SMRITI

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

SSN

SNEAK PEEK

HOD'S DESK

My hearty new year wishes to all the readers of Smriti. The frantic pace in which the entire department has been working from the beginning of January is indicative of the vibrant ecosystem that our CSE department has been providing. It has been a rollercoaster journey, but a fruitful one since the first week of December when we started interacting with the Tamilnadu cybercrime division. We are privileged and humbled by the fact that they wanted us to train their sub-inspectors in the basics of cybercrime investigation. I sincerely thank the coorganizers Bala, Bhuvana and Jansi as well as all the faculty members who reoriented themselves in handling the sessions to cater to their requirements. The collective effort we all put forth has been a highly rewarding experience.

I congratulate Bala on successfully defending his Ph.D work. I wish him the best in his future endeavours.

I am happy to see that Dr. T. T. Mirnalinee has been identified as a Margadarshak and has been guiding AMET university with the accreditation process.

Our students have been winning hackathons galore. Amidst the semester exams, our students participated in the first ever Tamilnadu Police Hackathon that was organized in November. One of the teams comprising Jyotishmathi and Mohanasundar won the first prize among 111 teams which included professionals also. Congratulations to both of them. It has been a proud moment for the whole department.

I appreciate the team of second year students who participated in the Infosys Hackathon and won first prize among 35 teams. Very impressive and creditable! I wish the students the very best to scale greater heights.

I congratulate Rohit Midha, Shraddha Mohan and Sainath Prasanna who have participated in various AI based challenges and have won prizes. I am sure they would gain more exposure by attending the Applied ML Days at Switzerland. I am not able to mention each student's name individually. However, this issue covers the innumerable achievements of our students and I congratulate every one of them and wish them all a great future.

In the internal hackathon that was conducted to shortlist the finalists for the SIH 2020, our students excelled again and 4 teams in software and 1 team in hardware have been selected for the finals. I thank all the faculty members who were involved in the various facets of the organization of this event.

Let us keep up this momentum and continue this winning streak.

Dr. Chitra Babu
HoD/CSE

FACULTY ACTIVITIES

1. **Dr. R. Kanchana** successfully demonstrated the deliverables of the first milestone of her BIRAC funded project NRP-UniSICMA to the PMC members and funding agency on 9th Nov, 2019 at New Delhi. It was a combined demo of the work completed in the systems at IIITU and SSNCE shown through Zoom based VC.
2. AS ACM-W India Council member, **Dr. Chitra Babu** was invited to attend the 10th Grace Hopper Celebrations India(GHCI) of women in computing, that was organized jointly by Anita Borg Institute and ACM India at Bangalore. On 8th, Dr. Chitra Babu moderated a panel discussion on "Looking into the Future: Preparing for the jobs of Tomorrow".
3. **Dr. Chitra Babu** attended the first International Conference on Urban Data Science that was organized at IIT Madras jointly by ACM Chennai Chapter on 21st Jan 2020.

**Dr. Chitra Babu, Dr. Anand Rao, JNTU Anathapur, Prof. D. Janakiram,
IIT Madras, Dr. Anjaneyulu Pasala, Infosys, Dr. Srinath Srnivasa, IIIT Bangalore**

4. **Dr.A.Chamundeswari** submitted workshop proposal titled, "AI in Cyber forensics", and was accepted, in Springer Conference ICCSA 2020. This conference is going to happen during July 1 - 4, 2020 in collaboration with the University of Cagliari, Italy.

5. **Dr. S. Saraswathi,** attended DC meeting at VIT-Chennai on 20 December 2019

6. **Dr.B.Bharathi, Dr.J.Bhuvana** have accompanied the II year CSE students for the tour to visit Coorg and Bangalore from 28.12.2019 to 30.12.2019.

7. **Dr. S. Kavitha**, attended a DC meeting on 11.12.2019 at RMD Engineering College.

8. **Dr. Chitra Babu** attended the Board of Studies meeting as Anna University Nominee at Government College of Engineering, Bargur on 9 Jan 2020.

9. **Dr. Chitra Babu** attended a meeting along with Kala Madam, Principal and other HoDs with three key people from SNU, Noida, Prof Sandeep Sen, Director, School of Engineering, Prof Suneet Tuli, Director, Research & Graduate Studies and Faculty Affairs and Dr Rajeev Kumar, Associate Prof, Computer Science on 17 Jan 2020. In the afternoon, the SNU delegation visited the department and interacted with the faculty members.

10. **Dr. Chitra Babu** visited Stella Maris college on 22nd Jan 2020, to have a preliminary meeting regarding FIM(Forum for Interdisciplinary Mathematics) International Conference that is going to be organized tentatively in November.

11. **Dr. J Suresh**, attended a DC meeting on 21.01.2020 at SRM Institute of Science and Technology (University)

12. **Dr. S. Kavitha** acted as a Jury member for SIH 2020 - Internal Hackathon held on 20 Jan 2020.

13. **Dr. R. Kanchana** acted as a Jury in Internal Hackathon for Smart India Hackathon, 2020 and evaluated 9 projects in 2 rounds.

14. **Dr. Chitra Babu** attended the Second Result Passing Board meeting at the Admin conference Hall along with Principal, CoE and other HoDs on 22nd Jan 2020.

15. **Dr.G. Raghuraman** convened Synopsis approval meeting for his full-time Scholar Ms. M. Ambika on 23 Jan.

16. **Dr.G. Raghuraman**, attended a Doctoral Committee meeting for Confirmation of research scholar of Dr.R. Sasikumar, on 06.01.2020 at RMD Engineering College.

17. **Dr. G. Raghuraman** acted as Expert Member for Expert Committee meeting for two research scholars who have completed maximum duration, at Sathyabama Institute of Science and Technology,Jeppiaar Nagar, Rajiv Gandhi salai, Chennai - 600 119.

18. **Dr. G. Raghuraman** acted as Expert committee member for the Six Month Research review meeting to provide suggestions to the research scholars during their review presentations at Sathyabama Institute of Science and Technology, Jeppiaar Nagar, Rajiv Gandhi salai, Chennai - 600119.

WORKSHOPS ORGAINZED

1. Under the CSI student chapter, **Dr.A. Chamundeswari, and Dr.J.Suresh** along with student Krijeshan. G, organized, eight session Python and Wisdom Education Workshop for first year students during the period 7th Sep 2019 to 23rd Nov 2019.

2. Under the CSI student chapter, **Dr.A. Chamundeswari, and Mr.V.Balasubramanian** along with student Kanishq, organized, Cyber security Workshop on 18th September 2019, from 8:30 AM - 3:30 PM.

3. **Dr. Chitra Babu along with Dr. J. Bhuvana, Dr. V. Balasubramanian and Dr. S. V. Jansi Rani** organized 1 6-day training programme for the subinspectors of Police, Cybercrime division from 20-25 Jan. Several faculty members of CSE handled the various sessions of the training programme.

WORKSHOP ATTENDED

Dr. J. Bhuvana, Dr. B. Bharathi, Dr. T.T. Mirnalinee attended a talk on 'Deep Learning models' by Dr.C.Chandrasekar in six-day Faculty Development Program on "Speech and Vision Enabled Intelligent Systems" organized by the Department of ECE, SSN College of Engineering on 23 November 2019.

PROJECT PROPOSALS SUBMITTED

1. **Dr. S.V. Jansi Rani and Dr. R. Priyadharsini** submitted a project proposal on," Indoor Navigation Personal Assistant System for Visually Impaired ", under DST-TIDE scheme on 1 November 2019.

2. **Dr. Satheesh Kumar Gopal and Dr. S. Vijayan, Dr. V. Mahesh, Dr. S.V. Jansi Rani, Dr.R.Priyadharsini, Dr. B. Geethanjali, Dr. R. Sundareswaran and Dr. K. Sathish Kumar** submitted a project proposal on," Quantum characteristics of Chronic-illness-reversal through augmented meditation ", under DST-SUPRA scheme on 29/11/2019.

EXTERNAL RECOGNITION

Dr. T. T. Mirnalinee have been nominated as Margadarshak under AICTE's "MARGADARSHAK" scheme. Margadarshak will provide mentorship to the mentee institute assigned by AICTE so as to improve the required quality parameters and enable them to get NBA accreditation. Academy of Maritime Education and Training Deemed to be University is assigned as Mentee Institute for her. In this regard, she visited the Mentee institute on November 7th 2019.

TALKS DELIVERED

1. **Dr. B. Bharathi** handled "Hands-on session on few machine learning algorithms using python" in a six-day Faculty Development Program on "Speech and Vision Enabled Intelligent Systems" organized by the Department of ECE, SSN College of Engineering, Kalavakkam-603110 in association with IEEE Signal Processing Society, Madras Chapter held during Nov 18- 23, 2019.

2. **Dr. T. T. Mirnalinee** delivered a talk on "Computer Vision for Intelligent System" in a six-day Faculty Development Program on "Speech and Vision Enabled Intelligent Systems" organized by the Department of ECE, SSN College of Engineering, Kalavakkam-603110 in association with IEEE Signal Processing Society, Madras Chapter held during Nov 18- 23, 2019.

3. **Dr. B. Bharathi** delivered a talk on " Support vector machine and its applications" in the AICTE sponsored faculty development programme on Artificial Intelligence and advanced machine learning using data science at S.A Engineering College held during 22nd Nov – 5th December 2019.

4. **Dr. S. Kavitha,** delivered a talk on "Linear Regression" in the AICTE sponsored faculty development programme on Artificial Intelligence and advanced machine learning using data science at S.A Engineering College. Duration: 22nd November 2019 - 5th December 2019.

5. **Dr. R. Kanchana** was the resource person for the one-week FDP on managing Big Data organized by IIIT Una in collaboration with Himachal Pradesh Technical University for the faculty members working in its affiliated colleges during 23-28th Dec 2019.

6. **Dr. R. Kanchana** trained the faculty members of IIIT Una on "How to conduct the Practical courses effectively" during the one-day workshop held on 26th Dec 2019 at IIIT Una.

7. Our department faculty members **Dr. R.S. Milton, Dr.R. Kanchana, Dr. G. Raghu Raman, Dr. V.S. Felix Enigo, Dr. B.Bharathi, Dr. J. Suresh, Dr. J.Bhuvana, Dr. P. Mirunalini, Dr. B. Prabavathy, Dr. R. Priyadharsini, Dr V.Jansi Rani, Dr. V. Balasubramanian, Ms. S. Rajalakshmi, Mr. B. Senthil Kumar, Mr. N. Sujaudeen, Ms. A. Beulah, Mr. H. Shahul Hamead and Ms. Lakshmi Priya B** handled various sessions in Six day training programme for the Sub Inspectors of Police, Cyber crime division held during 20-25 January 2020, CSE, SSNCE.

PAPER REVIEWS

1. **B. Bharathi** reviewed the following papers for 6th International Conference on Electrical Energy Systems - 2020 (ICEES 2020), to be held at Department of EEE, SSN College of Engineering during February 20-22, 2020

   (1) Binary and Multiclass Classifications Performance Analytics in Scikit Based Python Framework

   (2) A Systematic review on speech feature extraction techniques and classification techniques.

2. **Dr. D. Thenmozhi** reviewed the following papers for 6th International Conference on Electrical Energy Systems - 2020 (ICEES 2020), to be held at Department of EEE, SSN College of Engineering during February 20-22, 2020.

   1. Early Detection of Diabetes from Daily Routine Activities: Predictive Modeling Based on Machine Learning Techniques

   2. Prediction of Cardio Vascular Disease from Retinal Fundus Images Using Neural Networks

3. **Ms. A. Beulah** reviewed the follwoing paper titled:

   a. "Lumbar Disk 3D Modeling from Limited Number of MRI Axial Slices" for International Journal of Electrical and Computer Engineering (IJECE).

   b. Malware detection using GIST features and Deep Neural Network for ICCIDS-2020

   c. Automatic annotation of instructional videos for ICCIDS-2020

4. **Dr. P.Mirunalini** reviewed the following papers titled

   1. "Robust Dermoscopic Image Classification System Using Deep Learning" for African Health Sciences Journal.

   2. "Novel Segementation Techniques for early Cancer Detection in Red Blood Cells with Deep Learning based Classifier- A Comparative Approach" for IET Image Processing.

3. "Deep Motion-Appearance Convolutions for Robust Visual Tracking" for IEEE Access.

4. "Design of Moving Object Detection Algorithm Based on Computer Vision" for IEEE Access.

5. **Mr. V. Balasubramanian** reviewed the following papers:

1. Hybrid lightweight Signcryption scheme for IoT for Open Computer Science Journal

2. A Personal Big Data Pricing Method Based on Differential Privacy for Computers & Security Journal

6. **B.Senthil Kumar** reviewed the following papers for ICCIDS-2020:

a. A Question Answering Model for Siddha Medicine System using Word2Vec Modeling

b. Online Product Recommendation System Using Multi scenario Demographic Hybrid

c. A Thesaurus based Semantic Relation Extraction for Agricultural Corpora

7. **Dr. B. Prabavathy** reviewed the following papers for ICCDIS - 2020

1. Enhanced IaaS utilization through Storage Management ptimization (SMO)

2. Security Problem Issues and Challenges of Edge-Cloud- Fog Computing

She also reviewed the paper titled "An evaluation of big data analytics projects and the project predictive analytics approach" for oriental journal of computing.

She also reviewed the following paper for IEEE Access journal

1. Adaptive Training algorithm in Machine Learning for the Stock Market predictions

8. **Mr. V. Balasubramanian** reviewed the following papers for ICCIDS 2020:

1. Implementation of Blockchain-Based Blood Donation Framework

2. Bitcoin trust and anonymity

9. **Dr.A.Chamundeswari**, **Dr. R. Kanchana**, **Dr. S. Kavitha**, **Ms.S.Lakshmi Priya**, **Mr. K. R. Sarath Chandran**, **Ms.S.Rajalakshmi**, **Mr.N. Sujaudeen, Dr.S.V.Jansi Rani** reviewed papers for ICCIDS 2020.

10. **Mr. K. R. Sarath Chandran** reviewed one paper for WiSPNET? 2020 (ECE).

EXTERNAL INTERACTION

Mr. Shashank Sai, SP, Cyber Crime Division, Chennai had visited along with Ms. D. Shanmugapriya, SP-II and Mr. Saroj Thakur, IPS. to discuss with the department head regarding the 6-day training program for their newly recruited 180 SubInspectors on 5 December 2019.

FACULTY PUBLICATIONS / PAPER PRESENTATIONS

1. **Angel Deborah S., Rajalakshmi S., Milton Rajendram S., Mirnalinee T.T.** published a paper titled "Contextual Emotion Detection in Text Using Ensemble Learning". In: Hemanth D., Kumar V., Malathi S., Castillo O., Patrut B. (eds) Emerging Trends in Computing and Expert Technology. COMET 2019. Lecture Notes on Data Engineering and Communications Technologies, vol 35.pp.1179-1186. Springer, Cham. https://doi.org/10.1007/978-3-030-32150-5_121

2. **Dr. Chitra Babu and Dr. Prabavathy** along with the students Himanshu Singhal, Harish Ravi and Sathiya Narayanan have published a paper titled "EPMS: A framework for large scale patient matching" in 31st International conference on Tools with Artificial Intelligence held at Portland, OR, USA, during 6-9 November 2019. Paper will be published in IEEE Xplore.

3. **Beulah A., Sree Sharmila T., Kanmani T.** published a paper titled "Spinal Cord Segmentation in Lumbar MR Images". In: Hemanth D., Kumar V., Malathi S., Castillo O., Patrut B. (eds) Emerging Trends in Computing and Expert Technology. COMET 2019. Lecture Notes on Data Engineering and Communications Technologies, vol 35, pp: 1226-1236, Springer, Cham. DOI: https://doi.org/10.1007/978-3-030-32150-5_124

4. **Ms. M. Monisha scholar of Dr. V.S. Felix Enigo** has presented a paper titled "An Automated Character Recognition to preserve Epigraphs" in 52nd Annual Conference of the Indian Archaeological Society (IAS), organized by Department of Archaeology, University of Kerala, Thiruvananthapuram, Kerala, 07-10 November, 2019.

5. **Sheerin Sitara N and Kavitha Srinivasan**, published a paper titled as "Comparative Analysis of Deep Neural Networks for Crack Image Classification", In: Hemanth D., Shakya S., Baig Z. (eds) Intelligent Data Communication Technologies and Internet of Things. ICICI 2019. Lecture Notes on Data Engineering and Communications Technologies, vol 38. Springer.

6. **Dr. D. Thenmozhi and S. Kayalvizhi** published a chapter titled "Deep Learning Approach for Extracting Catch Phrases from Legal Documents", in a book titled "Neural Networks for Natural Language Processing" part of "A volume in the Advances in Computer and Electrical Engineering (ACEE) Book Series" published by IGI Global (ISSN: 2327-039X; eISSN: 2327-0403), pages 143-158, Dec 2019.

7. **S Kayalvizhi, D Thenmozhi, B Senthil Kumar, Chandrabose Aravindan**, SSN NLP@ IDATFIRE-2019: Irony Detection in Arabic Tweets using Deep Learning and Features-based Approaches, Proceedings of the IDAT@ FIRE2019. CEUR-WS, Vol.2517, pp.439-444. In Mehta P., Rosso P., Majumder P., Mitra M.(Eds.).

8. **S Kayalvizhi, D Thenmozhi, C Aravindan**, "Legal assistance using word embeddings", CEUR-WS, Vol. 2517, pp.36-39, FIRE-2019.

9. **Akshya Ranganathan, Haritha Ananthakrishnan, D Thenmozhi, C Aravindan**, "Classification of Insincere Questions using SGD Optimization and SVM Classifiers", CEUR-WS, Vol. 2517, pp.463-467, FIRE 2019.

10. **Haritha Ananthakrishnan, Akshaya Ranganathan, D Thenmozhi, C Aravindan,** "Arabic Author Profiling and Deception Detection using Traditional Learning Methodologies with Word Embedding", CEUR-WS, Vol. 2517, pp.100-104, FIRE 2019.

11. **Dr. S. V. Jansi Rani, Dr. R. Priyadharsini, R. Kavya** published a paper titled, "Advanced Driver Assistance System using Image Processing Techniques" in International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075, Volume-9 Issue-2, December 2019.

12. **Ms. S. Lakshmi Priya** participated and presented an abstract titled "Formal Modeling and Analysis of Big Data using Probabilistic Models for building Smart Cities" at Research Support Conclave organized by CIT-TLC, Coimbatore.

APPROVED INTERNALLY FUNDED FACULTY PROJECTS 2019-2020

S.No	PI / Co - PI	Title of the Project	Duration
1	Dr.S.Saraswathi, Dr.K.Madheswari, Dr.K.K.Nagarajan, Dr.Y.V.Lokeswari	Building a Streaming Air Quality Monitoring System and Analyze Trend for Healthy Living	3 Years
2	Dr. S. V. Sivapriya, Civil Dr. R. Priyadharsini	Prediction of shallow type landslide influenced by rainfall using ANN	2 Years

PYTHON AND WISDOM EDUCATION WORKSHOP

The Python and Wisdom Education Workshop was conducted every Saturday for 3 hours from September 2019 to November 2019. A total of eight sessions were conducted exclusively for first year students. The workshop was organised under the guidance of Dr. A. Chamundeswari and Dr. J.Suresh. The speakers for the workshop were Sreenivas Gupta, BTech CSE IITM, Software Developer, Chronus Software India Pvt. Ltd. Chennai and Giridhar S, BTech CSE IITM, Software Developer, Quantitative Brokers, Chennai.

The participants of the workshop were selected by means of aptitude tests hosted by the speakers themselves and students who fared well in the qualifying tests were eligible for the workshop. The qualifying tests comprised of mostly general aptitude questions from different domains and logical riddles. The invitation for the workshop was well received by the freshers with over 90 students taking the qualifying test, out of which 50 students were shortlisted for the workshop. In each of the 3-hour session students were taught how to program in python from scratch and also covered topics beyond their University syllabus. In addition to this, they were also taught wisdom education. Programming exercises were also given at the end of each session to boost their programming skills. After a few initial sessions, the students were asked to take up mini-projects based on their area of interest using Python with the speakers mentoring them. The projects were done by the students in pairs while some did alone. The projects were developed within a span of one and a half month and almost all the projects came out well. Certificates were issued to people who came out with good results during the course of the workshop.

Krijeshan G, III year CSE B

DIGITAL DISRUPTION & HANDS ON SESSION IN A TECHNOLOGY

The Faculty Development Program on the topic "Digital Disruption & Hands on session in a Technology" was conducted on 22nd November, 2019. This workshop was conducted by Mr. Anand, HR, POC at ASV Suntech Park, Thoraipakkam, Chennai.

The program provided a process about how to make the students to speed up with current industry trends and the latest in technology. Mr. Anand discussed his experience on latest technologies about the products in CTS. The following trends were discussed by him. Magic Mirror creates an innovative store experience where the customers virtually try-on tons of outfits in less than a minute and catch a glimpse on how these clothing fit. This makes any brand more attractive and results in customer retention which ultimately increases sales. A Mobile App can place a virtual furniture item or accessory in a room and get an idea of how well it will fit or look in the space before buying. A Refrigerator can scan the items in it using IoT and recommend the items which are not in stock based on the technology of Analytics. Eg. milk. All the above applications were done based on technologies such as Agile automation, Cloud, Legacy modernization, Analytics, IoT, Microservice and Full Stack Development. In Full stack development, the students should know both the front end and back end, and they need to be fully talented rather than knowing either of them. Digital Disruption tells how the emergence of new digital products/services/businesses disrupts the current market and causes the need for re-evaluation.

It is necessary for us/students to understand how technology is transforming industries and how leaders and organizations can respond. To cope up with the technology, students need to have the talents as soft skills of communication, articulation collaboration, team work, presentation and public speaking, and technical skills of various fields such as Agile, Microservice, Artificial Intelligence, Machine learning, Data Science and Voice Commerce.

In the Hands-on Session, the participants were divided into 3 major groups where each group was in turn divided into seven with three Activities related to the Banking domain process. Based on the requirement specified in the document, each group has to develop the application with the scratch code. Then, a person from each group had to analyze the code of another group and give the review about what they have done. This was done for reading

and understanding the code done by others. Activity 2 discussed the reusability of the code when there was a change in requirement by clients. Activity 3 discussed the above scenario in developing it as a web service.

Dr. S. Saraswathi
Dr. K. Lekshmi
Asso. Prof. / CSE

CODE RELAY RACE

In collaboration with 'Hour of Code' conducted by CODE.org, ACM and ACM-W student chapters of SSNCE jointly hosted the Code Relay Race on 13th December, 2019.

The event that was conducted next to the Open Air Theatre, saw 13 teams from various departments like CSE, ECE and IT. With 5 members in a team and every member at a different location, the team member was given a code to solve, following which they were given the clue to their teammates location. Top 4 teams were awarded with ACM Goodies at the end.

Nandhinee P R
Final Yr CSE

FDP ON DATA SCIENCE

I participated in AICTE ATAL academy - FDP on Data science program at National power training institute, Neyveli during 18-11-2019 to 22-11-2019. This was a five day program in which many faculty members, research scholars, post graduate students, Doctor, and industry people attended with enthusiasm to learn the concepts in Data Science in a short duration. Mr.S.Senthil kumar, Asst. Directior, NPTI organized this program in association with Dr.S.Selvam, Director/HOI, NPTR(SR), Mr.R.Vikram, Director/HR, NLCIL, and Prof.(Dr.) Rajendra Kumar Pandey, DG/NPTI.

The various topics covered in this program are machine learning, supervised learning, unsupervised learning, rapid miner tool , neural network, cloud analytics, text analytics, big data, industrial analytics, data analytics using R, classification, deep learning, data acquisition and processing application for energy management system, exploratory data analytics using anaconda and in python, etc. The various speakers of this program, Dr.M.Venkatesan, Asst. Professor, CSE, NIT, Surathkal, Dr.R.Mohan, Asst Professor, CSE, NIT, Trichy, Dr.Sidhu D.Sudarsan, Group Manager, ABB Corporate Research ABB Bengaluru, Mrs. K R Chandrika, ABB, Bengaluru, Mr. Senthil Kumar, Computer, TPS-I expansion, NLCIL, Dr.M.Sakthi Ganesh, Principal Data Scientist, Krizens Technology, Chennai, and Dr.V.Vijayakumar, lead Data Scientist, briteyellow Ltd, Cranfield Technology Park, UK.

Got an opportunity to interact with many participants and to learn as a team. Also got a good experience during the stay in NLC, and visit to a unit in NLC.

Dr. A. Chamundeswari
Prof. / CSE

WORKSHOP ON CYBER SECURITY

On September 14th, students of CSE-B organized a workshop on cyber security, under the banner of CSI student chapter. Topics covered include Cryptography, Reverse Engineering, Binary Exploitation and Web Exploitation. The speakers are C.V.Jyothishmathi, Nimish & Nitin A.B, Kanishq & Pratheep and Mohanasundar.

The session started with Cryptography. Students were introduced to all major Ciphers. These include Caesar Cipher, ROT13, Viginere Ciphers, RSA and AES. Hands on demonstration on how to build and crack them were presented. Students were excited to learn new techniques to secure data. At the end of the session, many students asked doubts on how to tackle the flaws present in the ciphers.

Next session was conducted by Nimish. He interacted with the students to introduce them to the concepts of CTFs(Capture The Flag). He enlightened them on the importance of cyber security with the explosion of technology. The need to learn techniques to locate and handle vulnerabilities were stressed. Then, forums to participate in CTFs and their importance were discussed.

After a small recess, students came back with full energy to attend the next session, Reverse Engineering. Nitin and Nimish introduced students to basic assembly language and solved real-life crackmes to illustrate concepts such as ROP chaining. Many found it hard to keep up with assembly language but the speakers put in a lot of effort to clear everyone's doubts. Others even asked their doubts after the session ended.

The next session was Binary Exploitation. Speaker of this session was me and Pratheep. We faced a few set-backs. Our OS did not support the projector for some reason. We were forced to show on a new laptop. We wrote our own code and demonstrated concepts like binary overflow, format vulnerabilities and stack overflows. A keen insight on stacks, heaps and registers were given. Students were astonished to find ordinary C code, which they write, to have vulnerabilities which can be exploited. They were particularly interested in buffer overflow vulnerability and asked a lot of questions on the same. Since Nimish and Nitin had shared their knowledge on assembly just before the session, we were able to comfortably help students see overflows with the help of assembly code using GDB.
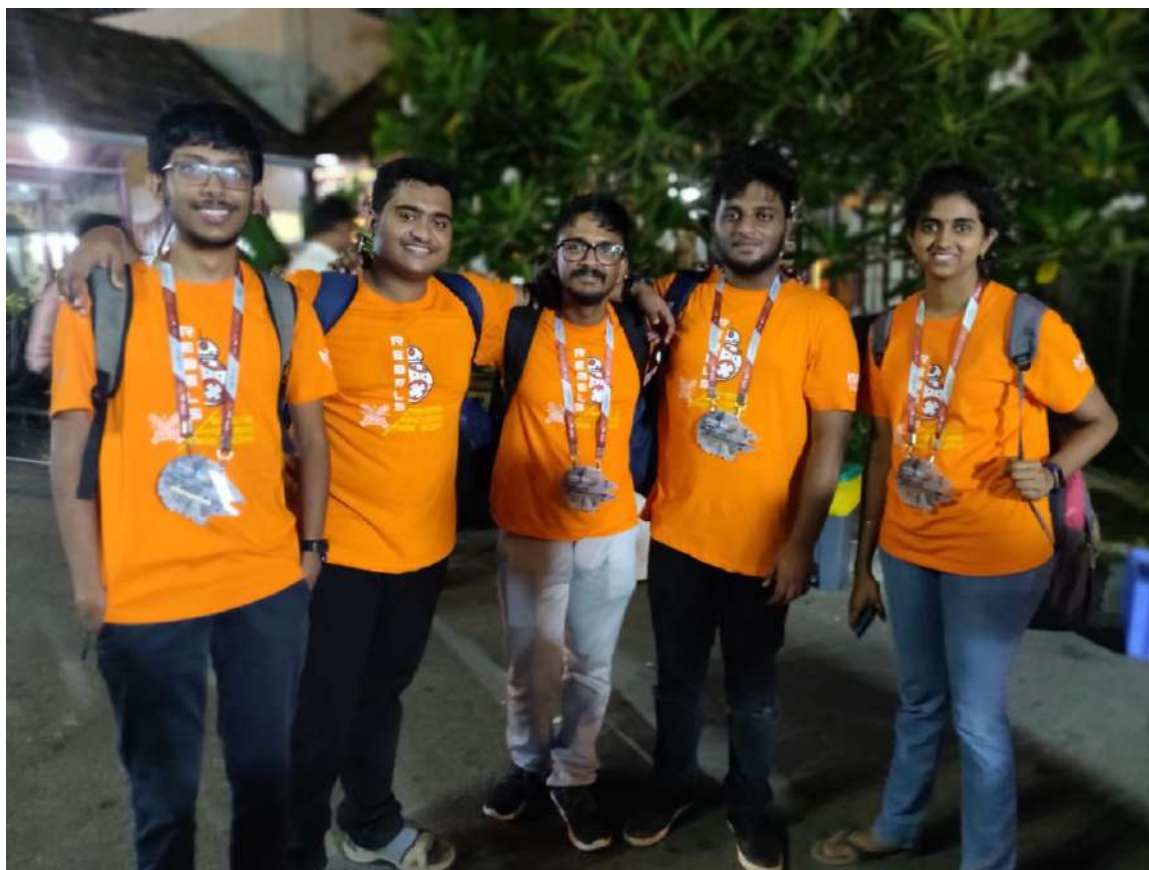
We broke for lunch around 1:00PM. The next session was Web Exploitation to be held at 2:00PM. When all assembled for the next session, we faced yet another problem, Mohan's laptop also did not support the projector. So he sat with the students, who were ready to support us during such a crisis. He was able to easily address all the students in the new setup. Concepts such as Slow-Morris attack, CSRF, Sql Injection and lot more were covered. Sample sites were attacked to showcase their vulnerabilities. Techniques to patch these exploits were also shown live. At the end of the session, students had a new perspective on how to securely create websites.

The workshop came to an end with the final thanking speech by me. I encouraged students to take up cyber security as a challenge and start tackling CTFs to hone their skills on the field. Also thanked all the volunteers who played a crucial role in smoothly running the event. Many sites for resources and courses were provided. In the end, our honourable HOD graced the event with her presence, thus bringing the event to an end.

Kanishq, III year CSE B

TCS HUMAIN

TCS HumAIn is the first ever TCS hosted contest to identify the best AI talent across Indian Colleges. It was organized by the Enterprise Intelligent Automation & AI Unit of TCS. This initiative was to encourage students, emphasize the importance of AI and to give them a hands-on corporate experience. As per their claim, this event gained enormous response and 30,000 students were registered. After various levels of assessments, 150 students were selected for interview and 5 among them made it to the finals. The finalists were invited to showcase their best AI inventions to industry experts on the Grand Finale that was happened on November 8th, 2019 at their Siruseri campus and presented with job offers and cash awards worth 6 lakh. Dr. Mylswamy Annadurai was the chief guest of the day. Mr. P. R. Krishnan, Executive Vice President, Tata Consultancy Services and his team evaluated the students in the final. The team from Aurangabad bagged the first prize along with TCS Digital offer. The professors from various engineering colleges were also invited for the event and their votes also were considered for selecting the finalist.

Mr. Sarath Chandran K. R.
AP/ CSE

INTENATIONAL CONFERENCE ON
DIGITAL LANDSCAPE - ICDL 2019

I participated in the International Conference on Digital Landscape – ICDL 2019 Sixth edition during 6-8, Nov 2019. The conference was organized by The Energy and Resource Institute (TERI) at India Habitat Center, New Delhi.

The theme for the event was Digital Transformation for an Agile Environment and the focus was on the evolving digital landscape, the need to appropriately harness digital technologies for putting them to effective use. The tracks were Digital knowledge & Library research and Digital transformation for Sustainable Development Goals (SDG) that explores the role of digital technologies in achieving SDGs, particularly pertaining to agriculture, water and smart industry management.

The conference hosted a vibrant mix of expert talks, panel discussions, oral and poster presentations and exhibitions by leading institutions. It had 12 keynotes, 17 thematic sessions, 65 invited talks, 85 paper presentations and 15 poster presentations. Digital Engagement Platform (DEP) that engages and connects all stakeholders even after the conference was a highlight of the conference. It included a series of webinars and video conferences – Virtual conference on open access, Webinar on digital India covering the transformational impact, digitization of water, cyber security etc., Storytelling session on waste bin systems, digitization of manuscripts etc.

It was a well-organized conference of exemplary standard with participation of foreign delegates in a large number and 90% of the halls were full for all the talks which I participated. It was completely plastic free.

Dr. R. Kanchana
Asso. Prof/CSE
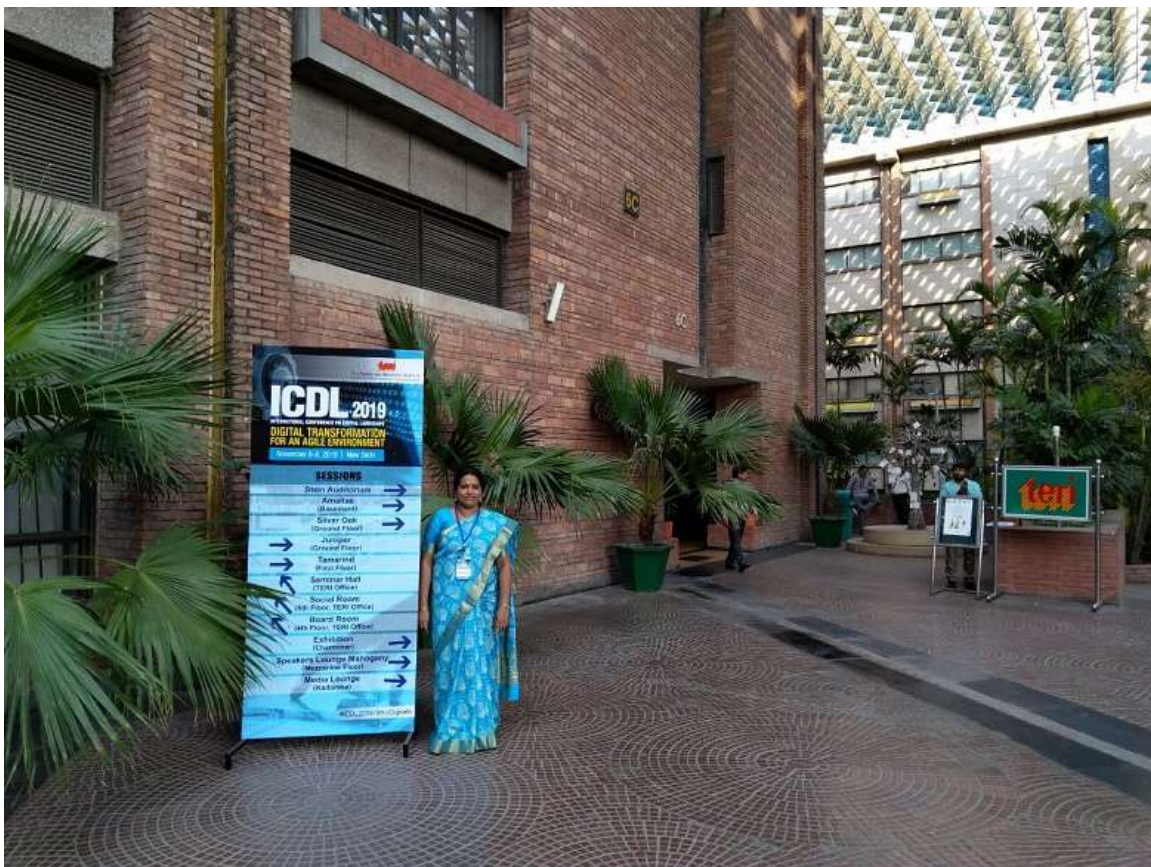
GRACE HOPPER CELEBRATION INDIA (GHCI)

The 10th edition of Grace Hopper Celebration India was organized by Anita Borg at Bangalore International Exhibition Centre during 6-8 November 2019. This was co-presented by ACM India. 33 student scholarships and 7 faculty/industry scholarships were sponsored by ACM India. Students from various ACM and ACM-W chapters applied for this scholarship and the deserving students were selected based on how active the chapters were in the past year in terms of organizing and participating in various ACM related activities.ACM-W India president Dr. Heena Timani along with 3 council members, Dr. Chitra Babu, Dr. Maushumi Barooah and Ms, Gunjan Lal attended the event. They interacted with the student members from various colleges, discussed the activities that have been happening in their respective colleges and also created awareness regarding various other opportunities that they could make use of.

In GHCI, a studentscholar session was organized on 8th November by ACM-W specifically to cater to the needs of students. This was a panel discussion on "Looking into the Future: Preparing for the jobs of Tomorrow". This panel was moderated by one of the ACM-W India council members, Dr.Chitra Babu. The panelists were Dr. Meenakshi D'Souza, Associate Professor from IIIT Bangaore, Dr. Medha Atre from Persistent Systems Lts and Dr. Sukanyya Misra, Senior Vice President, Mastercard. This panel discussed how the students can acquire

ACM-W council members with the students

L-R : Chitra Babu, Sukanyya Misra, Medha Atre, Meenakshi D'Souza

technical as well as non-technical skills and competencies that are essential for the future job roles that don't even exist today. There were interesting insights about how industry and academia should join hands in inculcating/nurturing these skills. It was well-received by the student community and there were lots of interactions with the panelists at the end of the session.

Dr. Chitra Babu

HoD / CSE

BLOCKCHAIN APPLICATION AND DEVELOPMENT USING HYPERLEDGER AND ETHEREUM

AICTE Training and Learning (ATAL) Academy, a five days National Workshop on "Blockchain Application and Development using Hyperledger and Ethereum", is organised in National Institute of Technology, Puducherry from 27.12.2019 to 31.12.2019.

Participants are from engineering and arts & science stream faculty members. There are three sessions per day, and afternoon sessions are hands-on. Sessions are handled by the expert persons from Anavadya Softech (P) Ltd, Bengaluru.

On the first day, a detailed introduction to basic concepts of blockchain was given in the forenoon session, and the afternoon session was on cryptocurrencies and bitcoin. The next day was started with a quick overview of blockchain concepts and the speaker introduced the Hyperledger Fabric and explained the permissioned blockchain tool. On both days, we worked on Hyperledger Fabric, these tasks are carried out, installed Hyperledger Fabric tool in VM, created an underlying network of peers, instantiated smart contract in all peers and executed it. Ethereum a public blockchain is introduced, and speaker elaborately explained the components available in the Ethereum, and we had some hands-on Ethereum. On the last day, a quick review of topics that were learnt during the 4 days was given and a test was conducted (a requirement for obtaining certificates from ATAL, MHRD). My scholar Ms Karthika V and I secured first marks and received a prize (a book on Blockchain)

In short, this five-day workshop, we got exposure about Blockchain and the tools – Hyperledger Fabric and Ethereum. Most of the sessions were hands-on and handled by the expert persons who are working in that area.

Dr. J. Suresh
Asso. Prof/CSE

REACHING THE MILESTONE

I successfully defended my thesis on "Cloud Data integrity checking using Network Coding and Signcryption techniques" under the supervision of Dr. T. Mala, Associate Professor, Department of Information Science and Technology, College of Engineering, Anna University. The public VivaVoce Examination was conducted on 03.01.2020 in Ada Lovelace Auditorium, Department of Information Science and Technology, in the presence of Dr. S. Nickolas, Professor, NIT, Trichy and Dr. T. Veena, Associate Professor, NIT Goa, as subject expert members.

My sincere thanks goes to my doctoral committee members Dr. K.M. Mehata, Senior Professor ,School of Computing Sciences, Hindustan University (Retd. Professor, Anna University) and Dr. C. Chellappan, Principal, GKM College of Engineering & Technology, Chennai. Retd. Professor & Dean of Anna University. I would also like to thank SSN management, HoD mam, my colleagues, friends and family members for their support in reaching the milestone.

Dr. V. Balasubramanian
AP / CSE

TRAINING PROGRAMME FOR SUB INSPECTORS OF POLICE, CYBER CRIME WING, TAMILNADU

Government of Tamilnadu has set up "Cyber Arangam" at IITM Research Park last year with a budget of 3.24 crore to help tackle cybercrime efficiently. The CEO of Cyber Arangam Mr. Shashank Sai approached the Department of Computer Science and Engineering to empower a set of new generation of Police personnel and impart them the essential fundamentals of cybercrime investigation. This Programme has been conceived as a six-day training programme for 180 Sub-Inspectors of Police, Cybercrime, organized in three batches. The sessions of the programme were carefully designed to cater to their needs with a right balance of theoretical and hands-on sessions.This training programme for the first batch has been successfully completed during Jan 20 to 25,2020. All the sessions were handled by our department faculty members.

The programme was inaugurated by Shri. P. Kandaswamy, IPS, Additional Director General of Police (ADGP), Administrations, and Shri. G. Venkatraman, IPS, Additional Director General of Police (ADGP), Cybercrime, Tamil Nadu Police.

It was a very fruitful and pleasant experience interacting with the police officers. Ms. D. Shanmuga Priya IPS, SP-II, Cyber Crime Wing and Mr. Shashank Sai, SP-I, Cyber Crime Wing and CEO, Cyber Arangam. We received very good feedback from these officers as well as the participants of the training session.

Dr. V. Balasubramanian,Dr. J. Bhuvana and Dr. S.V. Jansi Rani are the coordinators along with myself.

Dr. Chitra Babu
HoD / CSE

SSN DOCTORATE SCHOLARS DAY

SSN Docatorate Scholars Day was held on 22-23 January 2020. Research Scholars from various departments with more than 125 papers were presented as oral and poster. I did oral presention on "Development of better e-Governance in Land Registration department using Blockchain Technology". The talk included how the blockchain technology helps in bringing transparency and trust on government in e-Governance. I have taken the use case as Land Registration. The existing infrastructure paves the way for government officials to modify the land   information without the risk of identification. The application of blockchain technology in land registration process benefits with secure logging of activities done in it, thereby auditing becomes easy. My paper was selected as one of the 5 best oral presentations and I received a cash award of Rs.2000.

Karthika V
Research Scholar/CSE

TOOLS AND TECHNIQUES OF DATA SCIENCE

I have attended the 5 days ATAL FDP program on "Tools and Techniques of Data Science" from 09.12.19 to 13.12.19 at the Government college of Engineering, Attingal.

First session was about the introduction to python by Dr. Sunil.T.T, Professor, College of Engineering, Attingal. He explained about the steps in finding a solution to a problem, major issues with the data, data repositories, learning problems – classification and regression and about the learning cycle. The hands-on session on day1 was on NumPy and matplotlib by Mrs. Jisha Raj. All mathematical and statistical operations, functions, indexing, slicing using NumPy and different types of plots like Bar graph, Histogram, Pie plot, Scatter plot and 3-D scatter plots are visualized during the session.

Second day started with a lecture on "Introduction to linear Algebra" by Dr. Sreeni.k.G, Associate Professor, College of Engineering, Trivandrum. He gave a brief introduction on vector spaces, different hands-on calculations of vector operations, mathematical calculations on SVD (Singular Value Decomposition, PCA (Principal Component Analysis) and periodic functions. Hands-on session was on Pandas- data representation, statistics, data wrangling/munching, managing, accessing and changing data frames. Another session was on "Training Linear Models" by Dr. SunilT.T. This included a hands-on session on stochastic gradient descent, batch gradient descent, polynomial regression and linear regression.

First session of third day was on "Introduction to Neural Networks" by Dr. Rajesh.M, Associate Professor of Model Engineering college. He gave a brief detail on Artificial Neural Networks, Supervised and Unsupervised learning, Fully-connected and feed-forward networks. The hands-on session was on cross-validation techniques like precision, recall and accuracy, decision trees and Support Vector Machines(SVM).

Fourth day lecture session was on "Deep and Convolutional Networks" by Mrs.Jisha Raj. The brief introduction on MLP (Multi-Layer Perceptron) and its components, CNN (Convolutional Neural Network) and the practical example of how a filter is applied over an image, parameters calculation on a fully-connected network are discussed. Hands-on session was handled by Dr.Sunil.T.T on Classifiers, ensemble methods, different types of activation functions and Naïve-Bayes classifier.

Last day session was handled by Mrs. Jisha Raj, as a continuation of CNN and how different types of optimizers are used, Gradient descent and its types, reinforcement learning, 3D filters. Lab session was on Deep and Convolutional neural networks and validation techniques.

Dolly Jinu / Research Scholar

TRIP TO YELAGIRI

INFOSYS INTER COLLEGIATE HACKATHON

When I first received the announcement regarding the "Infosys Inter Collegiate Hackathon" being conducted on 8th Jan 2020, exclusively for 2nd year undergraduate students, I was really delighted to take part in it. Once I read though the problem statements, I lost hope completely. It included facial recognition with mood identifier, signature verification, multi-lingual chatbot, vehicle occupancy determination from video feed, etc.There were 7 problem statements and I assessed myself to be capable of solving only the easiest problem amongst them. As there were only 4 days for the hackathon, I couldn't learn to solve the complicated problems too. I didn't know what to do. I was on the verge of giving up when Prof.Sarath Chandran asked me if I was interested in taking part in the hackathon. I told him that I was hesitant to take part because of the complexity of the problem statements. He motivated me saying that the exposure which I gained out of it mattered. So, I tried to bring a team together. My friend, Sakthi Sairaj, consented immediately, but there was a little difficulty in adding two more people to our team because others were also hesitant as I was earlier. Thankfully, Kshitij Sharma and Raghav. R accepted and we registered for the hackathon.

Left to Right: Raghav. R, Kshitij Sharma, Sakthi Sairaj and B. Lakshmi Priya

We wanted to learn something new from participating in the hackathon. So, we didn't choose the easiest problem statement. We chose "Individuals safety in public" which was slightly complex as we had to assess if our destination was safe for travel by ascertaining the number of people in the destination amongst other requirements.

We planned together and split the tasks amongst us. We required Google API key for utilising Distance-matrix API, google maps API, geolocation API, etc. However, we were not able to generate one initially due to billing issues. Then, somehow Sakthi generated an API key, but unfortunately it didn't work. Our entire solution was based upon assessing the passenger's location based on google maps but we were not able to get this vital part of our solution to work even on the day before the hackathon.

On the day of the hackathon, our google account got suspended. We were completely clueless and devastated. Even the organizers were not able to provide us with an API key. Still, it was so soon to give up. So, we used python's inbuilt module to assess the passenger's location which was not as accurate asgoogle maps. During the first checkpoint, the master hacks turned up and questioned us. We used python and its inbuilt modules to solve our problem.

Still, we had to develop a user interface. We used python's GUI tkinter. There were a lot of issues while formulating the solution due to network traffic, etc but we still continued to try. Finally, we were able to count the lower bound of the number of people around a passenger in order to ascertain if the route was safe to travel and we were extremely delighted. This happiness didn't last as our method of counting the people around a passenger seemed less accurate to the master hacks. So, we had to refine the program, which was the challenging part.

When we looked at other teams, they had nearly completed and had a promising front end too. The team adjacent to us was building a multi-lingual chatbot! And another team who took the same problem statement as ours had developed a colourful web application. We were slightly intimidated. Still, we didn't give up. We kept on continuing and started working even harder. We had a lot of difficulty in integrating the different parts of our program into one whole.

The last check was at 7.30 pm and at 7.15 pm our model didn't work! We were heartbroken to see 12 hours of hard work go to waste before our eyes. Still, we didn't give up. Thankfully, after the network traffic slightly relaxed, our model worked and we recorded the solution.

We couldn't believe that we were selected as one of the top 6 teams to give final presentation before a panel comprising of 40 Infosys employees. Yet, we remained calm (to some extent!) and answered all their questions confidently. We waited for the results. Then, finally when they started announcing the results, our hearts started to throb. We were extremely happy in making to the top 3 amongst 35 teams with 130 participants in total and were content with this victory. Little did we know that there was something more waiting for us. When the first and second spot was to be announced, we still thought that we would come second, but to our surprise we won the first prize. We rejoiced!!!

 What was more important than winning the first prize was learning a few trivial things out of this experience. The complexity of the problem which everyone solved didn't matter, the immense usage of current technology (especially ML) didn't matter, the beautiful front end didn't matter! The things which mattered were creativity, innovation, teamwork and hard work. This might seem funny for a few like it did for us when we won. This was the secret of our success. What impressed the evaluating panel the most was our reluctance to give up (even if our project didn't work 15 minutes before final evaluation) when EVERYTHING went south, a TINY bit of creativity and innovation which we added to our model and above all OUR TEAMWORK!!!

B. Lakshmi Priya
II YEAR, CSE-B

TN POLICE HACKATHON 2019

TN Hackathon 2019 conducted on 23rd November 2019 was a Capture The Flag event. The police in partnership with IIT Madras has designed Cyber Arangam to function on the public-private partnership model. The objective is to develop a cyber resilient ecosystem to fight the growing cyber attacks by synergising academia, research groups, ethical hackers, IT industry, law enforcers and individuals.The event was conducted to shortlist and recruit volunteers for the same.

These events require users to have knowledge of dangerous security vulnerabilities and logical thinking to exploit a computer. Exploiting this vulnerability will expose a Flag(which acted like a secret that is usually tried to be kept hidden).One common example of such vulnerabilities is remote file inclusion where uploading malicious files on a vulnerable image upload interface by the target but instead of an image, participants are supposed to trick the server to upload and save a python or a php script which would create a backdoor for the intruder, which in return will give root shell access through which intruders can then shut the server down or modify databases or do anything necessary(in a real world scenario) but instead the participants have to capture the flag saved in a directory and submit it.

R-L:Jyothishmathi and Mohanasundar

There were totally 7 problems. They were from the categories of Forensics, Cryptography and Web Exploitation. It was from 9:00 am to 5:30pm. The most challenging part of the event was that participants the participants were not allowed to access the internet for any descriptions of types of vulnerabilities or tools for exploiting the vulnerabilities.This made sure the competition stays fair for all of the participants.

The problems required our knowledge about Advanced Python and bash scripting,AEC-128 bit encryptions, Vigenere Cipher Encryption, Base64 encoding in cryptography category, file headers and wireshark usage, steganography tools and methods in forensics category and sql injection and basics of brute-forcing for hidden data exposure in web exploitation. We had a slow start. We managed to solve 6 out of the given 7 problems by 4:00pm thereby securing first position on the leaderboard in the last minute. A total of 11 participants were given badges and they will become volunteers to protect the State from cyberattacks. The event was a very good experience for us to learn more about the different types of cyber attacks and motivated us towards building a safe and robust system.

Jyothishmathi C V and Mohana Sundar M
III Year CSE

RAMCO HACKATHON

Ramco hackathon conducted during 4-5 January 2020, was really different than every other hackathon that we've been to.The problem statements were given upon the arrival at the venue (Ramco Systems, Adyar) and we were expected to decipher the algorithm and solve it within a 24hr period.

These type of hackathons are really challenging and encouraging because it call all belts off plagiarism and sets a back log to people who build products prior and submit their regular winning products over and over again. So, we had 4 different problem statements given to us and we chose Smart Grid Systems for Retail outlets. We felt it was more of a real life problem and came to know that this was a problem statement given by McDonalds. We had to build a load balancing algorithm which will distribute load between retail outlets in real-time by making sure of multiple constraints like capacity,offline online order load, no., of delivery assistants, ETA, etc. It also had to reduce the avg cost to less than 50ps per product and we cracked the constraint by smart caching.We proposed the solution as API-as a-service (Node server) and built an Android and React client to validate the algorithm.We asked the judges to give their own test cases and verified it live! And guess what? We bagged the first place with a cash prize of 50K. We felt really happy about how it turned out and surprisingly we got featured in The Hindu !!.
https://www.thehindu.com/sci-tech/technology/thinking-in-java/article30494245.ece

Mohanasundar & Pooja sudhakar
III Year CSE-B

(Second from left) Sujin K, Mohanasundar M, Kandavel A and Pooja S

RAMCO HACKATHON

MLH 2020 SEASON - VIT VELLORE

We were completely out of ideas of what to build in MLH.We thought we'll figure things out on the run but unfortunately nothing came up.But when we reached VIT and the hall,we came to know that there is a category prize for the best cloud architecture in Microsoft Azure.We decided to implement Hopme's cloud base with a proper enterprise solution and with a new Feature of K'means clustering algorithm for data analysis.So we fixed the bugs we had in IFA which was a lot and as my internship was in cloud AWS, I knew the basis of different parts in azure. Nitin started to work on a new Feature REST API to help disaster teams serve people as fast as possible through the realtime-dashboard in cloud.

Flask Microservice :

Based on the latitude and longitude data that is being collected from the affected locations . K means clustering is done with the number of teams available for emergency. The locations are segregated and labelled for each team to serve with a nearest point of contact for the team based on centroid of the points.

The rescue process thus becomes easier, more effective and efficient making use of the data that is being generated, which is hard to interpret manually and assign proper strategy for rescue.All of this would be displayed gracefully realtime in a map.

Azure cloud architecture:

The goal was to establish a Real time dashboard where when one of the nodes come online which consists of images and text data,to post batch all images and text data to corresponding cloud storage and Databases and storing hooks of images as links in a database.At the same time the dashboard will be waiting for new updates in cosmos through a web socket if there is a new upload of an image or text,basically a stress call from somone we need to hit our flask rest API to show realtime clustering in the map for the rescue teams to reach all of the points registered efficiently

Having 0 experience in Azure and the goal was to win the best cloud architecture the next day hmm…. Great odds as usual....I started reading a lot of documentation,articles and youtube videos to finally conclude with one architecture which suited all of our needs
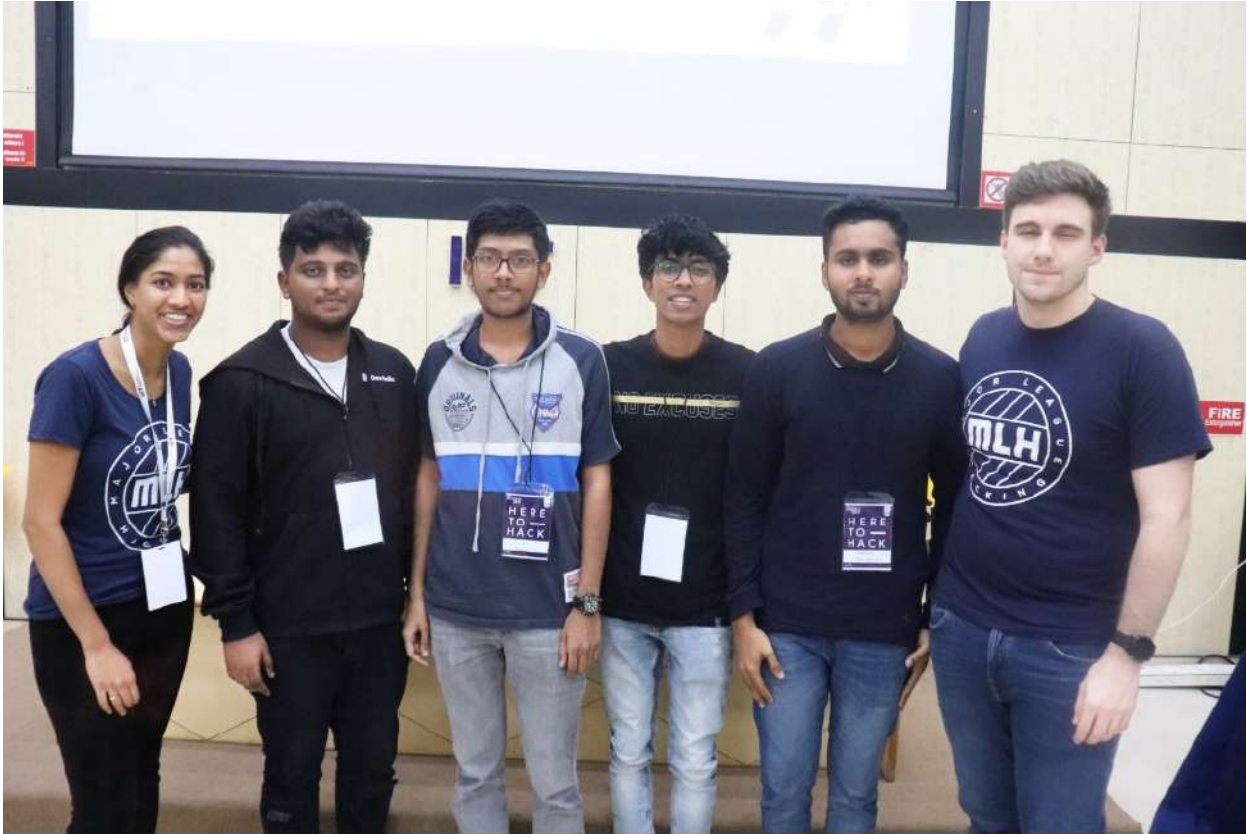
(Second from Left) Mohanasundar M, Nitin Nikamanth, Sujin K and Kandavel A

We had two different rest-API's one written by me in Nodejs and a Flask server both of em hosted in azure app service.The Nodejs rest API consists routes to push data to cosmos and azure blob storage. I wrote a cloud function in azure which once a new image or textual data updated in cosmos streams the data to azure's web socket service SignalR ,which has a direct pipe to the real time dashboard.Once these data is streamlined to the client,we hit the flask rest API to render central rescue points in the map.If a new client joins,the snapshot component bootstraps him up to the current progress.Done with 4 hours left!!!!

In our reviews,the juries liked our implementation details and we were able to answer almost every question raised in why each component was chosen!. We got shortlisted among the top 10 teams for the final stage demo,our demo worked really,and we bagged the best use of Microsoft azure award !!!

Mohanasundar
III Year CSE-B

IFA HACKATHON 2019

IFA — Chennai's Biggest hackathon was scheduled on 7th December 2019. In this hackathon, we developed a project "Hop me". Hop me was an android application which used peer to peer communication to hop messages (text and images) from device to device achieved through the recently released Nearby API by Google.
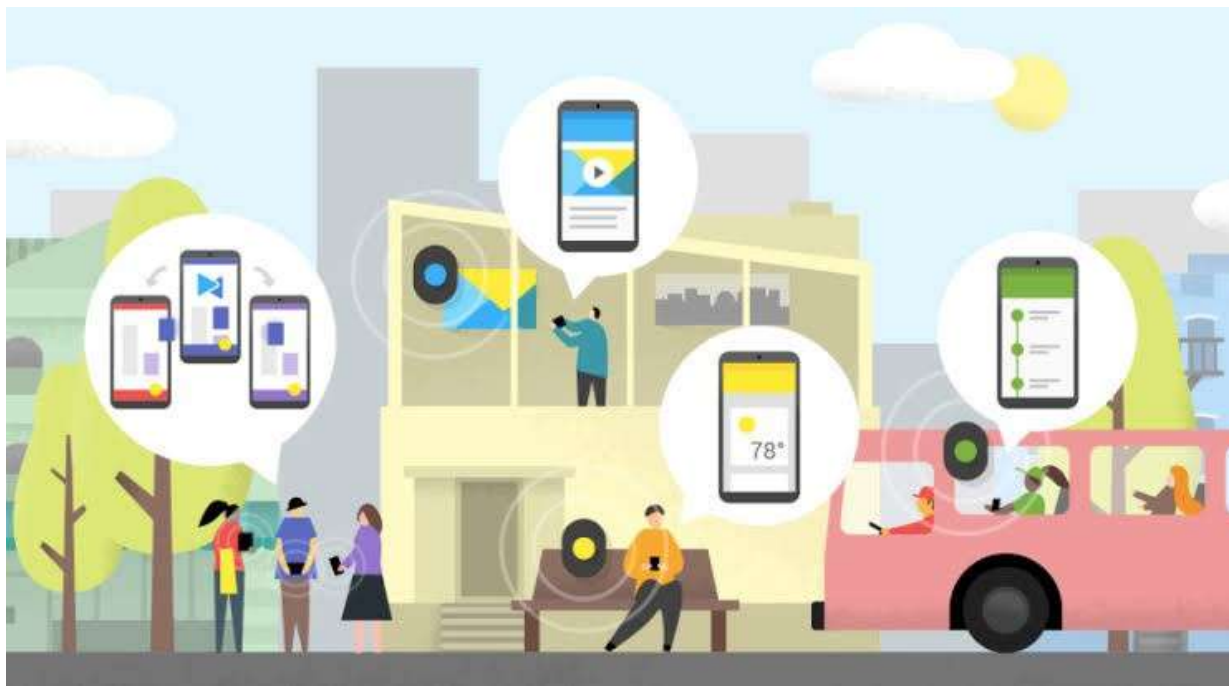
The goals we set for the app were, to be easily interfaceable with any hardware solution like LORA or ham radios, work out of the box by just installing the application and be able to send text and image data in different sequences but still has to be grouped by uniquely identifying the sender (More media & visual information allows disaster recovery to be even more efficient).The app context switches between bluetooth and wifi to transfer data efficiently, which is completely offline.But this is not simple,as Nearby api is pretty new and guess what ? No code samples for creating a mesh network and broadcast flush were available online which is what we needed ! You could hardly find 7 threads in Stackoverflow for that API.The API was pretty buggy so we knew we had to write a lot of hacky code to get what we wanted. The major problem that we faced during the building of the app was grouping of data at the receiver end to recognize the sender. This was pretty difficult as offline data was sent as binary blobs and no meta data was allowed,so we had to use byte stuffing by manipulating the image in binary level with a delimiter to punch the sender metadata in. So before displaying the image we would take the byte stuffed meta info out and render the image !

So even though the data might be received in different time intervals bouncing from different peers being multithreaded etc.The race condition is solved as we have the ability to identify the user it came from uniquely.The next part of the idea was as every device literally has everyone's data in their phone and if any one device becomes online we flood all the messages to the cloud to the necessary NGO's and Disaster recovery organizations.We didn't have enough time to get the cloud part right with proper architecture rather used non enterprise solutions like firebase and realtime websockets to accomplish that.

Winning hackathon projects usually require a proper business model in the pitch and we were sure this is gonna be free and open source which put us in a serious disadvantage competing with people who were pitching ideas with AR and smart education with it!.But surprisingly we got judges who were experts in the field,they liked the idea a lot cause it had zero setup and they know the pain of building such a mesh algorithm to do so.We bagged First runner up in the competition.We plan to open source the code among nearby google code samples in the future.

Mohanasundar
III Year CSE-B

(Second from Left) Sujin K, Mohanasundar M and Kandavel A

ASPIRE - NATIONAL LEVEL MANAGEMENT EVENT

aSPire is a national level management and case study event that was conducted by SPJIMR, Mumbai on 11.01.2020. Kandavel A and I (along with Abhijith KS from BME) were shortlisted for the case study presentation round, after clearing the quiz. Around 200 teams applied and we were selected along with 80 other teams across India to compete. We cleared this and moved on to the on campus round with 26 other teams, where we had to present our business pitch. We were later qualified as one among the 6 finalists and were asked to provide a business solution for a problem(Segregating Waste in India) in 20mins.The panel had alumni from SPJIMR working for MNCs and professors and dean of the same college. We bagged the first place and a cash prize worth 25K.

Pooja S.
III yr CSE

SMART INDIA HACKATHON 2020 TEAM SELECTION

The college had to select the top 7 deserving teams to participate in the Software and Hardware edition of Smart India Hackathon 2020. The seven teams were selected after three round of evaluation. Dr.K.Madheswari of our department acted as the Assistant Nodal Officer for SIH 2020.

Our Head of the Department , Dr.Chitra Babu along with Dr.S.Radha and Dr.T.Nagarajan was the Overall Incharge for the evaluation process. Ms.M.Saritha and Ms.S.Manisha of our department were part of the Jury coordination team. During the first round, students of all years were open to form a team of 6 with one compulsory female candidate and submit their ideas for the SIH statements. An astounding number of 130 submissions were received. 35 faculty members acted as jury for initial screening of the ideas submitted by the teams.After double-blind reviews, 60 teams were selected to participate in the Internal Hackathon which is the second round of evaluation.

The selected 60 teams participated in the Internal Hackathon that was conducted in the college premises on 20th January 2020. Dr. K.Vallidevi and Dr.R.Priyadarshini of our department acted as Hall Incharges on the day of the event. It was a 12-hour hackathon with teams reviewed every 4 hours by a jury team. The jury comprised of college faculties as internal judges and alumni as external judges. Dr. C Aravindan, Dr. T T Mirnalinee, Dr. Kanchana Rajaram, Dr.S.Kavitha and Ms.S.Angel Deborah of our department were part of internal jury team. Mr. Arvind Muthuraman, our department alumni was part of the external jury team. At the end of the hackathon, a total of 17 teams were shortlisted to proceed to the next round out of which 10 were for software edition and 7 for hardware edition.

Mr. Arvind Muthuraman

Batch 2012-2016

Software Engineer at Coda Global

In round three, the teams were to explain their problem statement and their solution to it with the aid of PowerPoint presentations. They were also required to either show the demo or simulation of the working model. The committee consisting of Head of the Department and senior faculty members from five Engineering departments, College SPOC, SSN Centre Nodal Officer and Assistant Nodel Officer evaluated the presentation and the demo.

The evaluation was based on novelty in the solution to the problem, user interface, scale of impact, clarity in presentation and answers to questions posed by the committee. Based on the committee recommendations, 5 teams for Software Edition and 2 teams for Hardware Edition were identified.

The following teams from our department have been selected for further rounds in SIH 2020.

S.NO	Team Leader	Category
1	Yamini L, IV Year	Software
2	Pranav Raveendran, III year	Software
3	Pooja S, III year	Software
4	Harshana S, III year	Software
5	Rohinidevi S V, III year	Hardware

The department congratulates the five team of students who have been selected for final round in the Smart India Hackathon 2020. It is also worth mentioning that this is the first time a team lead by CSE student has been selected in the Hardware Edition. This team is a multidisciplinary team consisting of students from ECE and Mechanical department.

Dr.K.Madheswari, ASP/CSE
Ms.S.Angel Deborah, AP/CSE

WIN PRIZES
Rs. 1,00,000/-
FOR EACH PROBLEM STATEMENT

Smart India Hackathon is a non-stop product development competition.

ICTAI 2019

I along with two of my peers(Harish and Sathiya) worked on the project "EPMS: A framework for large-scale patient matching" in our final year under the guidance of our HOD Dr. Chitra Babu and Dr. Prabavathy ma'am. We had developed a framework for solving the problem of patient matching using various machine learning algorithms which is faster and more scalable than the existing solutions. Our work used Fasttext encoding and variational autoencoders to perform dimensionality reduction in order to obtain a compressed encoding of each patient record. Locality sensitive hashing was then performed on these embeddings to find similar patient records, finding levenshtein distances on which, we were able to perform patient matching.

We decided to make this research accessible to everyone by submitting a paper at the 31st International Conference on Tools with Artificial Intelligence, 2019 which was then accepted after peer review. The 3 day conference was held in Portland, USA from Nov 4 to 6 and as one of the authors of the paper, I went to present our work.

Attending the conference helped me grow my perspectives in the field of machine learning and artificial intelligence and understand other areas of research in the field. Being an undergraduate, it was nice to meet PHDs and doctoral candidates from top universities in countries such as Belgium, China, Brazil and USA and explore the various research undertaken by them in the field of machine learning. This experience was a great exposure for me personally as I got to interact with brilliant minds from all over the world and pick their brains. Along with the presentation, I was able to tour the city of Portland, a beautiful city for nature enthusiasts like me.

Himanshu Singhal
Alumnus,
Batch 2015-2019

THE OREGON OPPORTUNITY

The 20th of December witnessed a hoard of students flooding the Central Seminar hall. There was a thrum of expectant anticipation as the speaker of the day stood smartly by the dais, expertly surveying the crowd. He was Dr. Ramakrishnan Durairaj, Assistant Professor at the University of Oregon, renowned across the globe for his outstanding efforts in creating his vision-"a robust Internet". His inspiring journey is one dash from humble bachelors at Anna University to intensive research in Internet topology. His research work is now hailed as 'one of the 100 Greatest Innovations'

Dr. Ram came with more than just a technical talk. His session opened up a gold mine of all research and internship opportunities available at the University of Oregon. His presentation was crisp, outlining the qualities to be cultivated for eligibility. He offered the professors and their domains of specialization on a platter. Students were found furiously scribbling down the details- essential kick-starts for glorious careers.

The floor was left open for questions from the pupil. A plethora of queries was posted.

"What do you look for in a CV?"

"Will my CGPA bar my ambitions abroad?"

Dr. Ram's answers were clear and crisp. He required "ambition and purpose in a CV." "Provided that," said he, "CGPA would not matter so long it isn't below average". Fair enough to state that, he set a tall bar that urged students to possess a keen passion and prior project experience.

It was extremely encouraging when Professor Ram said he would not hesitate to find funds for a project with potential. The session ended with students handing over their CVs to the speaker. Dr. Ram had quaint chat with individuals where he patiently attended to more questions and doubts. An hour was up and students left the hall with more than just information. They left with ventures for the future.

Interaction with Faculty:

Prof. Ramakrishnan Durairajan from University of Oregon visited the Department of CSE on 20th Dec, 2019 to discuss potential collaborations with the faculty members and address the students regarding his research at Univ. of Oregon and research opportunities for the students.

On 20th, Dr. Chitra Babu, HoD, CSE presented the highlights of our departments, strength of our faculty, research work and projects carried out in the department and achievements of the students.

Prof. Ram congratulated our students for doing good work during their internships. Anirudh M who passed out in 2019 completed his internship during May-Jul 2018. His internship work resulted in the publication, Anirudh Muthukumar and Ramakrishnan Durairajan, "Denoising Internet Delay Measurements using Weak Supervision", In Proceedings of IEEE ICMLA'19, Florida, USA, December 2019. Shivani K and Yamini L of final year BE(CSE) completed their internships during May-Jul 2019.

Prof. Ram's research interests include debugging and testing in software-defined networks, mobile and wireless communication, Internet of things, visualization, cyber attacks and security issues, and datacenter transport protocols. He talked about his research works and a few of the faculty members who have been doing similar works, interacted with him and discussed about their works.

Dr. R. Kanchana
Asso. Prof. / CSE

INTERNSHIP - THIRD YEAR STUDENTS

S.NO	Name of the student	Organization
1	Sourav Ghosh	Earth Focus
2	Deepthi Prakash	Earth Focus
3	Ujjwel Balwal	Admatic Solutions
4	Vignesh Hariharan	USAM Technologies
5	Sree Hari R	USAM Technologies
6	Pratheep S	CapGemini Technology Services
7	Dakshinamoorthy K	Aujas Networks
8	Sadhana Smruthi S	CCP IoT Technologies
9	Madhumita K	Sysveda Information Technology
10	Sai Chitti Subrahmanyam V	Sysveda Information Technology
11	Shaheen Basha S	Sysveda Information Technology
12	Sharrik Krishna S L	Sysveda Information Technology
13	Sitharthan I	Sysveda Information Technology
14	Sudhamshu G D S	Sysveda Information Technology
15	Swetha B	Sysveda Information Technology
16	Vasantha Raman A	Sysveda Information Technology
17	Sri Krishna M	Sysveda Information Technology
18	Kandavel A	Mad Street Den
19	Mohana Sundar M	Mad Street Den
20	Nitin Nikamanth AB	Mad Street Den
21	Amogh Gupta	Exeter Premedia
22	Dinesh S	Exeter Premedia

23	Shankar Narayanan S	Exeter Premedia
24	Jayaraman N R	Exeter Premedia
25	Sujin K	Mango Healthcare Service Pvt
26	Sujeet Togo	IIT Madras
27	Rahul V	Verwin
28	Aparna K	HashHack Code

INTERNSHIP - FOURTH YEAR STUDENTS

S.NO	Name of the student	Organization
1	Sruthi Sree R M	Northern Arc Capital, Chennai
2	Vishal Raj N N	Northern Arc Capital, Chennai
3	Srinethe S	Northern Arc Capital, Chennai
4	Priyanka V	Northern Arc Capital, Chennai
5	Adithya Viswanathan	IIT Madras
6	Akash Kumar Pujari	IIT Madras
7	Abishek TS	IIT Madras
8	Anirudh Shenoy K	El Arte Del Futbol, Kolkata
9	Dharani S	Urjanet Energy Solution Pvt Ltd
10	Geetika B	Antworks
11	Dhivyaa K	Antworks
12	Vivek Y	Antworks
13	Rohit K R	Antworks

THE INTERN INSIDER: EXTER PREMEDIA SERVICES

-An account by Amogh Gupta, Dhinesh.S, Jayaraman. N. R, III year of CSE A and Shankar Narayanan of CSE C, IIIrd Year.

We got a chance to intern at Exeter Premedia Services, a company that manages a dedicated cloud platform 'Kriya' for publishing research papers. Their main challenge faced while uploading a document is standardization, in terms of the formatting. The goal was to automate this process with acceptable accuracy.

Conventional programming techniques did not address the crisis. Hence we were hired as interns specializing in Machine Learning techniques- more precisely NLP. As a team of four, we landed this internship via the hackathon YAH 2019 (Yet Another Hackathon) where we built a Chatbot for emotion sensing through dialogue. One of the judges, their CTO of Exeter Premedia Services offered an internship citing our NLP skills.

We started the internship on 2nd Dec 2019. The entire first week was spent digging deeper into the techniques of NLP (text data engineering, predictive models etc) in order to establish a strong base. Post the learning session, we were qualified for formal projects. Working on document classification, we were making progress creating that model and presenting a demonstration of our model on different data sets thereby posing the inferences obtained.

Dr. Ravi, CEO and Dr. Durai, Chief Advisor sat down for a conference with the intern team. Post meticulous deliberation, we decided to adopt and execute Keyword Extraction and Summarization for their documents. The main aim of these tasks were to automate the process of filling the keyword and the abstract field for each of the documents so as to relieve the author of the burden.

Our initial approaches- basic (i.e) using basic RNN models and TF-IDF scores did not succeed. Technical Consultant Mr. Aashish advised using a pre-trained Sequence to Sequence model, in this case, BERT. The results were encouraging.

Currently, we are working to improve the developed model for a formal demonstration that is to follow.

INTERNSHIP @ MAD STREET DEN

Mad Street Den(MSD) is a Computer Vision and Artificial Intelligence Company building the AI architecture of the future. Founded by a Neuroscientist - Designer duo, the company's mission is to build models of generalizable intelligence on scale, that can be deployed through meaningful applications across industries to billions of people across the globe.

On the day of arrival I was tasked with a fixing a broken webpage and was expected to finish it within a day. I was assigned tasks that were notified to me through slack on regular basis. I was part of client on board meetings where my suggested features were taken into consideration. I was also in charge of fixing bugs that arose at any moment. A few important tasks that I worked on were

-- Feedback page curation tool, Vue tag, another service provided by MSD.
-- Inline Carousel which failed in older versions of iphone.
-- Republished the extension of Vue Commerce following the business rules of Shopify Inc
-- Added endpoints for Vue Commerce server for customised filtering of products.

and several other tasks that were challenging. On daily basis I had to report my work and it was reviewed by my mentor.

At MSD, I was able to learn various enterprise solutions in the field of Software Development. I was part of client onboarding meetings where my suggestions where considered irrespective of my position. I had the freedom to fabricate my own solutions which were overviewed by professionals in the field.

Kandavel A
III year CSE

I worked on building a well organized pipeline for building a neural network based on the users requirements with nesting of multiple pre trained and custom models for transfer learning.

Various experiments were conducted with the dataset prepared to study the errors in them and how they predict with various models. The experiment was conducted with cifar10 data with manually induced random error in the data. The experiment was then transferred to their datasets.The experiments were conducted for different CNN networks for comparing the prediction output.

I worked with the major product VueTag out of 6 products that they make and contributed for building a pipeline for transfer learning with pretrained models nested with custom layers, bringing more flexibility to the system. Various experiments were also conducted to study the error distribution and its effect in the training process for different CNN models.

I got a lot of experience in Python and Torch for computer vision along with team skills and agile programming.

The internship was an extremely helpful experience that aided me both technically and non-technically. This was my second internship, and I learnt a lot of priceless things.I'm thankful for having attended this internship and am looking forward to continuing to learn new things and eventually become a good professional.

Nitin Nikamanth A B
III year CSE

WINNING MOMENTS

1. **Shraddhaa Mohan and Rohit Midha** of third year took part in a challenge hosted on AICrowd, called the Food Recognition Challenge. This was an Instance Segmentation challenge by Seerave foundation and they were placed **first** in Round 1. As a result we got a travel grant of **2500 Swiss Francs** to go to EPFL for the Applied ML days conference, to be held from Jan 25th - Jan 29th.
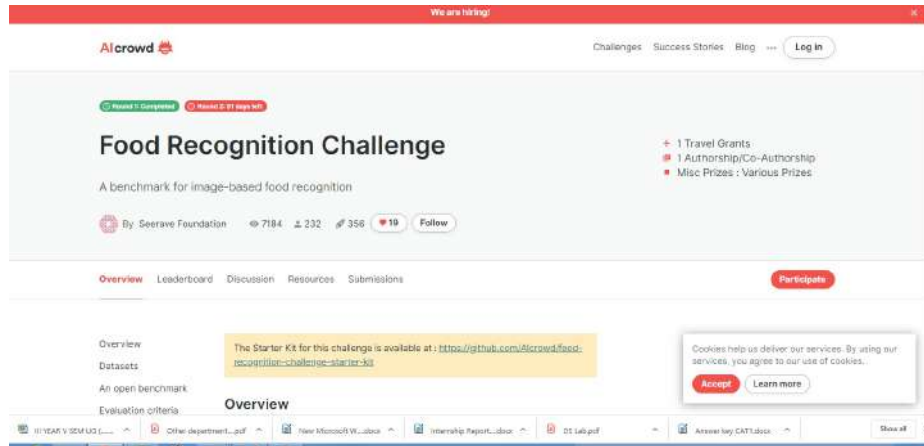
2. **Sainath Prasanna, Shraddhaa Mohan and Rohit Midha** of third year, also took part in another competition on AICrowd, Transfer Learning for International Crisis Response by deep.io and were placed **second** in this competition.

3. **Srinath V (IT - B), Shraddhaa Mohan and Rohit Midha** of third year CSE were placed first in the AstraZeneca AI Hackathon at Shaastra.

4. **Srinath V (IT - B), Shraddhaa Mohan and Rohit Midha** of third year CSE also took part in GAVS Jarvis, an anomaly detection challenge where we placed second.

Highlighted L-R: Shraddhaa Mohan and Rohit Midha

APPROVED INTERNALLY FUNDED STUDENT PROJECTS 2019 - 2020

S.No	Name and Year of the Students	Project Guide(s)	Title of the Project
1	Aanoosh Muhil Dev A. Thejasini III Year	Ms. S. Angel Deborah Ms. S. Rajalakshmi	IoT based pest recognition and control system
2	S.V. Rohini Devi K. Sanjana K. Sujin P. Yadhukrishnan III Year	Dr. R. S. Milton Ms. S. Angel Deborah Ms. S. Rajalakshmi	Psychiatric assistance system
3	K. Kaladharshini Christina Eunice John Ajay Bhat S. Avinash Raja Karthika Menon II Year	Dr. S. Saraswathi Dr. K. Madheswari Ms. Y.V. Lokeswari	Omilia - The sign language convertor
4	Kshitij Sharma J. Kiruthika R. Raghav II Year	Dr. D. Thenmozhi	B.A.R.F. (Blind Abled Reading Frame)
5	Talapala Sneha Ssneha Balasubramanian R. Vaishali J. Jay Vishaal III Year	Ms. A. Beulah Ms. S. Angel Deborah	Home security system for the hearing impaired
6	R. Sowmya CSE - II Year R. Sriram J. Sriram M. Vignesh ECE - II Year	Ms. S. Lakshmi Priya Mr. N. Sujaudeen Mr. K. R. Sarath Chandran	Advanced security system integrated with intelligent transportation systems
7	L. Saadhana S. Sadhana Smruthi Sanjay Pokkali Sudhish Sridhar III Year	Dr. R .S. Milton	Portable device with aural user interface
8	P. Aadhithyan V. Dhayanidhi Deepak Yadav, II Year	Dr. K. Madheswari Dr. S. Saraswathi Ms. Y. V. Lokeswari	IoT enabled water quality management and conservation smart water

APPROVED INTERNALLY FUNDED STUDENT PROJECTS 2019 - 2020

S.No	Name and Year of the Students	Project Guide(s)	Title of the Project
9	S.K. Srinithyee N. Venkataraman S. Vishakan II Year	Dr. R. Priyadharshini Ms. S. Manisha	IoT based air pollution monitoring and forecasting system
10	Ujjwel Balwal Shankar Narayanan III Year	Ms. S. Angel Deborah Ms. S. Rajalakshmi Ms. M. Saritha	CQube - A portable device to grade the quality of the crop grains
11	P. Aravind S. Nachammai Devi Pooja S. Prathyush V. Praveen Kumar III Year	Ms. S. Angel Deborah Mr. K.R. Sarath Chandran	Driver assistance system
12	P.B. Mohanram P.M. Mohammed Musaraf R. Karthikeyan Karthik Viswanath III Year	Mr. K.R. Sarath Chandran Ms. S. Angel Deborah	Smart waste management reporting and monitoring system
13	K. Akilan Anusha Chandrasekaran Arunesh Kumar S.B. JashwaanthA. Joshua II Year	Ms. S. Rajalakshmi Ms. S. Angel Deborah	Customized bus tracking system
14	A. Susmithaa Raam A. Likhitha Verma V.S. Aarthi III Year	Dr. K. Valli Devi CSE Dr. K.K. Nagarajan ECE	Monitoring of biological pollution index in community well water through mobile App

APPROVED INTERNALLY FUNDED STUDENT PROJECTS 2019 - 2020

S.No	Name and Year of the Students	Project Guide(s)	Title of the Project
15	S. Aswatha R. Deepika V.P. Dhaneesh M. Dharu Piraba II Year	Dr. S. Saraswathi Dr. K. Madheswari Ms. Y.V. Lokeswari	Smart air pollution monitoring system
16	S. Ganesh III Year M. Gayathri S. Harshini II Year	Ms. S.V. Jansi Rani	Wearable safety device for women
17	Shivani Seenivasan S. Sharon Julia II Year	Mr. K.R. Sarath Chandran Ms. S. Angel Deborah	Face recognition door
18	S. Ranjana M.S. Pranathy P. S. Reenu Rita M. Naveena III Year	Ms. S. Rajalakshmi Ms. S. Angel Deborah	Swachh Bharat Mission using smart dustbin
19	J. Janet Reshma S. Deepika M. Hareni Amritha Sennappa Sudharsan III Year	Dr. K. Lekshmi, CSE Dr. S. Vanitha Mathematics Dr. K. K. Nagarajan, ECE	Classification of hepatic cancer using stochastic modelling of nuclei in H&E stained images
20	G. Vanathi Sruthi Bijoy II Year	Dr. K. Valli Devi CSE Dr. D. Gnana Prakash Chemical	Identifying the quantity of dissolved oxygen content in effluent treatment reactor

A MUSING AFFAIR

A Musing Affair is a yearly celebration of creativity. Organized by the English Literary Club of our college, it is a month-long writing episode-one labour a week. With over 80 participants from all walks, the first edition witnessed tight competition. A few pieces by students from our department stood out stark against the rest and touched a chord.

THE BEHOLDER

In a land far, far away from ours
Free from the tunes binding lives,
At the end of a museum corridor,
Lay displayed a dimly lit canvas.

A voice floated through the darkness,
"You'll see whatever you find most beautiful,"
And I hurried forward, I couldn't wait ,
To see your face once again.

Hafiz wrote a poem on me,
"Ever since happiness heard your name,
It has been running through the streets
Trying to find you", and it looks like
I've finally found you.

Ah. I see you, love.
I see you, being a mother, painting the night sky,
Hoping that the stars are always there,
For your son; when you go away.

I see you, patience.
I see you, being a friend, waking up at 3 am,
To check if the roommate back from work,
Had something to eat before crashing.

I see you, mortals.
I see you, trying to live, one second at a time,
Waiting, working, making a difference.
Beautiful, my heart aches at it. Beautiful.

I see it all, the painting alive,
The texture changing as I ran my hands over it.
Smiling, I slowly realised,
The Hafiz poem had finally ended.

-Bhavya Jha, CSE A, II Year

COLOURS OF PERCEPTION

Lingering by the polished mahogany pedestal,
I watched the paintings sway to the rhythm of the old violinist's weary yet firm strums,
Da Vinci's Lisa, true to nature, cracked her moroseness into a pitiful grin,
her sorrows creasing dark wrinkles into her timeless expression of constant remorse.

Picasso's art, again true to hearsay, a work of puzzling intrigue, quite contrary to his
contemporary's lady, his was a craft that couldn't be penned, its sifting meaning and varying
contrast pulling one into depthless depths.

My eyes swayed too to the dreary music, much like the works of fiction, they too sought
meaning and purpose,
Until finally they rested on a painting like none,
one that was seemingly void of expression, hollow, dark and without resolve, close to the likes
of my begrudging existence.

Its musky aura appealed to me, tugging at me like looping vines,
till I found myself face to face with
what seemed like incessant darkness,
for what seemed like a boundless interval,
I stood staring at the treacherous infinity,
until finally my eyes caught a spectrum of shifting shades.

Colour burst into the leaden framework, like sun rays on an eclipse eve,
Tormenting black transfigured into a rainbow of lilting rays,
A picturesque vision of nature seeped in,
buds blossoming into florals and the rain gods showering merciful tears,
Laughter replaced sorrowful mourning, frowns curving into broader smiles,
happiness overtook the posterior image of despondent gloom and dejection.

Beauty was found in every nook, in the little things that one would overlook.

My eyes, still swaying to the tireless violinist's effortless motions,
met the desolate ones of Da Vinci's clever art,
It was only now that I glimpsed
the glimmer of content in her seemingly discontent guise.

Picasso's work, no longer depthless,
was understood with a new wave of recognition,
its profundity was not of incomprehensible abstractness,
but merely an expression of indefinite beauty.

It was then that the thought dawned,
that life was only a plain canvas,
One could paint it with warm shades of radiance
or sombre subdued hues.

The creator is only a presenter of ideas,
the artist is indeed you yourself.
You hold the brushes to the art of existence,
Paint it with the colours of perceptive beauty.

-Karthika Mennon, CSE B, II Year

ALUMNI CORNER- UPDATES FROM 2011-2015 BATCH

Natha Manoj Kumar , is currently working as Data Engineer at Facebook , San Francisco Bay Area.

Srinath Narayanan , is currently working as Software Engineer at Microsoft ,San Diego, California.

Sanjay Reddy Srinivasan, is currently working as Software Engineer at Intuit ,Stony Brook, New York.
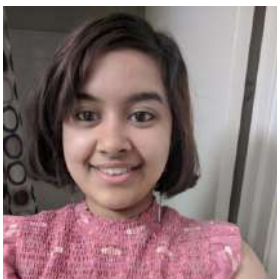
Sanjay Ramachandran , is currently working as Software Engineer at Google, San Francisco Bay Area.

Neela Niranjani, is currently working as Sr Associate Data Scientist at SAS,Greater Atlanta Area.

Senthamil Sindhu Balasubramanian, is currently working as Software Development Engineer at Amazon, Seattle, Washington.

Saagarikha Srinivasan, is currently working as Software Engineer at Amazon, San Francisco, California.

Vidyaabharathi Vasudevan, is currently working as Software Development Engineer at Amazon, Seattle, Washington.

Ramya Sriraman , is currently working as Software Developer at Apple , Sunnyvale, California.

Aishwarya Sreenivasan, is currently working as Software Engineer at Facebook ,San Jose, California .

Balachandar Sampath, is currently working as Software Engineer at Facebook, San Francisco Bay Area.

Aparna Anand , is currently working as Software Development Engineer at Yahoo! Inc, San Jose, California.

Venkatraghavan Sathyanarayanan (Batch 2011-2015), is currently working as Full Stack Developer at Altair,Madison Heights, Michigan.

Jennifer Jesuraj , is currently working as Software Engineer at BMW Technology Corporation, Chicago, Illinois

Akshaya S Bhat, is currently working as Software Engineer at LinkedIn, San Francisco Bay Area.

ALUMNA IN NDTV REPORT

Our department alumna, Sowmya S Sundaram of 2009-2013 batch was part of Queens University, IIT Madras research team that developed technology to make AI unbiased. Her work has been reported in NDTV. Soumya joined IIT Madras for direct Ph.D after her B. E. and has recently submitted her thesis. She is currently working as Applied Scientist at Amazon, Bangalore.
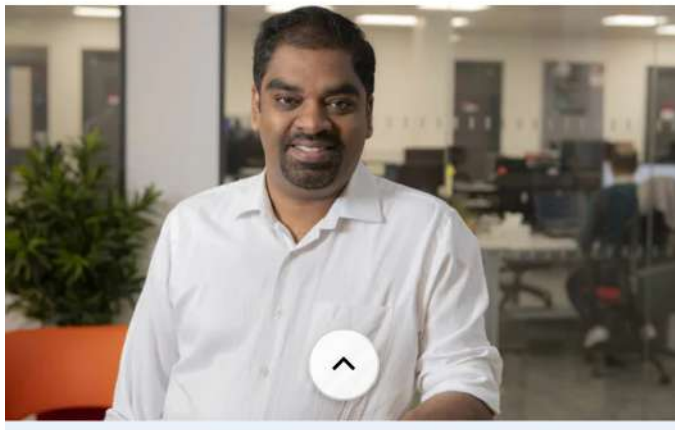
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STUDENT EDITORS

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