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HOD’S DESK

It has been a year since our college was conferred the autonomous status by UGC. On reflection, we have been able to achieve a lot in bringing positive changes in our curriculum and syllabi. It has definitely given us an opportunity to increase the overall practical component by introducing theory-cum-practical courses, tailor and right-size the syllabus content so that it can be taught with more depth, finally making our evaluation methods oriented more towards testing the higher order thinking skills. I appreciate the entire department faculty for their earnest efforts in realizing this. However, there is a lot more that needs to be achieved to realize our vision of imparting the best quality education to our students. I request every faculty member to participate in this quest for continuous improvement.

I appreciate Chamundeswari, Raghuraman, Bharathi and Kavitha for organizing the International Conference during this semester. I also thank the whole team of faculty who helped in reviewing the papers. I congratulate the faculty members, Angel, Rajalakshmi, Milton sir and Mirnalinee on winning a best paper award for their paper presentation in an International conference organized by Panimalar Engineering College. I also congratulate Thenmozhi, Mirunalini and Bhuvana for their winning best paper award in the International conference that was organized by the Biomedical engineering department of our college.

I congratulate Priyadarsini on defending her doctoral thesis work successfully. I wish her a productive research career.

Once again, our students proved their spirit and tenacity by grabbing four prizes in the Smart India Hackathon. I commend all the 7 teams of students, which enthusiastically participated in the grand finale of SIH and our alumni who mentored them. I also sincerely thank and appreciate the crucial efforts put in by Valli, Priyadarsini and Madheswari in coordinating this activity.

It is a proud moment to hear the news that our student Sudarsan has been offered a Software Engineer position in the prestigious Google’s Search team after several competitive rounds. My best wishes to him to excel there. I also congratulate the second year student Amogh Gupta on winning the Google Earth Challenge. I commend the first year students who enthusiastically participated and won second and fourth prizes in the Ford GME Hackathon.

I congratulate all final year students who are heading to various top universities in US for higher studies. My best wishes to the graduating batch of students to excel in whichever path they have chosen to pursue.

Dr. Chitra Babu, HoD/CSE
FACULTY ACTIVITIES

1. Dr. D. Venkata Vara Prasad attended Comprehensive Examination meeting for Ms Gomatheeswari at SRM University on 9th Feb.

2. Dr. D. Thenmozhi and Ms. S. V. Jansi Rani submitted a proposal to conduct a three days workshop on "Hand-on Training in Deep Learning for Text, Image and Speech Processing" to DST under ICPS scheme.

3. Dr. Chitra Babu was invited to attend the ACM India Annual event and the colocated iSIGCSE workshop on effective assessment that was held during 6-8 Feb at Cochin.

4. Dr. Chitra Babu was invited to attend the 4th edition of the ShivNadar Foundation (SNF) Leadership Conclave that was organized at the HCL Campus, Noida on 16th February.

5. Dr. Chitra Babu and Dr. T. T. Mirnalinee evaluated 3 faculty projects that were submitted for possible internal funding on 22nd February.

6. Dr. Chitra Babu and Dr. T. T. Mirnalinee evaluated 4 student paper presentation on the UG Researchers Day on 19 February 2019.

7. Dr. R.S. Milton, Dr. J. Bhuvana, Dr. P. Mirunalini, Dr. D. Thenmozhi, Dr. S. Saraswathi Dr. K. Vallidevi, Dr. R. Kanchana, Dr. B. Prabavathy and Dr. S. Sheerazuddin served as session chairs for paper presentation in ICCIDS 2019 conducted by Department of CSE, SSNCE.

8. Dr. Suresh J attended the Doctoral Committee meeting for part-time Ph.D Scholar at SRM University on Feb 7, 2019.

9. Dr. D. Thenmozhi served as a session chair for paper presentation in Second International Conference on Computing and Information Systems (ICCIS '19) at Loyola ICAM College of Engineering and Technology on 28 February 2019.

10. Dr. V. S. Felix Enigo and Ms. S. V. Jansi Rani presented the proposal "Predictive Policing using Social Network Analysis" in Faculty Internal Funded Project at SSN Research Center on 21/02/2019.

12. **Dr. D. Thenmozhi** Conducted an IQAC awareness programme for the faculty members of CSE on 29 March 2019.

13. **Dr. Chitra Babu, Dr. R. Priyadharsini and Ms. S. Angel Deborah** attended ACM Chennai Professional chapter meeting on 22 February 2019 at Alladi Hall, IMSc, Taramani.

14. **Mr. B. Senthil Kumar** attended the Orientation Session for the Examination officials to be engaged in the conduct of NEET (UG)-2019 by NTA (MHRD, GoI) at Dayanand Sagar Institutions, Bengaluru on 17 April 2019.

15. **Dr. T. T. Mirnalinee** served as a panellist for "Bridging the Gap - Industry and Academia" as a part of 4th International Conference on Artificial Intelligence and Evolutionary Computations in Engineering Systems 12 April 2019.

16. **Dr. T. T. Mirnalinee** convened the Synopsis meeting for the thesis titled "Dynamic Small World Particle Swarm Optimization for Clustering and Image Segmentation" of her full-time PhD scholar Ms. Megha Vora on 15 April 2019.

17. **Dr. Suresh J** attended Comprehensive Examination meeting for Ms Dhivya in SRM University on 11 April 2019.

18. **Dr. Chitra Babu and Ms. Angel Deborah** attended the informal brainstorming meeting regarding ACM Chennai Chapter activities along with Mr. H.R. Mohan, ACM Chennai Chair, Prof. D. Janakiram, IIT Madras, Mr. Ananthkrishnan, CTO, TCS and Dr. Madhavan Mukund, CMI at the IITM Alumni centre.

19. A proposal to organize a 6 day FDP on the first year common introductory programming course "Problem Solving and Python Programming" under Anna University was submitted with **Dr. R. Priyadarsini, Ms. S. Rajalakshmi** as Coordinators. It has been approved by the Anna University.

**INDUSTRY – INSTITUTE INTERACTION**

Dr. Chitra Babu, Dr. T. T.Mirnalinee, Dr. B. Prabavathy, Dr. Felix Enigo and Ms. R. Priyadarsini along with students visited caterpillar office for the review of 5 ongoing collaborative projects on 5 February 2019.
1. **Dr. D. Thenmozhi** delivered a guest lecture on "Compiler Design" at Dhanalakshmi College of Engineering and Technology on Feb 5, 2019.

2. Our department faculty members **Dr. R. S. Milton, Dr. R. Kanchana, Dr. S. Sheerazudhin, Dr. J. Suresh and Dr. K. Vallidevi** delivered lectures in the workshop on "Research documentation - LaTex" organized by IEEE/CSI student chapter of SSNCE on 28th Feb 2019.

**EXTERNAL INTERACTION**

NITTTR, Chennai organized an International Training Program on "Quality Assurance in Technical Education of Developing Countries" from 27th Feb to 27th March 2019. About 25 participants from different countries (Indonesia, Srilanka, Oman, Namibia and a few other countries) attended the program and visited our department on Monday 11.03.2019 from 1.30 AM to 3.30 PM. **Dr. Chitra Babu along with Dr. R. S. Milton, Dr. T. T. Mirnalinee, Dr. R. Kanchana and Dr. J. Suresh** presented the "Quality practices in Teaching-Learning at SSN" to the delegates.
WORKSHOPS ORGANIZED

1. **Dr. Chitra Babu, Mr. N. Sujaudeen and Dr. K. Madheswari** organized two days hands-on workshop on "Introduction to Blockchain and Hyperledger Tutorial" in association with ACM India Chennai Professional Chapter, SSN ACM & SSN ACM-Women Student Chapters during 13-14 February 2019.

2. **Dr. A. Chamundeswari, Dr. G. Raghuram, Dr. B. Bharathi, Dr. S. Kavitha** organized IEEE International Conference on Computational Intelligence in Data Science 2019 during February 21-23, 2019.

3. **Dr. D. V. V. Prasad, Dr. A. Chamundeswari, and Mr. V. Balasubramanian** organized Research Documentation using LATEX Software workshop on the behalf of IEEE and CSI student chapter on 28 February 2019.

4. **Dr. Chitra Babu, Dr. B. Prabavathy, Dr. V. S. Felix Enigo** have organized a National workshop on Applications of Artificial and Machine Learning in Science & Engineering (AIM-SE 2019) in coordination with SSN-CREST(Centre for Radiation, Environmental Science and Technology) during 1-3, February 2019.

5. **Dr. A. Chamundeswari and Mr. B. Senthil Kumar** organized Third CSI Project Colloquium 2019 under SSN-CSI Student Chapter on 7 March 2019.

WORKSHOPS ATTENDED

1. **Dr. S. Sarawathi, Ms. S.V. Jansi Rani, Ms. Y. V. Lokeswari** attended two days workshop on "Introduction to Blockchain and Hyperledger Tutorial" organized by ACM India Chennai Professional Chapter, SSN ACM & SSN ACM-Women Student Chapters at SSN College of Engineering, Dept. of CSE, Chennai during 13-14 February 2019.

2. **Ms. S. Manisha, Mr. K. R. Sarath Chandran, Ms. S. Lakshmi Priya, Ms. S. Rajalakshmi, Dr. P. Mirunalini and Ms. A. Beulah** attended the pre-conference workshop titled "Machine Learning and Deep Learning", as part of ICCIDS 2019, on 21 February 2019 at Dept of CSE, SSNCE.
1. Dr. D. Thenmozhi reviewed a paper titled "Context-based Translation for the Out Of Vocabulary Words Applied to Hindi-English Cross-Lingual Information Retrieval" for IETE Technical Review

2. Dr. D. Thenmozhi reviewed the following papers for SemEval 2019.
   B) E-LSTM
   C) YNUWB at SemEval - 2019 Task 6: K-max pooling CNN with average meta-embedding for identifying offensive language
   D) Embeddia at SemEval - 2019 Task 6: Detecting Hate with Neural Network and Transfer Learning Approaches
   E) Stop PropagHate at SemEval - 2019 Tasks 5 and 6: Are abusive language classification results reproducible?


4. Ms. S. Angel Deborah reviewed the following papers for SemEval2019, the 13th International Workshop on Semantic Evaluation:
   A) ThisIsCompetition at SemEval-2019 Task 9: BERT is unstable for out-of-domain samples
   B) Yimmon at SemEval-2019 Task 9: Suggestion Mining with Hybrid Augmented Approaches
   C) ZQM at SemEval-2019 Task9: A Single Layer CNN Based on Pre-trained Model for Suggestion Mining.
   E) YNUWB at SemEval-2019 Task 6: K-max pooling CNN with average meta-embedding for identifying offensive language.
   F) TüKaSt at SemEval-2019 Task 6: Something Old, Something Neu(ral): Traditional and Neural Approaches to Offensive Text Classification.

5. Ms. S. Rajalakshmi reviewed the following papers for SemEval2019, the 13th International Workshop on Semantic Evaluation:
   A) Hybrid RNN at SemEval-2019 Task 9: Blending Information Sources for Domain-Independent Suggestion Mining.
B) WUT at SemEval-2019 Task 9: Domain-Adversarial Neural Networks for Domain Adaptation in Suggestion Mining


6. Ms. A. Beulah reviewed a paper titled "Diagnosis of Disc Bulge and Disc Desiccation in Lumbar MRI using concatenated shape and texture features with Random Forest Classifier" for International Journal of Imaging Systems and Technology, Wiley Online Library.

7. Dr. A. Chamundeswari reviewed the research paper for the "19th International Conference on Computational Science and Its Applications", which is to be held in Saint Petersburg University, Saint Petersburg, Russia - July 1-4, 2019.

**PHD VIVA-VOCE**

I successfully defended my thesis on “Development of Image Enhancement Techniques for Object Detection in Underwater Acoustic Images" under the supervision of Dr. T. Sree Sharmila, Associate Professor, Department of IT, SSN College of Engineering. The public Viva-Voce Examination was conducted on 01.03.2019 (Friday) in IT Seminar Hall, in the presence of Dr. Atul Negi, Professor, School of Computing and Information, University of Hyderabad and Dr. Umarani Jayaraman, Assistant Professor, Department of CSE, IITDM, Chennai as subject expert members. My sincere thanks go to my doctoral committee members Dr. K. Ramar and Dr. N. Arunachalam for their valuable inputs. I would also like to thank my colleagues for their support in reaching the milestone.

Ms. R. Priyadharsini
AP/CSE
1. **B. Senthil Kumar** presented a Poster titled "Application of Sequence to Sequence (Seq2Seq) Architecture in Language Processing Tasks" at IRISS 2019: 13th Inter-Research-Institute Student Seminar in Computer Science organized by ACM India held during 6-7 February 2019 at Kochi.

2. Paper titled, "Formation of SQL from Natural Language Query using NLP", authored by **Uma M, Sneha V, Sneha G, Bhuvana J, Bharathi B** was presented in ICCIDS, 2019, conducted by Department of CSE, SSNCE on 22 February 2019.


4. The paper titled, "Contextual Emotion Detection in Text using Ensemble Learning" authored by **Ms. Angel Deborah S, Ms. Rajalakshmi S, Dr. R. S Milton and Dr. Mirnalinee T T** was presented in the International Conference on Emerging Current Trends in Computing and Expert Technology(COMET-2019), conducted by Panimalar Engineering College, Poonamallee, Chennai during 22-23 March 2019. The authors received the Best Paper Award.
5. Paper titled, "Reinforcement Approach to improve Transmission Control Protocol", authored by S. V. Jansi Rani, R. S. Milton, L. Yamini and B. Shivaani was presented in ICCIDS, 2019, conducted by Department of CSE, SSNCE.


12. S. Rajalakshmi, G. Dineshraj, R. BrindhaPriyadharshini, and R. DivyaBrindha presented a paper titled " Automatic Wheat Grain Grading System using Physical and Chemical Characteristics " in International Conference on Frontiers in Smart System Technologies (FSST) conducted by Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology during April 3-5, 2019 at Chennai, India.
APPROVED EXTERNALLY FUNDED FACULTY PROJECTS 2019

Dr. D. Thenmozhi received a grant of Rs. 28,14,000/- for the project titled "An Automated Tool for Early Detection of Depression from Social Media Text for Mental Health using Deep Learning Approach to Assist Student Counsellors and Psychiatrists of Hospitals in India" from DST-SERB under EEQ scheme for 3 years.

APPROVED INTERNALLY FUNDED FACULTY PROJECTS 2019

<table>
<thead>
<tr>
<th>S.No</th>
<th>PI / Co - PI</th>
<th>Title of the Project</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dr. K. Vallidevi, CSE Dr. K. K. Nagarajan, ECE Dr. D. Gnanaprakash, Chemical</td>
<td>Remote monitoring and spatio-temporal mapping of ground water pollutant's plume movement around solid waste dump yard</td>
<td>3 Years</td>
</tr>
<tr>
<td>2</td>
<td>Dr. V. S. Felix Enigo Ms. S. V. Jansi Rani</td>
<td>Predictive policing using social network analysis</td>
<td>2 Years</td>
</tr>
<tr>
<td>3</td>
<td>Ms. S. Manisha, CSE Ms. R. Priyadharshini, CSE Ms. A. Beulah, CSE Dr. T. Sree Sharmila, IT</td>
<td>CYBORG for object recognition</td>
<td>18 months</td>
</tr>
</tbody>
</table>

PATENT PUBLISHED

A patent titled, "An Effective Frequency Provisioning Method for Scalable Devices in NB-IoT Platform" invented by Mr. H. Shahul Hamead, AP/CSE, Dr. T. T. Mirnalinee, Prof/CSE and M. Asritha, Alumna/CSE, has been published in the Official Journal of the patent office, Issue 17/2019. The patent has been applied by SSN College of Engineering.
We organized the Second version of IEEE International Conference on Computational intelligence in Data Science (ICCIDS-2019) at Department of Computer Science and Engineering, SSNCE.

This has been a truly rewarding experience for us. The papers were received under three tracks namely machine learning, computational intelligence and deep learning. The conference provided a leading forum for disseminating the latest results in Data Science research, development, and applications.
The conference was technically sponsored by the IEEE Madras Section and financially sponsored by Cognizant, attracted high-quality original research papers on various aspects of data science. Out of 90 papers, 40 papers were selected. Along with the conference, a pre-conference workshop on Machine learning and Deep learning for Data Analytics, was also organized. Dr. A. D. Dileep from IIT Mandi handled the sessions of this workshop. The conference had two keynote talks, one from Dr. Thinagaran Perumal on “Cyber-Physical System: The Next Computing Revolution”, and another by Dr. Ashish Ghosh on the topic “AI for society”.

This was a great occasion for the researchers, academicians, scientists, practicing professionals, students to share their knowledge and views to explore growing advancement in Computational Intelligence in Data Science. The conference provided an excellent platform for developing new ideas and technologies.

Dr. Chamundeswari, Dr. G. Raghuraman, Dr. B. Bharathi, Dr. S. Kavitha
Dept. of CSE
PRE - CONFERENCE WORKSHOP ON MACHINE LEARNING AND DEEP LEARNING

As a part of the Second International Conference on Computational Intelligence in Data Science (ICCIDS - 2019), pre-conference workshop on “Machine Learning and Deep Learning” was organized on Feb 21, 2019. The sessions were handled by Dr. Dileep A. D., School of Computing and Electrical Engineering, IIT Mandi, Kamand Campus, Himachal Pradesh. The morning session started with Machine Learning concepts. Various machine learning algorithms such as linear regression, two class pattern classification, k-nearest neighbour, and support vector machine are explained with demos.

In the afternoon, the basics of neural networks and deep convolutional neural networks were covered in detail. The evolution of deep neural networks starting from perceptron, multilayer perceptron, back propagation network were explained in an understandable manner. The working of the various layers in CNN were explained in detail with examples. Case studies on various CNN models like LeNet, AlexNet, VGGNet, GoogleNet, and Microsoft ResNet were also discussed. This workshop gave us an insight into the different machine learning and deep learning techniques.

Ms. S. Rajalakshmi
Ms. A. Beulah
AP/CSE
THIRD CSI PROJECT COLLOQUIUM 2019
CSI STUDENT CHAPTER

SSN-CSI student chapter organized a third CSI project colloquium event on 7th March 2019 for various Engineering students in the 17 domain areas. Enormous response was received from the student community. 22 projects were selected to present their poster presentation. The student poster presentation was judged by 6 judges. Dr. C. Aravindan, Professor, Dept. of CSE, SSNCE, Mr. Sadhanandhan Balakrishnan, Program manager, Indium Software(India) Ltd, Chennai, Mr. Balaji, Software Engineer, Chennai, Mr. Saravanan, CEO, Agmatic solutions, Chennai, Mr. Sriraghav, Software Engineer, Dell, Chennai, Mr. Roopeshwar D, Software engineer, Motorq, Chennai. Students from various Engineering colleges presented their posters.

Best three posters were selected and gift vouchers were presented. We thank all the volunteers for helping in successfully organizing this event.

Vishal Raj N N
Rohit K R
Mohanram P B
Karthick Viswanath S
A one day workshop on Research Documentation using LaTeX Software, was organized by CSI student chapter, Department of Computer Science and Engineering, in association with the IEEE Student chapter on 28th February, 2019.

The Faculty Coordinators are Dr. D. Venkata Vara Prasad, Dr. A. Chamundeswari and Mr. V. Balasubramanian, Student Organisers are Rakesh. M, Vivek. Y, Tarun Ganesh. K, Omprakash. R and Sandhiya Priya. S. The total number of Participants are 36.

The first session was engaged by Dr. R.S. Milton, Professor, CSE, SSN. He covered the topic, Preparation using IPE. Dr. S. Sheerazuddin, Associate Professor, CSE, SSN, gave an introduction to Latex article. In the next session, formatting text, verbatim, and images topics were handled by Dr. K. Vallidevi, Associate Professor, CSE, SSN. In the afternoon, the first session was handled by Dr. J. Suresh, Associate Professor, CSE, SSN. He delivered a talk on mathematical equations. The last session was handled by Dr. R. Kanchana Associate Professor, CSE, SSN. She discussed on preparation of journal article/reports, abstracts, bibliographies, and graphs. Hands-on training was given in all the sessions. Thanks to all speakers, volunteers and participants for their help in the successful organization of this workshop.

Rakesh. M, Vivek Y., Tarun Ganesh K., Omprakash R., Sandhiya Priya S.
III yr, CSE
The workshop AIM-SE 2019 was jointly organized by SSN-CREST, Department of Computer Science and Engineering and IGCAR during 1-3, February, 2019 and it focused on the emerging topics in Artificial Intelligence and Machine Learning. The topics were fundamentals of artificial intelligence, machine learning algorithms, bayesian learning and belief network, fuzzy logic and its applications, quantum computing, cellular automation and risk management. Many hands-on sessions were conducted using fuzzy logic in Matlab software.

Left to Right: Dr. N.P. Rajesh,
Dr. S. Salivahanan,
Dr. B. Venkatraman, Associate Director, RSEG, IGCAR Kalpakkam,
Dr. D. Datta, Head, Computational Radiation Physics Section of Health Physics Division and Professor, Homi Bhabha National Institute, Mumbai,
Dr. Chitra Babu,
Dr. Sangeeta Mishra, Assistant Professor, Department of Electronics & Telecommunication Engineering, Thakur College of Engineering and Technology, Mumbai University,
Dr. B. Prabavathy
There were 23 participants from UG students from SSNCE, faculty members from various engineering colleges & research scholars from SSNCE, IGCAR and CSIR. There was a valedictory function at the end of the workshop which was attended by our Principal Dr. S. Salivahanan, SSNCE and Dr. B. Venkatraman. All the participants were awarded certificates. The participants were very enthusiastic and excited to learn the applications of AI and ML across various domains. Feedback was collected from the participants and all of them felt very positive about the workshop.

Dr. B. Prabavathy, Dr. V. S. Felix Enigo, Dept. of CSE

CONGRATULATIONS

Under the guidance of Dr. T. T. Mirnalinee, Ms. J. Kavitha, Part-time research scholar defended her research work titled "A framework for Pose Invariant Face Recognition" during her public viva voce on 18 February 2019. Dr. Vivekandan, Dean, Pondicherry Engineering college served as subject expert and Dr. Surya Prakash, Assistant Professor, IIT Indore is the examiner.
I attended the IIT Madras AI Colloquium jointly organized by the Robert Bausch Centre for Data Science and AI (RB-DSAI) and Itihaasa Research and Digital on 22nd April.

The colloquium was inaugurated by Dr. Bhaskar Ramamurthy, Director, IIT Madras. This was followed by a conversation of Prof. B. Ravindran with Mr. Chris Gopalakrishnan, Chairman of Itihaasa Research and Digital as well as cofounder of Infosys. He opined that AI and ML could be used in certain domains such as radiology where it could decipher the medical images and make up for the inadequate domain expertise available in the country. At the same time, he also mentioned that AI should be explored in different domains in a controlled sandbox manner so that the consequences can be understood before it is completely deployed. He also suggested that public as well as private funding for AI research in India should be increased.

There were 3 parallel round-table sessions, addressing AI in Engineering, AI and Ethics, fairness, Explainability and AI for the next billion users of India. I attended the second round-table session. had technical people like Dr. Manish Gupta from Videoken, Dr. Ravindran, IITM, Mr. Vikram Vij from Samsung R&D, Ms. Swapna (lawyer), Mr. Tushar from Capital Float (banking domain), Dr. Sudarshan from humanities. It was moderated by Dr. Harish from the CSE department of IIT Madras.
As of now, in India, Privacy laws at a very nascent stage and General Data Protection Regulation (GDPR) has not been adopted. However, in Europe, this compliance is being mandated by the EU. It is important that customer data cannot be used without their consent and it should be used only for whatever purpose the consent was given. There cannot be a scope creep. Confidentiality of data is also very important. The incidents of Cambridge analytica and facebook using customer data without their consent highlight the significance of data privacy.

Ethical considerations are very important. Ethics cannot be afterthought. Ethics should be innately baked into the systems. In an autonomous car, under a particular scenario, should it try to protect the passengers or a crossing pedestrian? How does a developer program this? In case of an accident, who is liable? Very interesting questions. Sound policies and laws need to be formulated. Recent disasters of Boeing 737 MAX due to malfunctioning of MCAS software have brought the ethical concerns to the fore.

AI system builders should consciously try to avoid propagating social biases. It was interesting to note that Turkish language is gender-neutral, however when a couple of sentences in Turkish was given to a translator, it translated them into “He is a Doctor” and “She is a Nurse”.

AI systems built using deep learning sometime outperform the domain experts in certain domains. However, these systems are black-box systems and there is no explanation or interpretation on how these systems are able to provide such high accuracy levels. For a domain expert to recommend these AI systems to common people, this explainability becomes really important. Developing India-specific datasets was identified an action item.

Dr. Chitra Babu
HOD/CSE
ACM INDIA ANNUAL EVENT 2019 @ COCHIN

ACM India annual event for the year 2019 was held at Rajagiri School of Engineering & Technology, Cochin on February 08, 2019. The event was organized by ACM Cochin Professional Chapter in association with the Rajagiri School of Engineering & Technology, Cochin, Kerala. CSPathshala Workshop, iSIGCSE Workshop and IRISS are co-located ACM events with ACM India Annual Event 2019.

Dr. Chitra Babu with Prof. Charles E. Leiserson ("L" of the CLR, authors of the Introduction to Algorithms book)
It was a refreshing and energizing experience for me to attend the ACM (Association of Computing Machinery) India Annual event that was held in Kochi on 6-8 February.

On 6th and 7th, the 13th Inter-Research Institute Student Seminar (IRISS) was organized. This year, this forum for Ph.D research scholars to present their work, was augmented by presentation by early research career of young faculty and panel discussion on research in Industry R&D and academia.

Special Interest Group on Computer Science Education (iSIGCSE) organized a workshop on “Improving the quality of examinations in Computer Science and related disciplines”. Dr. Madhavan Mukund discussed the challenges faced in adapting traditional assessment style to MOOCs. He has been offering the courses “Design and Analysis of Algorithms” and “Introductions to algorithms and Data structures using Python” multiple times over the past 3 to 4 years. He mentioned that automation of evaluation is crucial in tackling scale. In the context of MOOCs, it still remains challenging to measure the “Creative” or “generative” capability. At the same time, he showed how the multiple choice questions can be asked to test the understanding of what has been taught. Dr. Viraj Kumar from IISc also talked about improving the quality of examinations. He also pointed out that AICTE has come up with recommendations for exam reforms.

During the main event on 8th, Dr. Sanjeev Arora talked about “Machine Learning and Deep Learning”. Dr. Charles Leiserson talked about “Resurgence of Software Performance Engineering”. This was a very interesting talk. In view of the fact that Moore’s law no longer holds and also because of the economy behind cloud computing, it has become important once again to develop and engineer applications which give very good performance. Dr. Sangamitra Bandopadhyay, Director, ISI Kolkata gave a talk on “Multi-objective clustering and applications”. Dr. Noam Nissan, Hebrew University, Jerusalem talked about “The complexity of Pricing”.

Dr. Chitra Babu
HOD/CSE
The 2nd meeting of the Board of Studies (BoS), Department of Computer Science and Engineering was held on 17th April, 2019 from 9 AM to 12 PM in the SSN-Cognizant Open Source Lab. The board members reviewed the syllabi of various subjects that belong to III-VIII semester of the B.E. Computer Science and Engineering program offered by the department and provided recommendations.

Dr. Chitra Babu discussing with the BoS members

Faculty Members

Left to Right:
Mr. Dinesh T Vincent, IoT Engineering Manager, Caterpillar, Chennai.
Dr. R. Ramanujam, Professor, IMSc, Chennai
Dr. Madhavan Mukund, Professor and Dean of Studies, CMI, Chennai
INTRODUCTION TO BLOCKCHAIN AND HYPERLEDGER TUTORIAL

The workshop on Blockchain technology (An Introduction to Hyperledger Fabric platform) was organized during 13 and 14 of February by the ACM and ACM-W student chapter of SSN in collaboration with ACM India Chennai Professional chapter. Dr. Balasundaram and Mr. Rajesh Bhaskar from Trillion lines of code conducted the hands-on workshop which gave an introduction to the technology and its various applications. Hyperledger fabric platform as opposed to Bitcoin technology is a permissioned Blockchain technology which is being rapidly adapted by the Industries to make use of the latest technology in their work.

The first day's morning session of the workshop was dedicated in detailing about the background of Blockchain technology and its technology features. The second session on Day 1 saw to the setup of a business network archive on docker-compose playground and simultaneously the VM files were installed on their systems by all the participants.

The second day dealt with execution of chaincode (which is the core logic on which the blockchain network functions) for a library management environment. It was a very informative and interesting two days where students and faculty had the opportunity to learn about the ingenious invention as well as see it work in various ways.

It was an eye-opener for the students in search of a new tech to explore and was appreciated by students from the first year through fourth year.

Jahnavi Srividya S
II year, CSE
MENTORING MARATHON – 2019

A Mentoring Marathon session was conducted for the first time in our department as a preliminary mentoring session for all the CSE participants of SIH-2019. Three of our SSN alumni were involved in this brainstorming mentoring session which happened on Feb 23rd, 2019. As faculty mentors of previous SIH, we felt that such kind of mentoring sessions will be really helpful for the participants.

Ayyappan N, Member Technical Staff and Android Developer of Zoho Corporation, Chennai, is an MCA Alumnus graduated in 2014 from SSN SoMCA.

Arjith Natrajan is a Software Development Engineer (SDE) of Sigaram Technologies, Adyar, is an alumnus of our department's 2018 graduating batch. Akshaya Natrajan, Systems Engineer, TCS Research and Innovation Labs, IIT-M, Research Park is also an alumnus of our department who graduated in 2018.

This one day intense mentoring session was very much helpful for the participants in performing well in the grand finale. All the three mentors readily accepted the invitation, amidst their tight schedule. We thank them for the same and we also request them to extend their helping hands in the future hackathons too.

We would like to thank all our alumni who served as mentors during the grand finale. Their help was very valuable.

Dr. K. Vallidevi
Dr. R. Priyadharshini
SIH 2019 - TEAM "WYSIWYG"

Smart India Hackathon is a nationwide 36 hr hackathon, to provide students a platform to solve some of the pressing problems of the country, and thus inculcate a culture of product innovation and a mindset of problem-solving. The shortlisted teams were called for the second phase of the Hackathon in various cities across the country conducted by each of the ministries and private organisations who had given the problem statements at several different Nodal Centers. My team was selected to represent our college in the grand finale of the Software Edition of Smart India Hackathon at Lovely Professional University, Phagwara, Punjab. My team here refers to myself (Hariny G), Yamini L (team leader), Geetika B, Rebecca Sharon J, Malavika C and Shivaani K of 3rd year CSE and our two mentors Arvind Muthuraman (SSN Alumnus) and Aswin Kumar R (SSN Alumnus) who are working at Coda Global. We named our team WYSIWYG, after the famous acronym - ‘What You See Is What You Get’.

The problem statement we worked on was to develop ‘An AI based tool to get information about 5 good institutes in India based on AISHE data like student-teacher ratio, infrastructure, research.’ Our idea was to rank the institutes based on AISHE and NIRF data and display information about them when the user clicks on the institute.
The ranking was done based on user preference like ‘Education’, ‘Research’, ‘Entrepreneurship’, ‘Infrastructure’ and location. The user would be able to give single or multiple preferences. Information was displayed regarding all the above mentioned criteria and the location of the institute was displayed on a map. We had three different user interfaces – web, mobile and a chat-bot. We also added a rank predictor feature for predicting the ranks of the institutes in the upcoming years and also an admin login for AICTE where they will be able to upload any data. The solution was cloud based and it was hosted on Amazon Web Services (AWS). We named our product ‘Prophet AI’.

As soon as we got to know that we had been selected for this problem statement, we talked with our mentors and sketched out a rough plan. We planned the architecture and the flow well in advance with the help of our mentors so that we don’t get confused with anything during the hackathon while implementing it. I think that was the most important reason for our win, the planning that we did beforehand which saved us a lot of time and it helped us implement our ideas without any confusion and made our solution look robust. We split the work among ourselves. Three of us worked on developing the Ranking and Predicting algorithms and the other three worked on the front-end. The only difficulty we faced was in collecting the data for all the parameters we had considered for ranking.

The event started on 2nd March at 8:30 am and at around 11 am there was a mentoring session. This was done to make sure that all the teams were in the right path. At 7 pm, the first round of review began. The review panel consisted of officials from the ministry. Each team was allotted 7 minutes (4 mins for presentation, 3 mins for Q&A). We continued with our work overnight. The second round of evaluation began at 9 am the next morning. We accomplished 70% of our idea and demonstrated the same. The panel was very interactive and gave us good feedback. We wrapped up our work by 3 pm and focused on presenting our idea to the panel.

As every problem statement had only 4 teams competing against each other, we had to show the judges what was really unique about our product. The key selling point of our solution was that we had user based preferences, a chat-bot, and a rank predictor and our product was scalable.
There was a live video conference with the Honorable Prime Minister, Narendra Modi, who talked about the importance of passion towards achieving goals. We had Zumba and Yoga sessions in the middle, aimed at helping us be relaxed.

The entire trip was filled with lots of fun and of course coding. It was one unforgettable experience right from the journey to Phagwara (amid tensions in the border!!) and coding straight for 36 hours without sleeping and preparing the presentations and pitching our ideas to the judges. It was an exhilarating and invigorating experience for us. We learnt how important it is to work as a team. We also learnt that no matter how good your product is, you need to know how to present it.

It was a surreal moment when we were announced as the winners. We were filled with joy, as it was the second consecutive victory in SIH. We need to thank our mentors for helping us out so much which ultimately helped us win the hackathon. And also we would like to thank our HOD Dr. Chitra Babu, Our Department Faculty, Mrs. Angel Deborah, our faculty mentor and Our College Management for constantly encouraging us to take part in such events every year.

Hariny G
III Year CSE A
SIH 2019 - TEAM "GRYFFINDOR"

We, a team of 6 members, participated in the Smart India Hackathon 2019 final round on 2nd and 3rd of March at the nodal centre SSN college of engineering. It was a 36-hour long hackathon. Through the duration of the hackathon we managed to build a mobile app named “MOWR”, that helped citizens to report the deformities of the canal or any water carrying resources. The entire app was built using android studio for the front end and firebase for the back end. We found it a little challenging as the app was to be made much user friendly for the people of all cadre to use it easily. To make it user friendly, we had to work on UI interface and firebase(backend). The whole of 36 hours did make us learn a lot on the usage of firebase, how efficient an app must be made, how to present our application efficiently and so on. The constant support and guidance given by our mentors, staff in charges and volunteers helped us in achieving our goals. Though we couldn’t bag the first place, this hackathon has motivated us to participate in many more hackathons. We would like to thank the college management and our principal for giving this opportunity and motivating us to participate in this big platform which had about 36 centres and 2 lakh students involved.

Janet Reshma J
II Year CSE
The team WonderBees consisting of Malavika.T(Team leader), Ramya Nivasini U.S, Kavitha A, Preethi S, Ranjana S and Rakshanaa R along with our mentor travelled nearly 2500 km to reach our hackathon venue at Dehradun, foothills of cold Himalayas. We, appreciate and thank the organisers for the excellent infrastructure, facilities and arrangements at the scenic campus of Graphic Era University. Working in the cold climate was a challenging task for us, it was both a physical and mental test. Coding along with being wrapped up in our sweaters was a different experience. We worked on Text to Speech for Indian regional languages. Working along with our mentor Mr Sasikumar gave us a lot of industrial experience, he also shared his ideas and thoughts to improvise our model. Interactions with the company officials about the problem statement gave us a clear idea on how we have to proceed in a correct way.
In total, we had three reviews. In the first two reviews they asked us to make few changes and add extra features. We all worked untied, motivated and put our best efforts throughout the night to achieve the most desirable result. Learnt a lot about team work and splitting work among ourselves and working together towards success. Interactions with different teams who have come from different parts of India and their work inspired us. Working without sleep is something which we would have never imagined. Yet, we made it which was a great experience. Now we have gained the confidence to face any challenges in life. Presenting the 36 hours of work within 3 minutes was challenging. We understood that effective presentation of our ideas is key to success and we have to work on that.

Finally, in the last review we presented the model with all features meeting their expectations. They were surprised to see our model and appreciated us. And we were the winners. It was a proud moment for all of us which we would cherish forever. We would like express our gratitude to our department faculties, Dr. B. Bharathi, Mrs. Rajalakshmi S and our HOD, Dr. Chitra Babu for encouraging us. Also we would like to thank Dr. T. Nagarajan, HOD, Department of IT and his team for providing more details on text to speech conversion. Special thanks to our industry mentor who shared his practical experiences and motivated us to reach the final goal.

Rakshanaa R
II Year CSE
The SIH – 2019 was an amazing experience overall. The 36 hours we spent working, was the most tiresome yet most rewarding period ever. It was filled with so much learning experience, both technical and also non-technical.

Firstly, the event kicked off with the AICTE officials welcome note and the pre-registration.

The actual Hackathon started at 8.00 a.m. We were working on the problem statement related to “Geographic Profiling of Routes based on Crime Zones”. We began our coding and continued with our month long pre-preparation. The mentoring session conducted by our college helped a lot in the preparation before going to the competition.

Each round of judgement followed a mentoring session which gave us new insight about our problem statement. We were mentored by our college alumni Mr.Dineshraj who was very helpful through out the competition. He distributed the work among 5 of us and his industrial experience was very helpful in tackling various technical issues we faced.

Their hospitality is worth mentioning. We were provided with food tokens and served good food. Also, to help us relive from the stress due to continuous hours of coding, the organisers conducted various events such as Yoga session, magic show etc.

So the evaluation rounds happened and we were really contented with the way we performed. By the end of 36 hours all of us were very tired and couldn’t wait for the results. The ceremony was headed by NIT Jamshedpur’s chairman and the students for waiting eagerly for the results. So when they declared us as the winners for the problem statement, we jumped with joy and the tiredness was completely replaced with satisfaction.

We then attended the photo session and travelled back to Chennai the next day. It was one of the best experience we have ever gained.

Team Insert Generic Name
III year, CSE
The Winning Team at SIH, 2019 – WYSIWYG from Punjab - Rs.75,000/-
(Bottom L-R): Dr. Chitra Babu, Dr. S. Salivahanan, Ms. Kala Vijaykumar, Dr. P. Ramasamy, Dr. V. G. Idichandy
(Top L-R): Aswin Kumar (SSN Alumnus), Shivaani K, Malavika C, Hariny G, Yamini L, Geetika B, Rebecca Sharon J, and Arvind Muthuraman (SSN Alumnus)

The Winning Team at SIH, 2019 – WONDER BEES from Dehradun - Rs.75,000/-
The Winning Team at SIH, 2019 – Seekers@SSN from Mumbai - Rs.1,00,000/-
(Top L-R): Anthony Mevin Fernando, Kaushik P, Dyaneswaran Sivasankaran, Mohammed Rizwan, Harish Kumar (Mentor), Eshwar Krishnan S

The Winning Team at SIH, 2019 – Insert Generic Name from Jamshedpur - Rs.50,000/-
(Top L-R): Dinshraj(SSN Alumnus), Edison M, Ashwin P S, Chandrasekharan M, Akshaya Ranganathan, Haritha Ananthakrishnan
SIH, 2019 – Gryffindor06 from Chennai

(Top L-R): Irfan khan k, Ajay Kumar U, Bhavithra V, Indhu Priya M, Janet Reshma J, Ezhil prasanth M

SIH, 2019 – Deep learners from Punjab

(Top L-R): Arjith Natarajan (SSN Alumnus), Harrinei K, Harshana S, PR.Nandhinee, S Jahnavi Srividya, Nandita Gopal, Jay Vishaal J
I presented a paper titled on “An approach to estimate the size of web application using IFML user interface model” on February 4-6, 2019 held in Amity University, Dubai. The co-authors for this research work are Dhanalakshmi A (CSE A), Ajith Mani V (CSE A), Sangeeth Shravan S (IT - B). We all worked under the guidance of Dr. A. Chamundeswari, Professor, Department of computer science and engineering.

Our research work is based upon estimating the size of web application with the help of IFML user interface model for a given case study. IFML (Interaction Flow Modelling Language) is a modelling language which is designed specifically for the front-end application. The effort to be obtained is then to be calculated using Function point analysis method to estimate the size of web application. Also, Multi-objective particle swarm optimization technique can be applied to measure the accuracy of the estimate.

Vishal Raj N N
3rd year, CSE – B
I interviewed for the position of Software Engineer at Google last October. I got this opportunity through Google Kickstart (Kickstart is a series of coding competitions conducted by Google for hiring purposes). I had secured a world rank 10 in Google Kickstart Round-F 2018 and was contacted by Google a few days later.

I was invited to Google Bangalore office for the interview. There were 4 rounds of interview each consisting of 2 questions related to coding/algorithms. The questions were of moderate difficulty, focusing on topics like DSU, DP, Geometry and Data Structures like Trees, Graphs, Stack etc. I was asked to code the questions on Google Docs meaning that the logic and thought process was more valued than knowing the nuances of the coding language. I also had the chance to interact with a few engineers and had lunch with them. The results came around the mid of February and I was offered a job as a Software Engineer in the Search Team at Google Bangalore.

S Sudarsan
IV Year CSE
STUDENT ACHIEVEMENTS

Kathiayini Sivakumar, I year CSE was awarded "High Commendation 1" at IIT Madras Model United Nations 2019.

Kathiayini Sivakumar, I year CSE was awarded "Special Mention 1" at Hindustan Young Leaders Conference 2019.

S. Sadhana Smruthi was part of the college basketball team which was placed first in SASTRA tournament Collosseum 2019 held during 7, 8 and 9 February.

She was also part of college basketball team which was placed third in VIT Chennai tournament 2019 held on 20th February 2019.

DG Vaishnav tournament 2019 held during 5, 6 February- 3rd place
SVCE tournament 2019 held on 19th February - 2nd place

SSN TROPHY 2019
The first round had four questions: computing forest loss, estimating precipitation, and performing image segmentation. The second round problem statement was a supervised classification problem, in which the participants had to improve the accuracy of the given baseline implementation to classify a region into different land cover classes. I first heard about the contest through our department mail. The biggest motivator for me was the fact that this was a Google contest! There were hundreds of submissions, from Undergraduate, Post Graduate, and Doctoral students from many reputed colleges and institutes in the country. Finally, towards the end of February, the winners were announced! And it surely was one of the happiest moments of my life when I saw my name on the winners' list! The best resource for Earth Engine, from which I learnt is the official documentation on the Google developer's page. All in all, the whole experience was unquestionably fun-filled but full of learning, and I wholeheartedly thank everyone who supported me!

Amogh Gupta
II Year CSE
The SSN Innovation Day was inaugurated at the Justice Prathap Singh Auditorium on 8th February, 2019, by Dr. Ashok Jhunjunwala, Institute Professor at IIT Madras, Chennai and a renowned technocrat working with various industries and higher education institutions. This was followed by Student Project Display Contest at SSN Career Development Centre at 11:00 AM. Around 30 carefully selected project teams displayed the innovative projects that they have carried out during the year and cash prizes were awarded for the best projects.

The project titled "Home automation using IoT with speech recognition" done by Logesh B, Harshini, Kalaivani K, Dharani S of third year CSE under the guidance of Mr. K. R. Sarath Chandran and Ms. S. Angel Deborah was awarded third prize (Rs. 2000/-).
GME HACKATHON - 2019


Team "Techtots" comprising of Christina John, Kaladharshini K and Karthika Menon was placed fourth.
## PLACEMENTS

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7 Secret of Success:
- Roof Said – Aim High.
- Fan Said – Be Cool.
- Clock Said – Every Minute is Precious.
- Calendar Said – Be Up-To-Date.
- Door Said – Push Hard to Achieve Your Goal.

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