Summer Training Program on AI with Deep Learning & Machine Learning" at Hindustan Institute of Technology and Science, Chennai-603 103.

Dr. B. Bharathi and Dr. P. Mirunalini delivered a talk and handled hands on sessions on "Deep learning and its engineering applications" at Agni college of Technology for the workshop sponsored by The Institution of Engineers(India), Kancheepuram local centre.



Dr. R. S. Milton delivered a talk and gave demonstration of "Deep Learning Frameworks" in Velammal College of Engineering, Chennai, in ICMR Sponsored National Level Seminar on Deep Learning in Bioinformatics and Health Care Informatics.



Dr. Chitra Babu was invited to talk about the process by which the higher secondary CS curriculum has been revamped through video at the SCERT office at Nungambakkam to include in the Training video for school teachers.



Dr. T.T. Mirnalinee delivered a talk on "Machine Learning" in St. Joseph's Institute of Technology.

Dr. T. T. Mirnalinee delivered a talk on "Data Mining Techniques" in College of Engineering, Guindy in FDTP on Data Analytics.

PAPER REVIEWS

1. **Dr. B. Bharathi** reviewed 4 research papers titled
 1. Decision-level feature switching as a paradigm for replay attack detection.
 2. Deep learning and i-vector for Mandarin accent identification towards accent robust ASR.
 3. Robust Mizo Continuous Speech Recognition.
 4. On construction of the ASR – oriented Indian English pronunciation dictionary based on an adaptation strategy for the conference INTERSPEECH 2018, IISC Bangalore, Sept. 2-6, 2018.
2. **Dr. R. Kanchana** reviewed a paper on The Method of Web Service Selection Based on Dynamic Bayesian Network submitted to the Int. journal on Concurrency and Computation: Practice & Experience, Wiley.
3. **Ms. S. Rajalakshmi** reviewed the following papers for SemEval2018, the 12th International Workshop on Semantic Evaluation:
 - i. WLV at SemEval-2018 Task 3: Dissecting Tweets in Search of Irony .
 - ii. Parsing dependency and deep learning for irony detection at SemEval-2018 Task 3A SemEval2018 will be collocated with the 16th Annual Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT 2018) and will be held in New Orleans, LA, USA, June 5-6 2018.
4. **Dr. B. Prabavathy** reviewed the following papers for Oriental Journal of Computer Science and Technology
 - i. Next Generation in Computing with Agent Oriented Distributed System: Protocols and Features
 - ii. To Propose Secure Technique for Cloud Computing Using Elliptic Curve Cryptography.
5. **Dr. A. Chamundeswari** served as a Reviewer for LNCS springer, International Conference on Computational Science and Its Applications to be held in Monash University, Melbourne, Australia - July 2-5, 2018.
6. **Dr. P. Mirunalini** reviewed a research article titled "Computer-aided Polyp Detection based on Image Enhancement and Saliency-based Pre-screening" for IET image Processing Journal.

FACULTY PUBLICATIONS

1. **Lakshmi Priya and Dr.V.S. Felix Enigo** has published a paper titled "Fuzzy Logic based Short-Term Electricity Demand Forecast" in International Journal of Engineering and Technology, Vol.10(2), pp. 529-534. (SJR: 0.17)
2. **Pushpalatha D and Rajalakshmi S** have published a paper titled "Comparative Analysis of Machine Learning and Attribute selection techniques for Credit Approval Data" in International Journal of Pure and Applied Mathematics, Volume 118 No. 20, pp 305-311, 2018, ISSN: 1314-3395
3. **Saritha M, Rajalakshmi S, Angel Deborah S, Milton R S, Thirumla Devi S, Vrithika M, Krishnapriya G B** have published a paper titled "RFID-Based Traffic Violation Detection and Traffic Flow Analysis System" in International Journal of Pure and Applied Mathematics, Volume 118 No. 20, pp 319-328, 2018, ISSN: 1314-3395.
4. **Sharath Chander P., J. Soundarya, R. Priyadharsini and B. Bharathi** published a paper titled, "Data Analysis of Natural Language Querying Using NLP Interface", in International Journal of Applied Engineering Research ISSN 0973-4562 Volume 13, Number 8 (2018) pp. 5792-5795, SJR:0.15.
5. **M. Dhanalakshmi, P. Mirunalini, R. Priyadharsini, T.T. Mirnalinee** published a paper titled, "Review of Feature Extraction and Matching methods for Drone image Stitching", in International Conference on ISMAC in Computational Vision and Bio-Engineering (2018 ISMAC - CVB) organized on 16-17 May 2018 by SCAD Institute of Technology at Coimbatore, India.
6. **R. Priyadharsini, A. Beulah, T. Sree Sharmila** , "Optic Disc And Cup Segmentation In Fundus Retinal Images Using Feature Detection and Morphological Techniques" has been accepted for publication in Current Science Journal, Impact Factor: 0.843. ISSN: 0011-3891.
7. **X. Blessy Theresa and K. Madheswari** published a paper titled "Thermal and Visible Video Fusion Using Curvelet Transform" in International Journal of Applied Engineering Research ISSN 0973-4562 Volume 13, Number 11 (2018) pp. 8831-8836.
8. **M. Sakthiumamaheswari, Parimala Suresh Congovi, Madheswari Kanmani**, published a paper titled "Medicine Information Mobile Application Using Tablet Image Anaysis Using Android Studio" in International Journal of Applied Engineering Research ISSN 0973-4562 Volume 13, Number 10 (2018) pp. 8407-8412.
9. **Sharmadha Senthil Nathan, ShivaniKanmani, Shruthi Kumar, Madheswari Kanmani**, published a paper titled , "Survey on Digital Age- Smarter Cradle System for Enhanced Parenting" in International Journal of Applied Engineering Research ISSN 0973-4562 Volume 13, Number 10 (2018) pp. 8187-8193.
10. **Sharmadha Senthil Nathan, shivaniKanmani, Shruthi kumar, Madheswari Kanmani**, published a paper titled, "Optimized Multi Scale Image Fusion Technique Using Discrete Wavelet Transform and Particle Swarm Optimization for Colour Multi Focus Images" in International Journal of Applied Engineering Research ISSN 0973-4562 Volume 13, Number 10 (2018) pp. 8179-8186.
11. **Sheerin Sitara N., Kavitha S. and Raghuraman G.**, "Review and Analysis of Crack Detection and Classification techniques based on Crack Types", International Journal of Applied Engineering Research (IJAER), ISSN 0973-4562, 13 (8), May 2018, pp. 6056-6062.

12. **Ms. Angel Deborah S., Ms. Rajalakshmi S., Dr. R. S. Milton and Dr. Mirnalinee T. T.**, published a paper titled "SSN MLRG1 at SemEval2018 Task 1: Emotion and Sentiment Intensity Detection Using Rule Based Feature Selection", in Proceedings of the 12th International Workshop on Semantic Evaluation (SemEval2018), pages 324–328 New Orleans, Louisiana, June 5–6, 2018, published by Association for Computational Linguistics.
13. **Ms. Rajalakshmi S., Ms. Angel Deborah S., Dr. R. S. Milton and Dr. Mirnalinee T. T.**, published a paper titled "SSN MLRG1 at SemEval2018 Task3: Irony Detection in English Tweets Using Multilayer Perceptron", in Proceedings of the 12th International Workshop on Semantic Evaluation (SemEval2018), pages 633–637 New Orleans, Louisiana, June 5–6, 2018, published by Association for Computational Linguistics.
14. **Chamundeswari A., Srinivasan V. and Harini K.**, Global Software Development: Key Performance Measures of Team in a SCRUM based Agile Environment, 8th International Symposium on Software Quality (ISSQ 2018), ICCSA 2018, Monash University, Melbourne, Australia. Proceedings published in Springer LNCS.
15. **Umamaheswari S. and Chamundeswari A.**, Teaching Database Design and Analysis in a effective way on Digital Platform and its effect on society, 8th International Symposium on Software Quality (ISSQ 2018), ICCSA 2018, Monash University, Melbourne, Australia, Proceedings published in Springer LNCS.

INDUSTRY – INSTITUTE INTERACTIONS

1. **Dr. Chitra Babu**, along with **Dr. N.P Rajesh** visited IGCAR and interacted with Dr. B. Venkatraman, director, Health, Safety and Environment Group and their group members regarding project collaboration.
2. **Dr. Chitra Babu and Dr. R. Kanchana** had a discussion with Mr. P.Kalaiselvan and Mr. C. Napoleon of ACI Automation Private Ltd. regarding 3 potential problems on which there could be possible collaboration.
3. **Dr. Chitra Babu along with Dr. T. T. Mirnalinee, Dr. V.S. Felix Enigo, Dr. D. Thenmozhi and Ms. R. Priyadharsini** visited Caterpillar office to discuss potential projects for collaboration during the coming academic year.

MoU SIGNED

A MoU has been signed between **SSN College of Engineering** and **Sigaram Technologies** on 10th May 2018.

EVENTS ORGANIZED

1. **Dr. Chitra Babu** organized an ACM India Chennai Chapter expert lecture jointly with SSN College of Engineering by Turing award winner Prof. Raj Reddy of CMU on 20th July 2018. He gave a talk on "Whither AI? Cognition Amplifiers and Guardian Angels in your Future".
2. **Dr. Chitra Babu** organized an ACM India Chennai Chapter expert lecture on "Cyber Security in the Quantum Era" by Dr. Subrahmanya VRK Rao of Cognizant Technology Solutions at IMSc on 10th July 2018.
3. **Ms. S. Rajalakshmi, Mr. K. R. Sarath Chandran, Ms. Angel Deborah and Ms. S. Lakshmi Priya** organized "Three day workshop on Embedded Software Development" during 26-28 July 2018.

Faculty Development Program on “Pursuing Emerging Technologies”

The Faculty Development Program on “Pursuing Emerging Technologies” was held at Tambaram MEPZ on 26th May 2018.

The session was handled by Mr. T.K. Srinivas, Global Technology Officer – Cognizant Technology Solutions, Chennai. He discussed the various technologies that Cognizant is currently working and how these technologies are aligned Vertically and Horizontally. These bussiness models are then transformed into Human Client Interaction.

He further discussed the focus areas with respect to the different research labs that Cognizant focuses: Digital Technology (on HCI), Cognitive and Data Sciences (on AI; ML; Cognitive Computing; Speech / video processing; Biometrics), Automative computing (on Incubation and Governance), Hyperscale computing, Software engineering and Architecture.



Next, he spoke on the five ways technolgy challenges the current and future trends in the field of computer science.

1. The Blur – the food industry
2. Know Me, Foget Me – that deals with issues in Security
3. Excellence at the edge – Real time GPS tracking
4. Automation at work – Replacing people with Robots (currently in restaurants around the globe)
5. Augumented Humanity – Replacing players in a game

Finally he discussed what could be the impact of Automation on Human jobs. The recent trends that Cognizant focuses in the field of cognitive computing is to converge sensory perception, reasoning and Data Processing. We saw a video on Intelligent Holograms developed in the Cognizant Labs that used holograms to work on Vehicle Motors and how this can be extended in the medical field to view a foetus or a heart, followed by a Q&A session.

Ms. S. Manisha
Asst Prof / CSE

Computational Intelligence and Connectivity for Smart City (CICSC'18)

The workshop on “Computational Intelligence and Connectivity for Smart City (CICSC'18)” was held at Anna University, College of Engineering, Guindy, Chennai-600 025, during 19–21 April, 2018 sponsored by DST-SERB. The objective of this workshop is to address and discuss various applications related to smart city development.

In the formal inauguration **Dr. P. Uma Maheswari**, Convener – CICSC' 18 addressed the importance of smart city and its contributions towards the development of urban area. The first talk was given by **Dr. S. Chitrakala**, on “*Urban data collection and Big data for urban informatics*”, followed by **Dr. T. V. Geetha**, discussed the importance of “Machine learning for smart city”. In the afternoon the session was handled by **Dr. A. Chitra** and gave a talk on “*Power of AI and deep learning for smart city and Smart Healthcare*”.

The second day first session was handled by **Mr. Vasantharaj**, on “*Environment and Urban monitoring for safety, security and Disaster management for smart city*” in handling UAV's. In the next session, **Dr. Velraj**, delivered a talk on “*Smart grid and Energy storage*”. The afternoon session was handled by **C-DAC**, Chennai on “*Cloud computing and Network infrastructure that supports smart city with practical Demonstration*”. The last session was handled by **Dr. P. UmaMaheswari** and gave a talk on “*Security threats and challenges in Smart Cities*”.

The third day forenoon session was handled by **Dr. Ram Mohana Reddy Guddeti** on “*IOT for smart city*”. The next session was handled by **Dr. Gitakrishnan Ramadurai** on “*Mobility Modeling and Smart Transportation*”. The next session was a demo on “*Statistical Analysis*” from **Caresight**–Machine learning and analytics solution providers. In the last session certificate distribution and valedictory function was held.

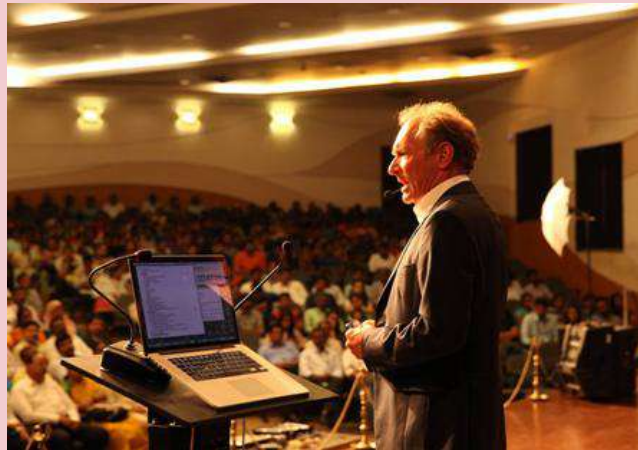


Dr. S. Kavitha
Asso. Prof. / CSE

Exclusive talk by Founder of WWW

On 18th May 2018, Justice Pratap Singh Auditorium, SSN was filled with Industrialists, Educationalist, Researchers and Learners. Their thirst for knowledge was quenched by the enlightened speech by Sir Timothy Berners Lee, the Founder of World Wide Web (WWW).

Sir Timothy Berners Lee is currently a professor of Computer Science at Oxford University and at Massachusetts Institute of Technology (MIT). He is the Director of the World Wide Web Consortium (W3C) and also founding chair at the MIT Computer Science and Artificial Intelligence Laboratory (CSAIL).



Sir Timothy Berners Lee during the talk at SSN

He, in his talk, took the audience through the evolution of Internet, and its purpose. He stressed on its commitment to the social empowerment. He proudly informed the audience that more than 50% of world's population is using WWW. He opined that the social networking tools like Facebook, Twitter could affect all aspects of our life. On crypto currency, he expressed his disapproval and predicted it to burst in no time. When elaborating on Artificial Intelligence, he acknowledged the confusion prevailing in the area on where to draw *a demarking line* between its ethical and non-ethical usage.

The scintillating session came to an end with a Questionnaire session. Sir Timothy Berners Lee's patience in aptly replying to all the questions was well appreciated. Audience responded with a wide round of applause. The knowledge sharing session enlightened the minds of future Scientists and Industrialists.



**Dr. S. Saraswathi
Asso. Prof./CSE**

Dr. Chitra Babu, HOD/CSE with Sir Timothy Berners Lee

Mr. N. Sujaudeen, AP/CSE accompanied Sir Timothy Berners Lee for the talk.





A Great Unique Recognition

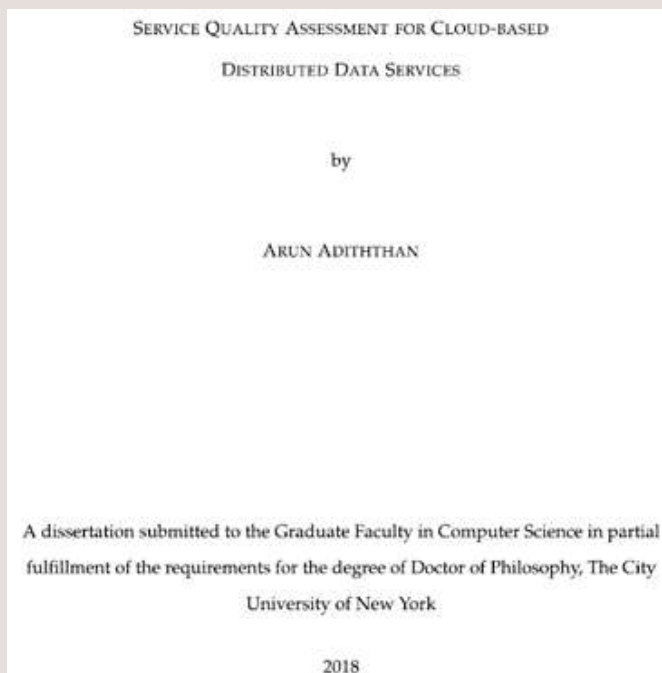
Dr. Arun Adiththan, alumnus 2011 ME CSE/ SSNCE completed his PhD and recently sent a mail to **Dr. R. Kanchana** along with his thesis front pages. He dedicated his work to his parents as well as Dr. Kanchana.

Dr. Kanchana consider this as a great unique recognition for her as a teacher and she is very much happy to share this with all.

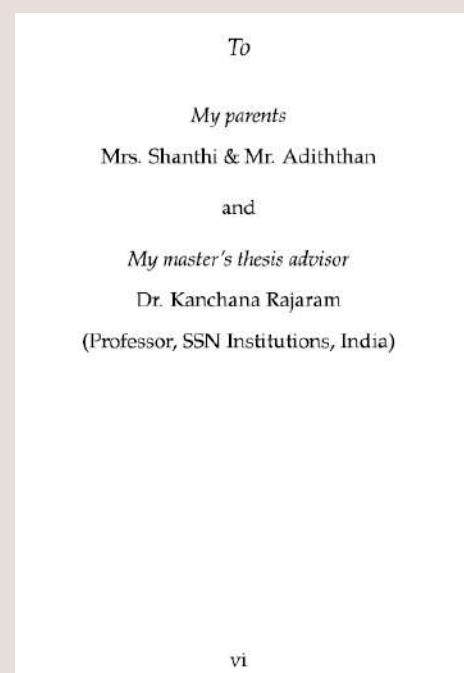
The part of his mail to her goes like this...

“ I vividly remember the roots of this incredible six-year journey that started in May 2011 with Prof. Ravindran's visit to SSN campus and the presentation of our Master's thesis work to him. I applied to the Ph.D. program and started my work here in Aug. 2012. I have gone through the inherent challenges that every Ph.D. candidate stumbles upon and I believe each one of those challenges helped me become a better person. It wouldn't have been possible without the unstinted moral support I had got from people like you (especially in the initial years).

In fact, I do not exaggerate when I say none of this would have been possible without the guidance and suggestions I received from you close to the last one decade. I normally don't believe in merely uttering words of gratitude. Instead, I would try to express it each day by the way I conduct my life & career. Having said that, you made a big difference and I feel it would be only fitting to dedicate this achievement to you (and my parents)! “



Thesis Front Page



Thesis Dedication Page

System Design using Vivado Suite and Zynq 7000 SoC

The two day national workshop on “**System Design using Vivado Suite and Zynq 7000 SoC**” was conducted during 23-24 July 2018 at Hindustan Institute of Technology and Science in association with CoreEL Technologies, Bangalore.



The main focus of the workshop was to discuss the design methods of a digital system in the latest Zynq 7000 SoC series boards with Xilinx Vivado software suit. The resource persons from CoreEL technologies explained the details of 7 series architecture and how well it is suited for a system-on-chip design. Hands-on sessions on block based design, IP integration etc. were helpful in understanding the industries’ requirements like ‘time to market’ optimization. The board level implementation which has been demonstrated with the help of logic analyzer core gave the deep insight in framing a large design.



Mr. K.R. Sarath Chandran
AP/ CSE

Meeting of the Board of Studies

The first meeting of the Board of Studies (BoS), Department of Computer Science and Engineering was held on 6th July, 2018 during 09.30 am to 12.30 pm in the High Performance Computing Lab.

The following members were present:

Sl. No.	Name	Role
1	Dr. Chitra Babu Professor and Head, Department of CSE SSN College of Engineering	Chairperson
2	Dr. Arul Siromoney Professor, Department of CSE College of Engineering, Guindy, Anna University, Chennai	Anna University Nominee
3	Dr. R. Ramanujam Professor, IMSc, Chennai	Academic Expert
4	Dr. Madhavan Mukund Professor and Dean of Studies CMI, Chennai	Academic Expert
5	Mr. Dinesh T Vincent IoT Engineering Manager, Caterpillar, Chennai.	Industry Representative
6	Mr. R. Pradeep Research Scholar, IIT Kharagpur	Alumni Representative
7	Faculty, Department of CSE, SSN College of Engineering	Members



Board members during discussion

The board reviewed the curriculum and syllabus of the following programs offered by the department.

1. B.E. (Computer Science and Engineering)
2. M.E. (Computer Science and Engineering)
3. M.E. (Software Engineering)



HOD, Faculty Members in discussion



Ms. K. Madheswari on Thursday, July 12th, 2018 at 1:00 PM successfully completed her Ph.D. public defense on "Investigation and Analysis of Optimization Algorithms for Multi-Sensor Image Fusion" under the guidance of **Dr. N. Venkateswaran Professor, Dept. of ECE, SSNCE**



Design your own App



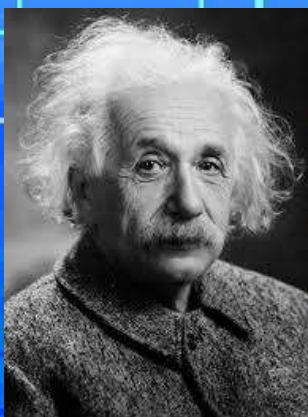
ACM India Chennai Professional Chapter organized an expert talk on “Design your own App: directly on your smart phone, without any previous knowledge!” which was delivered by **Prof. Wolfgang Slany**, Founder and President of International Catrobat Association, Graz University of Technology, Austria, on 12th June, 5 PM at Ramanujan Auditorium, Institute of Mathematical Sciences (IMSc).



Cyber Security in the Quantum Era

The poster features a dark background with a globe and a padlock. It includes the logos of the Institute of Mathematical Sciences and ACM India Chennai Professional Chapter. The text on the poster reads: "EXPERT LECTURE", "CYBERSECURITY IN THE QUANTUM ERA", "Dr. G Subrahmanya VRK Rao", "AVP, Technology, Cognizant Technology Solutions Ltd.", "VENUE: Ramanujan Auditorium, Institute of Mathematical Sciences", "DATE: 10th July", and "TIME: 5:00 PM". A small inset photo shows Dr. Rao speaking.

ACM India Chennai Professional Chapter organized an expert lecture on “CyberSecurity in the Quantum Era” which was delivered by **Dr. G. Subrahmanya VRK Rao**, AVP-Technology, Cognizant Technology Solutions Ltd. on 10th July, 5 PM at Ramanujan Auditorium, Institute of Mathematical Sciences (IMSc).



“Imagination is more important than knowledge. For knowledge is limited, whereas imagination embraces the entire world, stimulating progress, giving birth to evolution.”

A day to dwell on forever

20, July Friday 2018 was unlike any other day in Chennai but it will go down in the history of SSN Institutions for we had Turing award winner **Dr. Raj Reddy** among us. His presence in the same auditorium as us pumped us up with enthusiasm and recognize that awards and research are not a distant dream. Dr. Raj Reddy is the first person of Indian origin to ever receive a Turing award. Dr. Reddy



is the Moza Bint Nasser University Professor of Computer Science and Robotics in the School of Computer Science at Carnegie Mellon University.

His talk on **Whither AI? Cognition Amplifiers and Guardian Angels in your Future** started from the origin and initial development of AI to the future developments taking place in 10 to 15 years.



Welcoming Dr. Raj Reddy for the event

He commenced the lecture by explaining how differently AI works from that of a human brain. The most difficult part of AI research is the conversion of informal knowledge to formal algorithms which then can we implemented effectively. Though the same ideas are prevailing in the domain of AI from the 1900's, scientists are able to make significant improvements nowadays because of the increased computational power and huge amounts of data.



He also mentioned that research on topics like emotion detection, self-driving cars, unrehearsed spontaneous speech are proceeding in the right direction though a huge scope for improvement is present. In the near future, the importance of cognitive amplifiers will increase which will make each and every human on Earth a SUPERHUMAN. The intention awareness software in these systems anticipate what we want to do next based on our history and will guide us from dusk till dawn. Cognitive amplifiers are nothing but hundreds of agents in a single app and implant which guide us in every step of our day.



Vote of Thanks by Dr. Chitra Babu, HoD/CSE



Dr. Raj Reddy delivering the message

Dr. Reddy also emphasized the need for developing apps that run in the cloud so that the storage capacity and the power of the electronic devices can be conserved. In 10 to 15 years a revolution in the human society will be created by the uprising of Guardian Angels, an AI software which considers not only the user's actions and data but also that of everybody around the user so that it can give optimal routes to destinations without traffic or accidents, the best time to get coffee in a coffee shop etc., After enlightening us with all his knowledge he actively participated in the Q and A session where we buzzed him with a lot of questions. He concluded the talk by saying that there is a lot of scope for improvement in the field of emotion analysis of AI and asked us to contribute to the future. I am sure every SSNite would have been proud to have had the opportunity to meet such a dynamic and eminent person. That morning will be etched in our memory forever.

**Srinethe S.
3rd Year CSE**



After the talk, Dr. Raj Reddy, crowded by enthusiastic students

Dr. Raj Reddy in SSN Innovation Centre - A Glimpse



Home automation with IOT using speech recognition
S. Harshini ,S. Dharani, B. Logesh



Intelligent vehicle with traffic awareness and self-driving capability
K. Dakshinamoorthy, G. Barathan



Infrared vein viewer
L. Yamini, Keerthana Ravi (ECE-III Year)



Wearable heart attack predictor and chronic heart care monitor
Akshaya Ranganathan , Chandrasekharan M, Janani B, Deepshika G

ACM-W India Celebration of Women in Computing 2018 (AICWiC)

Kirtana R N and I had the opportunity to attend ACM-W Chapter Summit and ACM-W India Celebration of Women in Computing 2018 (AICWiC) at PES University Bangalore on 28 and 29 June 2018.

On 28 June we had ACM-W Chapter Summit. Chapter representatives from many colleges around India were present to share their activities. It was great to hear from Dr. Arati Dixit, Chair, ACM-W India Council, about various activities conducted by ACM India such as five ACM Summer Schools, one of which on Information Security was exclusively for women. Also, along with AICWiC, regional celebrations of Women in Computing were also conducted to promote women in tech as well as reduce the travel concerns. They are even planning to conduct an ICPC-style national level programming contest only for women starting this year.



Following Dr. Dixit, Ms. Gunjan Lal, who is a council member of the ACM-W India council and former Chairperson of UPES ACM-W Student Chapter gave a talk on activities carried on at her Alma Mater. UPES chapter had won the best chapter award in 2016. It was really inspiring to see the magnitude at which events are carried out in their institute, with a whopping 700 and odd members in the chapter. They have been conducting a wide range of events from hour of code for school kids to mock interviews for senior undergraduates and even a bootcamp on programming. We hope that we too build such a community which thrives on sharing knowledge and growing together. Next, Dr. Sonali Patil from PCCOE Pune spoke about their chapter and the events conducted in their chapter. Later office bearers from PICT Pune, which won the best chapter award in 2018 spoke about their journey. Later, Mr. Chandrashekar Sahasrabudhe, COO, ACM-India spoke to us about different various ACM India activities. He also mentioned about CS Pathshala, an initiative to create a curriculum for school students in the computing domain

Next day, on the 29th the main event, AICWiC took place. First keynote session was delivered by Ms. Swapnil Srivastava on Big data Analytics and Privacy and Security

pertaining to big data. It was a very enlightening talk which cleared many misconceptions of the audience. Next on, Prof M B Rajani from NIAS Bangalore gave a talk on how artificial intelligence is useful in her research on identifying cultural heritage sites through satellite imagery. The talk was amazing and it was great to see how much computing has helped many other domains progress.

Following this there was a panel discussion moderated by Prof. Viraj Kumar from PES University with panelists Ms. Swapnil Srivastava from CDAC, Dr. Meenakshi D'Souza from IIT Bangalore, Ms. Sonu Mehta from Microsoft Research and Ms. Soma Kohli from Unisys. The topic of discussion was disparity in programming skills observed among male and female students belonging to different tiers of institutes. It was enlightening to hear about perspectives from the eminent panelists.



Then, results of the Lady Ada programming contest was announced. It is indeed very proud moment for our college, Poorvaja S from final year bagged the first position. After which we played a very interesting game based on the 'stopping problem' in teams of four.

At this point I would like to thank our HOD, Dr Chitra Babu ma'am and our faculty sponsor Ms Madheswari ma'am for giving us this opportunity. Overall, attending this was very inspiring to us and we hope we pass on the zeal to the rest of the department as well.

R G Sudha Parimala
IV Year CSE



Lady Ada Programming Contest - Experience

I'm glad that I won the Lady Ada Programming Contest 2018 organised by ACM-W India. It was a really good experience.

There were 3 rounds in total. The first round was an online coding round in which we were given 5 coding questions, each of which is an extension of the previous question. Also, each question was a blocking question, ie. we would be allowed to move on to the next question, only if we solve the previous one. They were pretty easy.



The second round was a Skype interview where we went through the solutions I submitted in the previous round and it went well.

The third and the final round was an on-site coding round, which took place at PES University, Bangalore. There were 12 finalists in total. We were given 3 coding questions, and again, they are blocking questions. Though the questions were easy, the edge cases were tricky. I was able to solve them all in a few attempts. The results were announced the next day.



Internship Details

S.No	Name	Year	Company/ Institute
1	Kalaivani Kumaran	III	Google
2	Anirudh M	IV	University of Oregon
3	Manav Rajiv Moorthy		Citrine Informatics, Colorado School of Mines
4	Siddharth Divi		Microsoft Research India, Bangalore
5	Vishal Gupta		
6	Thamizh Nambi A		Microsoft India, Hyderabad
7	Sailesh Kumar Gajesh		
8	Daniel Jeswin Nallathambi		Amazon
9	Arul Thileeban S		
10	Kavya R		Shell
11	Sakthi Uma Maheswari		
12	Nirupan Ananthamurugan		IIT Madras
13	Sathiya Narayan C		
14	Vanshika S		Nokia
15	Nidhi Bhandari		Siddharth Foundations & Housing Ltd
16	A.M.Shashank		Knappily, Bangalore
17	Charan M		Invention Labs
18	Venkatesh S		
19	Kripa K		IIITDM
20	Laxmaan B		Intellect Design Arena
21	Adithya Ganesan V		MotorQ
22	Shreyas Gopal		Admatic Solutions
23	Sangeetha V.S		
24	Kaushik S		Freshworks
25	Sudarsan S		
26	K.Sundararajan		III
27	Anish Badri R.S		
28	Vishal A		
29	Hariny G	IIIT, Hyderabad (Indian Academy of Science IASc -INSA-NASI)	
30	Anirudh Shenoy K	VMware	
31	Vijayaguhan K	Juniper Networks, Bangalore	
32	Yamini L	Ford Motor Pvt. Ltd	
33	Snigdha V	Red Black Tree Rechnologies	
34	Priya Anna Christall		
35	Vishal Raj NN	NLC India Ltd	
36	Deepsheka G	Drugwrite India Ltd	
37	Abishek T.S	Tekplay	

INTERNSHIP AT GOOGLE

Google. Did it instantly make you think the phrases, 'best company ever', 'world's best researcher', 'unbeatable algorithms' and 'data hub of the world'? But Google is much more than that. Life without Google is unimaginable!

I cannot be more thankful to our institution for prompting me with timely opportunities to work at my dream company. After sending out my resume to the Google's hiring committee and being shortlisted, two rounds of telephonic interviews were thrown at me. Coding under the pressure of the interview was a crucial part, data structures and algorithms being the main focus. Not being a competitive programmer myself, naturally, I was nervous. Through constant shaking and perspiration, I sighed a relief knowing the fact that my basics for both the data structure courses was clear. In fact, I realized that they are the foundations of computer science.



Apart from being the best place to work at, Google encompasses some of the most amazing people of the world. After being trained in protocol buffers, various Google infrastructures, and testing techniques, I realized how important the world outside of books is, the world that our professors constantly encourage us to live in.

The fame of a long-term success story of any company depends not only on the employees but also on the process and the mechanism that the company works on. It is very important for any budding entrepreneur to understand the importance of this process that governs the way a company works. My interaction with employees having more than 10 years of a diverse work experience tells me that having a good software infrastructure is crucial for improving the productivity and Google has the best.

CodeJamKickstart is the first door for getting into Google and I encourage everyone to attempt it. Overall, the internship at Google was one of the best learning experiences, both professionally and personally. I would take this opportunity to thank all those who helped me frame an outline for my own little awesome internship story!

Kalaivani Kumaran
3rd Year

MSR summer research workshop on 'machine learning on constrained devices'

We spent one month between June 10th and July 6th at Microsoft Research (MSR) India, Bangalore, to participate in the MSR Summer Research Workshop on Machine Learning on Constrained devices. As the name suggests, the crux of the workshop was on bringing ML onto edge devices, i.e. devices with constraints in the form of memory, compute, etc. There were five teams in total competing for the MSR research grant of 7.5 lakh rupees. There were three teams from academia and two from industry. The teams from the industry were 'DataGlen' and 'Gaia Smart Cities'. From academia, there were teams from IIIT-Delhi, Ohio State University and Amrita University.

More about the proposals can be found at the MSR website. As part of the workshop, there were also a series of lectures that were organized. A couple of them were very interesting, like 'Bonsai and protoNN' by **Harsha Simhadri**, 'Fast GRNNs and MI-RNNs' by **Prateek Jain**, 'Rethinking IoT Analytics with Universal Monitoring' by Professor **Vyas Sekhar** of Carnegie Mellon University (CMU), 'An overview of MSR India' by **Sriram Rajamani**, the Director of MSR.



The atmosphere there was amazing, the sheer level of research they indulge in, is impressive. They have publications at a lot of top conferences for ML and AI (as well as other domains) like, NIPS (Conference on Neural Information Processing Systems) , ICML (International Conference on Machine Learning), among others. The research fellows working there were always ready to help with any discussion, to brainstorm, to pitch in ideas, and bringing in their expertise in their respective fields to the table.

At the end, we all had to make a presentation with a working prototype, which we then had to demonstrate to the jury which comprised of people from MSR and well as from outside MSR, which represented a good mix of all domains of Computer Science. Finally two teams won the MSR research grant, because the jury members were unable to pick one clear winner.

Code : <https://github.com/Microsoft/EdgeML>

Siddharth Divi
Vishal Gupta
4th Year

Vishal Gupta @ Microsoft Research

This summer I had to chance to work at Microsoft Research India (Bangalore) with a team from IIITD guided by Prof. Saket Anand. The aim of our project was to deploy a compressed tiny-yolo network on an FPGA board to detect pedestrians. While my teammates worked on implementing convolutional and fully connected layers on the FPGA Board with Verilog, I worked on compressing and training the architecture with PyTorch so that the trained weights could be used to test the network on an FPGA board.

By the end of the workshop, I was able to compress the LeNet on MNIST by 212x (after accounting for reduced bit precision) with no drop in accuracy and LeNet on CIFAR10 by nearly 15x with ~4% drop in accuracy. While we did manage to implement a VGG and tiny-yolo with Bayesian Layers, we are working on optimizing thresholds and epochs and hence haven't been able to ascertain compression rates. On a parallel note, we achieved a pre-compression accuracy of 37% on "person" after training a tiny-yolo with bayesian layers on VOC using pre-trained weights from a tiny-yolo without bayesian layers. However all papers on Bayesian compression that we have come across have were used on classification tasks where the loss function is more relaxed than that of regressors. We are yet to determine the feasibility of Bayesian Compression on regression tasks since object detection also requires prediction of bounding boxes.

Siddharth Divi @ Microsoft Research

I worked with a team from the industry called DataGlen. This company was started by a couple of people from IBM Research. They operate in the field of the predictive maintenance of solar panels. We worked on three problems at MSR, minimization of soiling losses, solar panel cleaning cycles initiation and power prediction revision problem.

I worked on porting Bonsai and ProtoNN for regression. I worked with the Tensorflow version of the algorithm implementations, found at the Github repository named, 'EdgeML'. I had to include a couple of things like changing the loss function, I used a Huber Loss function as it is more robust than either MAE or MSE, and also changed the metrics and loss graph, etc. I even brought in boosting on top of these algorithms, to aid their learning. On one of the datasets that I had worked on, a simple linear regression was doing better than both Bonsai and ProtoNN. Hence I decided to try boosting on top of these algorithms. But even that didn't work because these algorithms are strong learners, whereas they were not as good as having an ensemble of weak learners, such as XGBoost, Extra Trees or Random Forests. Bonsai and ProtoNN were not able to capture the variance that was present in the data. These were a couple of challenges that I had to face during the course of the work.

A couple of interesting questions came up, during our work. In the case of ProtoNN, for classification the parameter called 'gamma' was very important. [Please refer to the paper to understand what this parameter is all about.] Even though it was initialized with the k-means centers, it didn't make any difference. It led to the question that was gamma really that important, as it is for classification. This still hadn't been answered at the end of the work. It still is an open question.

Our team along with another team won the MSR research grant for the year 2018. Originally it was supposed to be INR 7.5 Lakhs for the winning team, but since the jury members couldn't pick one clear winner, MSR finally had to bump up the prize money and split it between the two joint winners. The details and specifics about this split, still haven't been decided.

References

1. <https://github.com/Microsoft/EdgeML/blob/master/publications/Bonsai.pdf>
2. <https://github.com/Microsoft/EdgeML/blob/master/publications/ProtoNN.pdf>
3. <https://github.com/Microsoft/EdgeML>

Internship @ Microsoft IDC, Hyderabad

Customer support for frequently asked questions in large companies usually involves a dedicated team to understand the requirements and fulfil them. Customers in need of information must know the means to contact the concerned person in charge from each department. Usually, the communication is through emails and one can anticipate delay. Moreover, most companies don't have a single integrated environment to access and enquire about several systems.



The underlined objective of my project was to facilitate customer service automation by building a bot which business users can interact with. The bot must understand the intent of the request, identify the source to get the information from and retrieve the information. In addition to fetching answers to the questions, the bot's versatility was enhanced by incorporating features like generating tickets when deviations were detected and granting users permission to access specific servers.

I was part of the Core Platform Engineering team which builds applications and maintains the services for Microsoft products. The first few weeks of the internship period, in addition to playing pool and drinking coffee of course, was chiefly spent in the designing aspect. It took few sessions of intense conversations with my team to curb my intuitive developer mentality which is to implement immediately and see things working. It was the phase of orienting my thoughts to a business perspective where robustness and scalability is more valued.

I was given access to several Microsoft services for crafting the intelligence of the bot. As a person using the Azure services for the first time, I was instantly overwhelmed by its superior functionalities. After hours spent in learning the prominent features of many Azure services and concepts, I picked out a few which seemed viable for the project. I had an informal sync up with my mentor almost every day to discuss the progress and brainstorm on alternatives.

By the start of the final week, an anxiousness regarding the PPO was clearly seen on the faces of all the interns. Everyone kept us busy with frequent meetings and discussions with managers to wrap up the project in time. Unlike previous years where interns were made to go through a technical round before getting confirmed, this time the decision was left entirely to the likes of the manager, the M2 (manager's manager) and the team. It was wholly based on our performance during the 8-week course. I was able to finish the project with the expected requirements and presented it to my team members. The working prototype was then deployed in Skype and Microsoft Teams. Later, my manager sent his decision with his comments about my work to the HR department. On the final day, the HR team contacted and informed me about their willingness to extend a full time offer.

As interns we enjoyed almost the same privileges as the full-time employees. They understood the mentality of freshers and let us be relaxed without pressurizing us. No matter how many times we bugged them about any trivial matter, they were always willing to help us out. What I loved the most was the open work culture adopted there. It helped me adapt to the foreign environment quickly and overcome my anxiety.

Working at Microsoft IDC was like a vacation - a vacation I was paid for. With such an ideal work-life balance, I don't think a first internship experience could get any better than this.

A. Thamizh Nambi

IV – CSE

Internship @ Microsoft IDC, Hyderabad

At Microsoft, interns work on projects that matter – and the team will rely on your skills and insights to help deliver those projects. You'll get the opportunity to work on real projects and have fun along the way. This is your chance to show off your skills and work on cutting-edge technology. Microsoft India hires for two locations in India- Hyderabad and Bangalore. I was assigned the Microsoft India Development Centre, Hyderabad.

The internship program was structured in such a way that every intern had a mentor and a manager. Some of us worked with teams and contributed to their project. We also had a buddy, who was there from a non-professional standpoint. We had an overview session for our on boarding, to guide us on what is expected of us.

During my tenure, I worked in the infrastructure team. I learned a lot of new technologies and, and worked on a project which will be in production at the end of this month. My work revolved around web technologies, creating professional User Interfaces and Backend Services for the same, and to integrate them. I wrote test cases and learnt how to structure my code to keep it testable. I also attended daily stand-ups with the team, so that everyone knew what I was working on, (and I them) to maintain coherence within the team.

The best part of my internship was that I had to collaborate across time-zones, with peers from the Redmond office through most of my Internship. We had sync up calls on a daily basis, and I leveraged my time based on both IST and Pacific Timing.



We had many internal events and got to meet lots of new people. There was a job shadowing program, an Intern Day (in which I performed), a story telling session, and my team even took me for a game of volleyball. We also had many amenities inside the facility, such as pool, carom, table tennis, Xbox (duh) to name a few, and the food and accommodation was great.

The intern provided a great insight into the software development industry. Knowing how this tech giant pulls off work has been a wonderful experience. This was the first development experience for me, so I had a lot to learn. Knowledge in specific areas is not a prerequisite if you are clear with your basics. The entire team at Microsoft was cooperative and guided me whenever needed. Even if you know stuff, there is a lot more to learn out there, so keep gaining!

Gajesh S.
IV – CSE

Internship @ Goldman Sachs



I'm sundararaman of CSE B 4th year and I'm interning at Goldman Sachs Bengaluru.

The process started when Goldman came to our college with a preliminary online test phase. The minimum CGPA requirement initially to take up the online test was 7, however was later increased to 7.8. My CGPA at that point of time was 7.81 and luckily I made it to the cut. The online test was straightforward with two competitive programming and 5 MCQs. I solved the two programming questions and managed to answer only 2 MCQs correctly. However I was selected for the interview phase, alongside 3 others. The first round of interview was mostly related to competitive programming. The second and third were regarding what I had in my resume.

The main points I'd like to convey is that CGPA doesn't matter beyond the initial qualification phase as not a single interviewer looked or asked me question about my CGPA or the number of backlogs I have.

And also it's better to have a shorter resume than have populate your resume with skills you actually don't know. Companies look more into how you fit in rather than how much you know.

V Sundararaman
4th year

Internship @ IIITDM (CNC Machining Education)



I interned at IIITDM Kancheepuram for one month. I worked on a Low-cost Web-based Learning Platform for CNC Machining Education. Computer numerical control (CNC) machines play a central role in modern manufacturing. To make the CNC learning even more accessible and less resource-intensive, a web-based learning platform is developed. The principle of web-based machining with a CNC machine. The user (client) at college, school, or home can log in from a web browser with a specified user ID and password onto the web server of the laboratory, as specified by a domain server name or IP address. The CNC machine is connected to the server via a script written in PHP. The browser page shows CNC controls for manual control (jog mode for testing the range and limit points of motion), or automatic control by uploading the user's G code program which is saved into the server's database. The user interface is written in HTML language. On the same browser page, the user can view in real time the machining operation of the CNC machine using video from an IP camera focused on the work piece. The user interface also provides buttons for camera control.

Kripa.K
IV Year CSE

Internship @ IITM (Reinforcement Learning)

During this summer, I am interning at the RISE-IIL Laboratory in the Department of Computer Science at Indian Institute of Technology, Madras. It's been splendid working under Prof. Balaraman Ravindran during my time as a research intern there.

We are working on a Transfer Learning project in the RL (Reinforcement Learning) domain. Briefly put, we trained an agent to do a certain task and then, without providing the agent with any information about a new (but similar) task, enabled the agent to achieve good performance in this new task. We were able to produce favourable results and are keen to see where this research will lead us

Nirupan Ananthamurugan
IV year, CSE.

INTERNSHIP AT FORD



I did my summer internship at FORD Chennai, the internship was about 2 months. The internship was more towards analysis of data received from the new app to improve its business. It was on how data matters in making the product a success by analysing it. And in order to do so I worked with certain analytics software like alteryx and MS SQL. I worked with the testing team on identifying errors or problems which were different from the specification and involved on how to debug them through Android Studio. It was in this, internship that I realized how many different teams are actually required to bring a product out in the market. Overall, I had an amazing experience of a typical corporate atmosphere at FORD

Yamini L
3rd Year CSE

INTERNSHIP AT RED-BLACK-TREE TECHNOLOGY

Myself, V. Snigdha and Priya Anna Christall got an opportunity to do our summer internship in RedBlackTree Technologies, Chennai. We worked for 5 weeks where we were first asked to learn the basics of Python and Blockchain. Blockchain is a decentralized database of transactions that was popularised by Bitcoin digital currency system. We then learnt about Ethereum which is a Blockchain based platform for running decentralized applications. We used the language Solidity for building smart contracts that contain code and data that resides in the Ethereum Blockchain. We were then asked to develop an Ethereum Blockchain Wallet that can be used for digital transactions. We used Javascript and React to build the application. React is a Javascript library for building user interfaces. We were very happy that we got to learn something new and we are hoping for better opportunities in the future.



V. Snigdha
3rd Year CSE

INTERNSHIP AT IIT HYDERABAD



I did my summer internship in IIT Hyderabad in the CVIT Lab under Professor C.V Jawahar as a research intern. I had applied through the Summer Research Fellowship Programme offered by the Indian Academy of Sciences. It was an 8 week long internship. I worked on Assessment Management System Kiosk – Grading of Handwritten Answer Sheets along with an MS student there. For the 1st 2 weeks I developed an android application (which used the Samsung Spen SDK) which will be used by teachers or TAs to correct the scanned answer sheets. The app will allow the teachers correct the answer sheets using a stylus and it will also show metrics like Plagiarism percentage, Writer Identification and Neatness score of the answer sheet.

Also the app will give a recommendation of the comment the teacher can give a particular answer sheet. For the next 3 weeks I worked on extracting the comments that the teachers will write on the answer sheets using stylus so that a recommender system could be built depending on the answer sheets. I worked with Python and OpenCV for extracting the text from the image. For the rest of the internship I worked on Writer Identification to check if the answer was written by a particular student or not. The model was already built and I worked on increasing it's accuracy and improving the dataset. I worked on Tensorflow for this. After this the integration of the app and the backend services were done. On the whole it was an amazing learning experience and has taught me a lot of things like the importance of team work.

Hariny G
3rd year

INTERNSHIP AT FRESHWORKS

I did my summer internship at Freshworks Inc. I along with my teammates, Vishal and Sundar, won in multiple contests conducted by CEG, Anna University and got the opportunity to avail his internship. Along with us, two seniors, Sudarsan Srinivasan and Kaushik Sivaram, won in ITrix conducted by CEG and also availed the internship. We worked on integrating third party applications as well as building applications from scratch for the Freshdesk helpdesk software using Freshdesk SDK which uses NodeJS as a framework. We learnt advanced concepts in Web Development and integrated upto 50 applications using Javascript, JQuery, HTML/CSS and NodeJS. It was an amazing experience and had a lot to take away from the internship, developers and employees at Freshworks.



Anish Badri R S
3rd year

INTERNSHIP AT NLC



My internship is on the topic of "Web-based Online Performance Appraisals Systems". I've done my internship at NLC India Limited.

The project is based on the concept of PHP web application, a server-side scripting language, in which the unit HR will be assigning the assets to the employees who are above in the category of General Manager. Only the users who are associated with assigning the assets can assign, decline, appraise, and cost of the project that the asset gets assigned. After the user performs all the above four actions, the work item will be assigned to the employees. In this project, the usage of CSS styles and HTML language for designing a web page is important to make it look like more good as well as looks professional to others.

Vishal Raj N N
3rd Year

INTERNSHIP AT JUNIPER NETWORKS

I had an opportunity to do an internship at Juniper Networks. The main focus of the curriculum was to give an insight into Juniper technologies, Automation, Lab exposure and Production Environment. There was a fine balance between learning and working. In the first few days we were given a product overview of Cloud Computing, Virtualization, Routing, Product Lifecycle from test point-of-view. We were given an introduction about Juniper Test Environment. We worked with Shell for Test/Automation, JT/PERL, Params.



We wrote scripts for TOBY framework in python and perl respectively. We were introduced to GNATS, Debugging, Juniper Platforms, JUNOS, Daemons in JUNOS and thought to use GIT and CVS repository and configure Traffic generators to generate L2 and L3 Traffic. We were asked to build a topology based on customer requirement and how to test different Traffic Simulation. Later, we were introduced to Juniper Labs. There we were asked to reserve a testbed, load JUNOS and learnt L2 Protocols and packet flow mechanism. At last we worked with Cyber Security and Malware threats and with Web application security and how to prevent exploits and buffer overflow and also malware analysis. Apart from technical knowledge, I experienced the ambience and working principles of a corporate. Looking forward to put the new found knowledge in future.

Vijaya Guhan K
3rd Year

INTERN AT DRUGWRITE Pvt. Ltd.

Being a Research Intern, I was asked to design a blueprint for the above problem statement. The blueprint should give essential details like, How can this system be designed, What are the technologies and skill set required, Cryptographic techniques to be used to avoid misuse of information etc., I was asked to learn a few topics, research about it , discuss with the panel, and incorporate it in the blueprint which is to be of the Document type. Though the internship was a simple and not so CSE-oriented, it made me deeply understand certain concepts. I have learned how Software Engineering works in the real life. The in-office experience taught me certain life values as well. I had to stay at Bengaluru during a part of the internship duration. The company had arranged for my accomodation and it was a unique experience to stay on your own. While most of the employees were friendly, some were not as welcoming as the others. But during the course of my internship I never felt like I was an outsider. Working with Drugwrite has been the best experience in my Engineering life so far.

G. Deepshika
3rd Year

INTERN AT VMWARE

I interned at VMware for eight weeks. VMware is a company that specializes in networking. I was working with VeloCloud team, which focuses on SD-WAN. Over the intern period, I automated several processes using Python and AWS. I acquired skills to work in GitHub, Linux, Python etc. It was a very informative experience and I really enjoyed the work culture. I hope to use these skills in the future.

Anirudh Shenoy
3rd Year

Coin Assist

Charaan S, our CSE Alumnus released an app for Crypto Currencies called #Coin Assist.

Features:

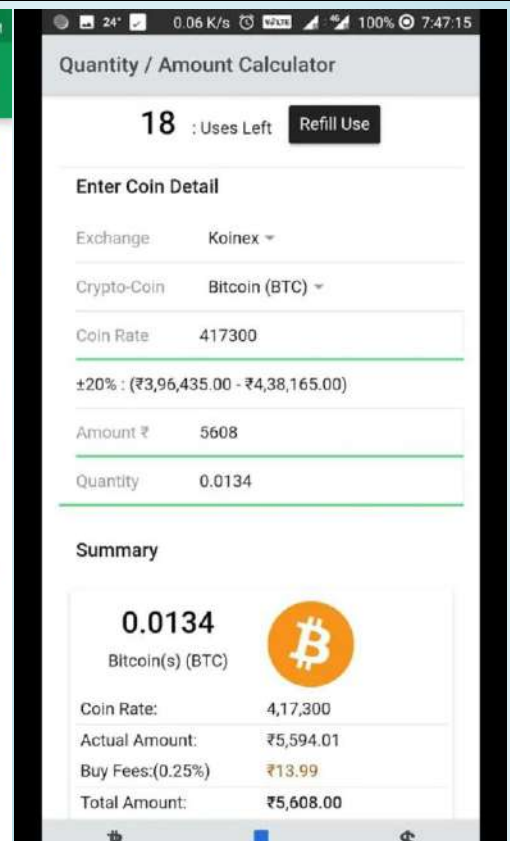
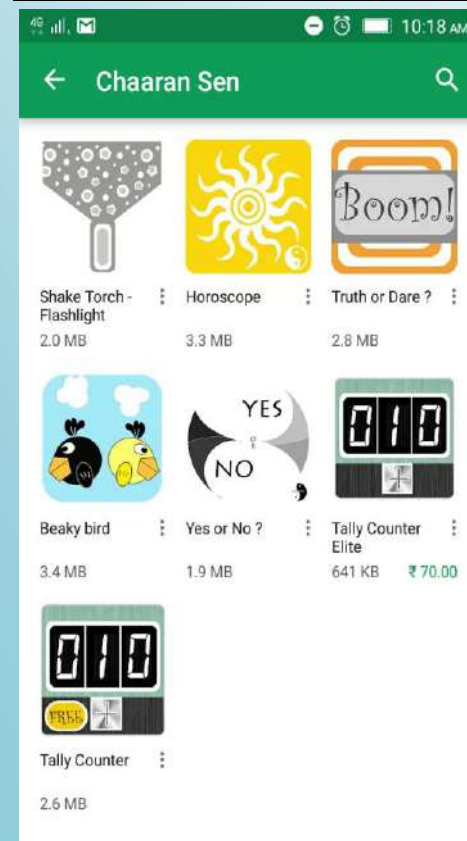
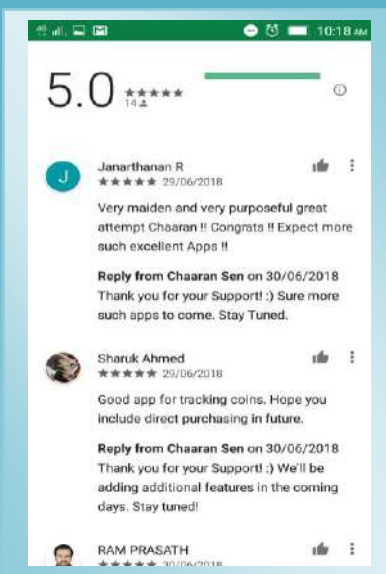
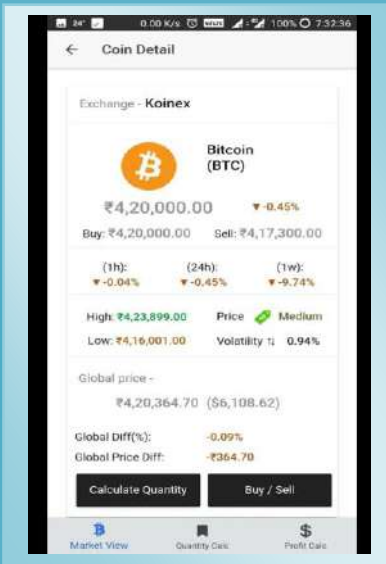
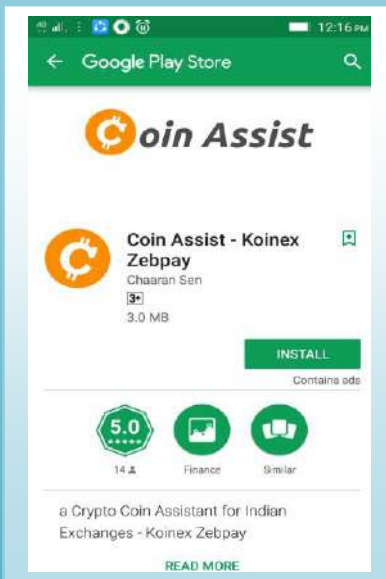
- ✓ Market View - Current overview of all the Crypto Currencies in the exchange
- ✓ Coin Detail - Detailed Crypto Coin data with Global comparison
- ✓ Quantity Calc - Calculate Crypto Coin Quantity & Amount vice versa.
- ✓ Profit Calc - Calculate Profit/Loss of investment in Crypto Currencies.

What's New?

- Crypto Currency – Market view
- Quantity Calculator
- Profit Calculator features

Download here ->

<https://play.google.com/store/apps/details?id=in.extendsapk.coinassist>





UNIVERSITY RANKS

Undergraduate Programme



SRIRAGHAV K
RANK 15



RAKSHITHA V S
RANK 16



VIJAY V
RANK 23



VIGNESH G
RANK 24



JANANI R
RANK 25



NIKITHA
LAKSHMANAN
RANK 26



PARINITHA G K
RANK 44



PRIYA R
RANK 46



RITHESH KUMAR
RANK 46



SIVASHANMUGAM U
RANK 48

Postgraduate Programme



ARUNMOZHI M
RANK 28



MEENU KUMARI C
RANK 41



TEJESWINEE K
RANK 45



MARY HANNA
PRIYADHARSHINI J
RANK 48

PPO

S.No	Company	Name
1	Microsoft	A Thamizh Nambi
2	Goldman Sachs	V Sundararaman

Placement Details

S.No	Company	Name
1	Global Analytics	Venkatesh S
2		Vidya R
3		Ashwin Bharatwaj G
4	DELL	Harrison Solomon B
5		Nithya Rathna A
6		Almah Roshni Arokiasamy
7	Navis	Sakthi Uma Maheswari M
8		Poorvaja S
9		Meha Mutharasu
10		Soundarya Venkatesh
11	Harphil Software solutions	J Vigneshwara Prakash
12	TCS Digital	Parimala Suresh Congovi
13		Chudeep Shankar B
14	Mu Sigma	N Apoorva
15		R G Sudha Parimala
16		

Internship offers received by 3rd year students

S.No	Company	Name
1	Goldman Sachs	Anand S
2		Tarun Ganesh K

ALUMNI CORNER

Ms. Spurthy S. and Ms. Revathy S. completed one year at Ashok Leyland and got promoted as Deputy Managers.



Spurthy S.



Revathy S.

Alumna **Ms. Sanjana Sahayaraj**, who graduated in 2016 and is pursuing her PhD at UCSB currently has invited to be a speaker for a webinar that is conducted by CRA-W that functions to increase the participation of women in CS research.



Alumnus **Mr. Seshan R.** currently working in Qualcomm, Chennai has received the company's sponsor to pursue his PG in IIT Madras.

The team that was led by **Mr. Muthu Annamalai CT** received a grant of Rs. 3 Lakh to continue with their SIH project that won third prize in 2017.



The winning team with Padma Bhushan Shiv Nadar on April 5th, 2017

Workshop on Embedded Software Development

A Three day workshop on “Embedded Software Development” was organized by the department of Computer Science and Engineering for II year CSE students from 26th July 2018 to 28th July 2018.



The workshop mainly aimed at the development of basic skills in Arduino board based embedded programming along with Raspberry Pi board introduction. It covered a wide range of topics including the sensor interfacing and programming which helped in the development of embedded solutions for real time problems. The coordinators of the event were **Ms. S. Rajalakshmi, Mr. K. R. Sarath Chandran, Ms. S. Angel Deborah and Ms. S. Lakshmi Priya.**

Around 50 students participated in the workshop.

The Resource persons of the event were **Mr. R. Seshan, Mr. D. Thiageshwaran and Mr. S. Pravish** who are also a part of SSN Alumni Network.

First day of the session mainly focused on basic embedded programming skills that included LED Blinking, PWM(LED fading), designing of LDR sensors, Buzzer designing, etc. using Arduino board.



The following day of the session focused on IMU implementation of devices, designing input controls using Joystick, Orientation and Motion sensing, Wifi using IMU board and finally ended with an introduction to Raspberry Pi.



projects were allotted to different teams by the Resource persons and the projects were displayed by 2.30 PM.

At the end, top three teams with best performance were rewarded with prizes. Hands on training was given in all the sessions. Thanks to all speakers, and volunteers.

The third day of the session involved application development by students based on what they learnt on the first two days. Interesting



Varshini B.
II Year CSE

ACE – Office Bearers AY 2018-19

The following students were selected as office bearers for Association of Computer Engineers - Academic Year 2018- 2019.



President
Sharan Sundar S



Vice president
Kirtana R N



Secretary
Vidya R



Joint Secretary
Karthika R



Treasurer
Nithya Rathna A



Joint Treasurer
B Laxmaan

Interaction with Researchers @ ICCSA 2018

Got an opportunity to write technical papers and present in ICCSA 2018. Had a pleasant journey to Melbourne and presented my papers in Monash University, Melbourne in Caulfield campus. The reception by Monash undergraduate students was very good. Had an chance to meet many researchers from different parts of the world like, South Africa, Japan, Korea, Italy, Greece, Nigeria, Hungary, etc.

Presented the following papers in ICCSA 2018 conference as per the conference schedule.

1. Chamundeswari A, Srinivasan V, Harini K, Global Software Development: Key Performance Measures of Team in a SCRUM based Agile Environment, ICCSA 2018, Monash University, Melbourne, Australia. Proceedings published in Springer LNCS.
2. Umamaheswari S, Chamundeswari A, Teaching Database Design and Analysis in a effective way on Digital Platform and its effect on society, ICCSA 2018, Monash University, Melbourne, Australia, Proceedings published in Springer LNCS.



NEWSLETTER TEAM

CHIEF EDITOR

DR. CHITRA BABU
HOD/CSE

STAFF IN-CHARGE

MS. A. BEULAH
AP/CSE
MS. S. ANGEL DEBORAH
AP/CSE

STUDENT TEAM

IV YEAR

PARIMALA SURESH CONGOVI
PRISCILLA ANDREW
SAKTHI UMA MAHESWARI M

III YEAR

HARINY G
SHREYAS S