

# SMRITI

*Department of  
Computer Science and Engineering*

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The logo for SSN (Sri Sreenivasuluiah National Institute of Science and Technology) is displayed in a bold, blue, sans-serif font. The letters 'S', 'S', and 'N' are connected, with the second 'S' being larger and more prominent.

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## EDITORIAL DESK

Greetings to all SMRITI readers. After nearly 2.5 years online, we are finally back on campus. It gives us great pleasure to inform you that this quarter has been extremely productive, resulting in a number of noteworthy accomplishments.

We appreciate Dr. R. Kanchana for initiating a MoU with IIIT Una (HP). We also congratulate Ms. S. Angel Deborah, Dr. R.S. Milton, Dr. S. Rajalakshmi, and Ms. M. Saritha on the signing of MoUs with Georgetown University's Information Retrieval Lab in Washington, D.C. and the University of Texas at Dallas' Multimodal Signal Processing (MSP) Laboratory.

We commend Dr. D. Thenmozhi and her students Kshitij Sharma, Kiruthika J, and Raghav for filing a patent. We congratulate Dr. Suresh Jaganathan and Dr. D. Venkatavara Prasad in obtaining an AICTE externally funded project. The department congratulates Ms. S. Rajalakshmi for successfully defending her thesis.

We appreciate the efforts of the coveners in organizing Springer IFIP ICCIDS 2022 for the third consecutive time. Also, we deem the work of Machine Learning Research Group for conducting FDP on “Recent Advances in Deep Learning and its Applications” along with our department and the Department of IT. Our department has set up a Cybersecurity Club to foster research and industry-ready skills in cybersecurity among the student community.

Our students have tremendously contributed towards the growth of the department. It is happy to note that seven teams from our department have been selected to participate in further rounds of SIH '22. Several student teams enthusiastically participated and won remarkable positions in tasks conducted as part of the 60th Annual Meeting of the Association for Computational Linguistics (ACL 2022), Dublin. We express our heartfelt congratulations to the 15 students who were placed during this quarter.

We are delighted to see the new achievements of our faculty and students amidst adapting to offline classes and exams. We are excited about the upcoming quarter and look forward to it with great anticipation.

**SMRITI Editorial Team**

# RESEARCH INITIATIVE

## Introducing: SSN Cybersecurity Club

Cybersecurity is more relevant than ever in this rapidly pacing technology landscape. There is a pressing need for skilled individuals who can protect data, systems, and digital information in general. To foster interest and collaboratively develop research and industry-ready skills in Cybersecurity among SSN's student community, Jeevesh Krishna (IV-A), Karun Anantharaman (VI-A) and Chalini P (VI-A) have launched the *SSN Cybersecurity Club* in confederation with the CSE department. The club is mentored and guided by Dr. K. Vallidevi, Dr. S. Saraswathi and Dr. V. Balasubramanian.



The club aspires to widen students' awareness about the the importance of this field and career opportunities it has to offer; assist them in exploring research challenges in the domain and developing solutions; expose them to a variety of participation opportunities in programs such as bug bounties, where they can receive recognition and compensation for reporting potential security exploits and vulnerabilities in industry softwares; and encourage them to work towards earning certifications like *CCNA*, *CompTIA* and *EC-Council's Certified Ethical Hacker* to establish their credibility in the real-world.

The SSN Cybersecurity Club held its Inaugural event on the 17th of March, 2022 between 2 and 3.30pm. Following a brief explanation of the club's purpose and goals, the official logo was unveiled. The invited speaker, Ms. Panchi Subramanian — a budding entrepreneur specializing in the field of Banking Technology and IT Security — delivered a talk that revolved around the main themes of ensuring security at an individual and corporate level. Ms Subramanian's vast experience at the forefront of banking security enabled her to give key insights into the delicate balance between software development and security enhancement. The talk eventually morphed into a discussion peppered with questions from the audience, concerning encryption, real-life scenarios and even details on careers in cybersecurity. The event witnessed a



participation of over 80 students and concluded with the HOD, Dr. T. T. Mirnalinee, presenting a memento to Ms Subramanian. Since its inception, the club has conducted 2 events – an *Introductory Session on Cyber Security for Beginners*, and a *Walkthrough Demonstration of CTFs* – both of which witnessed great participation from students across the college.

## EXTERNAL INTERACTIONS AND RECOGNITIONS

### Board of Studies – Meetings

**Dr. T. T. Mirnalinee** attended a Board of Study Meeting at KSR College of Technology on 15/2/22. She also attended the Board of Study Meeting at Sri Manakula Vinayagar Engineering College on 28 /2/22.



**Dr. Chitra Babu** was invited to attend a special BoS meeting of the Faculty of Information and Communication Engineering for no-autonomous affiliated colleges of Anna university on 15th March 2022 regarding an introduction of a special elective in VI Semester namely "Professional Readiness for Innovation, Employability and Entrepreneurship" which will be a course that will adhere to project based learning. The motivation, syllabus, and the viability of this were discussed in the meeting.

## ACM India Annual Event - 2022

1. **Dr. V. Balasubramanian** attended an International Conference "ACM India ARCS Symposium and ACM India Annual Event", 9-12 February 2022.
2. **Dr. Chitra Babu** was part of the organizing committee for the ACM-W India National Workshop that was co-located with the ACM India Annual event on 9th Feb 2022. She attended the ACM India Annual event on 12th February 2022 organized by P.S. G. College of Technology in virtual mode.

### Academic Auditor

**Dr.J.Bhuvana** served as academic auditor. She audited the question papers and answer scripts of end semester examinations conducted by Sri Venkateswara College of Engineering (Autonomous) on March 2, 2022.

### Signed MoUs

**Dr. R. Kanchana** initiated an MoU between **SSN and IIIT Una (HP)** for research collaboration and the MoU was signed.



**Ms. S. Angel Deborah, Dr. R.S. Milton, Dr. S. Rajalakshmi and Ms. M. Saritha** has initiated MoUs with **Information Retrieval Lab of Georgetown University, Washington, D.C** and **Multimodal Signal Processing (MSP) Laboratory of the University of Texas, Dallas** to implement their internally funded faculty project titled "Fine-Grained Emotion Recognition System for Counselling".



**Ms. S. Angel  
Deborah**



**Dr. R.S. Milton**



**Dr. S. Rajalakshmi**



**Ms. M. Saritha**

### AICTE Mentor Orientation Training

**Dr.T.T. Mirnalinee and Dr. Chitra Babu** attended the AICTE Mentor Orientation Training program that was organized by NITTR Kolkata from 7th to 11th February 2022.

## Invited Lectures - Outside SSN

1. **Dr. S. Kavitha** has given a talk for the FDP titled “AI - The Road Map to the Future” during 7<sup>th</sup>& 8<sup>th</sup> March 2022 in “AI-Machine Learning” at Sathyabama Institute of Science and Technology, Chennai.
2. **Dr. S. V. Jansi Rani** had delivered a guest lecture about “An insight into Edge and Fog Computing” at Sri Sairam Institute of Technology, Chennai on February 14, 2022 in the FDP on “Research capabilities in Fog and Edge Computing” in virtual mode.
3. **Dr. Betina Antony J** delivered a lecture on "Natural Language Processing" in a 6-day FDP on 'Machine Learning and Deep Learning" at Easwari Engineering College on 22-02-2022.
4. **Dr. K. Madheswari** delivered a talk and Hands-on on one day national level faculty Development programme on "Application of innovative soft tools and techniques in research on 25.02.2022 at Vivekanandha College for Technology for Women.
5. **Dr. S. Kavitha** has given a talk for the FDP titled “AI - The Road Map to the Future” during 7<sup>th</sup>& 8<sup>th</sup> March 2022 in “AI-Machine Learning” at Sathyabama Institute of Science and Technology, Chennai.

## Teachers Recruitment Board

Teachers Recruitment Board conducted an online examination for recruitment of PG Teachers. In this connection, SSN CE was chosen as one of the examination centers. Examinations were conducted during February 12 - 20, 2022 in the laboratories of IT and CSE departments (4 labs from each dept.).

## Research Collaboration with SP Office, Chengalpattu

**Dr. T. T. Mirnalinee, Dr. Vallidevi and a team of students** visited SP office Chengalpattu for a collaborative project discussion with the Chengalpattu SP, Mr. P. Aravindhyan, IPS.. We demonstrated the progress of the work done in detecting the perpetrator from CCTV Footages.

To enhance the system further, real footage was shot by the police department staff instructed by Mr. P. Aravindhyan, IPS. This data was used by the students in their BE project. In addition, he also shared a few CCTV footage that were used for a dacoity case. This footage size was around 600 GB of data. This is for the next problem statement of identifying a clueless car which was involved in the dacoity case.



## AICTE - SPICES

**Dr. Chitra Babu along with Dr. V. Balasubramanian** has applied for funding under the AICTE SPICES scheme for the SSN Coding Club on 26th Feb 2022.

## AICTE Atal FDP

**Dr. J. Suresh being the Coordinator and Dr. K. Vallidevi being the Co-Coordinator** submitted a proposal for the AICTE Atal FDP for the topic on Cyber Security.

## Dr. Ponurangam Kumaraguru - IIIT Hyderabad

**Dr. Chitra Babu along with Dr. Felix Enigo** coordinated the visit of Dr. Ponurangam Kumaraguru from IIIT Hyderabad visited SSN on 20th April. He has been handling a value added course during this semester from 12th March on “Privacy and security in online social networks” (PSOSN) in online mode every Saturday. Students from EEE, ECE, CSE and IT have been attending this course. This was brought to SSN from the ACM's "Teaching Partnership program" initiative. Under this scheme, the resource person will be paid for his teaching from ACM India.



He conducted the first physical class in PSOSN in CSE Seminar. Followed by the Value added Class an interaction was arranged with the faculties of CSE, IT and the research scholars. Faculties who were working in the area of social media, cyber security, computational social science, privacy and NLP presented their ongoing work and interacted with him. Prof. Ponnurangam gave his suggestion and inputs to the faculties to enable their projects to end up in a successful funded project. Prof. Ponurangam described the ACM India's Ph.D Clinic initiative which creates an opportunity for the Ph.D scholars to interact with eminent academics from IITs, IISc, IIIT and from similar institutes regarding their research work and receive suggestions. After this interaction, the research scholars can also spend a few weeks with that professor and his/her research group to gain more experience.

**Dr. V. S. Felix Enigo**

# INDUSTRY COLLABORATION

## YesPanchi Tech Services Private Ltd.

**Dr. K. Vallidevi** initiated an industry collaboration discussion with **Ms. Panchi Subramanian** who is the Founder and Managing Director of YesPanchi Tech Services Private Limited, Chennai.

## LeanKloud Solutions Private Ltd.

**Dr. Chitra Babu** liaised with LeanKloud Solutions Private Ltd. for signing an MoU between SSN and LeanKloud that includes providing internships/job opportunities to students and also for pursuing faculty consultancy opportunities.

## Manatec Electronics Private Ltd.

**Mr. Jayachandran**(Deputy General manager R&D), **Mr. Moorthy** (Senior Deputy General Manager) along with **Ms. Fauzia KalaiChelvan** (Director of R&D) from Manatec Electronics Private Ltd. visited on 17th March 2022 and discussed with **Dr. Chitra Babu and Dr. T.T. Mirnalinee** regarding potential research collaboration.

## Khadi & Village Industries

We got an opportunity to attend the AICTE program related to KHADI, India held on 27 Jan 2022. It was an online event where the Chairman KVIC addressed the gathering online and spoke about the Khadi products and usage in the Indian as well as internationally. This programme can be visited in youTube channel, by following the link, <https://www.youtube.com/watch?v=xZi6pwNLsCc&t=254s>.

It was a wonderful event where more than 700 participants participated in this event, and some got an opportunity to interact with the chairman KVIC. During this talk, we came to know many products that were produced by Khadi, namely using bamboo, paint using cowdung, etc. It was amazing to know that emulsion paint was manufactured by Khadi from cowdung. The internship opportunity spans from MBA to IT sector in this industry. The students who are looking for an opportunity can contact the nearby Chennai division,

[https://www.tn.gov.in/detail\\_contact/5131/5](https://www.tn.gov.in/detail_contact/5131/5)

to get an internship offer and serve our country for the righteous task.

**Mr.T.M.Pandian**, Director, KVIC, Gopalapuram, Chennai and his team gave a presentation about the internship opportunity and projects at KVIC on 15-2-22. Our HoD **Dr. T. T. Mirnalinee** and we interacted with Khadi and Village Industries

Commission Chennai director **Mr. T.M. Pandian** for possible "Internship opportunities in KVIC for faculty/UG & PG Students and R & D Projects".

A brief overview about the Khadi products, branches in Tamil Nadu, schemes that KVIC offers was discussed. Apart from Khadi fabric production, they focus on village industries, Science and Technology. Chennai, Madurai and Coimbatore are the major outlets where production institutions are set up. In the Chengalpet production institution the uneducated people are given access to produce cotton material. After that the cotton material undergoes a spinning, weaving process to produce the final product that is available in the Khadi outlets.

KVIC has identified 14 industries based on the demand thinking about the global scenario. Finance assistance of maximum 25 lakhs is supported by khadi to set up these industries in rural areas. There is an expansion unit at Ghandigram, Dindigul for production. For science and technology upliftment it funds and provides employment opportunities. Also it has a training centre in Madhavaram, Chennai to train youths in some special products like production of palm sugar, bakery items, etc. It also provides funds for various technical activities.

**Dr. A. Chamundeswari, Prof, CSE, SSNCE**

**Dr. V. Balasubramanian, Associate Prof, CSE,SSNCE.**

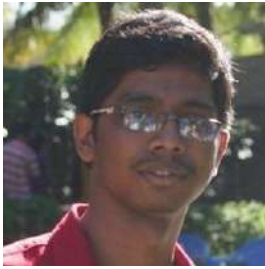
## **Caterpillar India Engineering Solutions Pvt. Ltd**

**Dr. Chitra Babu along with Ms. S. Rajalakshmi, Ms. S. Angel Deborah and students** had a meeting with the Caterpillar technical team on **24th February 2022 and 18th April 2022** regarding a collaborative project on "A Scalable Full Text Search in Mobile SQLite" to discuss about the progress of the project.

## **Industry Experts @Project Review**

Dr. B. Bharathi, UG project coordinator, arranged the final year second project review with industry experts to get suggestions and comments from industry point of view. Four industry experts were arranged for each track. The industry experts details are as follows: Mr. Seshan Rajendran, Senior Engineer, Qualcomm India Pvt. Ltd, Mr. Ruban, Lead Design, Stealth Mode Startup. Chennai, Mr. D.V. Vignesh, Member technical staff, Paypal, Chennai, Ms. Akshara Sirdhar, Senior Software Engineer, Bhawan Cybertek, Chennai. They have given feedback such as converting the project work as a product at the end, developed project work should be tested with real end users, the projects

should be extended by the next batch of students, some preference should be given for technology oriented projects along with research oriented projects.



**Mr. Seshan  
Rajendran**

**Software Engineer  
Qualcomm  
Chennai**



**Mr. Ruban**

**Lead Design  
Stealth Mode  
Startup, Chennai**



**Mr. Vignesh D V**

**Software Engineer  
Paypal, Chennai**



**Akshara Sridhar**

**Software Engineer  
Bahwan CyberTek,  
Chennai**

## Ford Motor Private Limited

SSN- Ford Motor Private Limited Introductory meeting was held on Jan 28, 2022, 4 & 25 March 2022. **Dr. T. T. Mirnalinee along with CSE and IT faculty members** attended a meeting with FORD Industry for research collaboration. Dr. V. Balasubramanian has been nominated by Dr. T. T. Mirnalinee was a member of the technical committee to interact with the team of Enterprise Cyber Advisory & Consulting Services, TES (Technology & Enterprise Services), Ford Motor Pvt. Ltd.

Agenda:

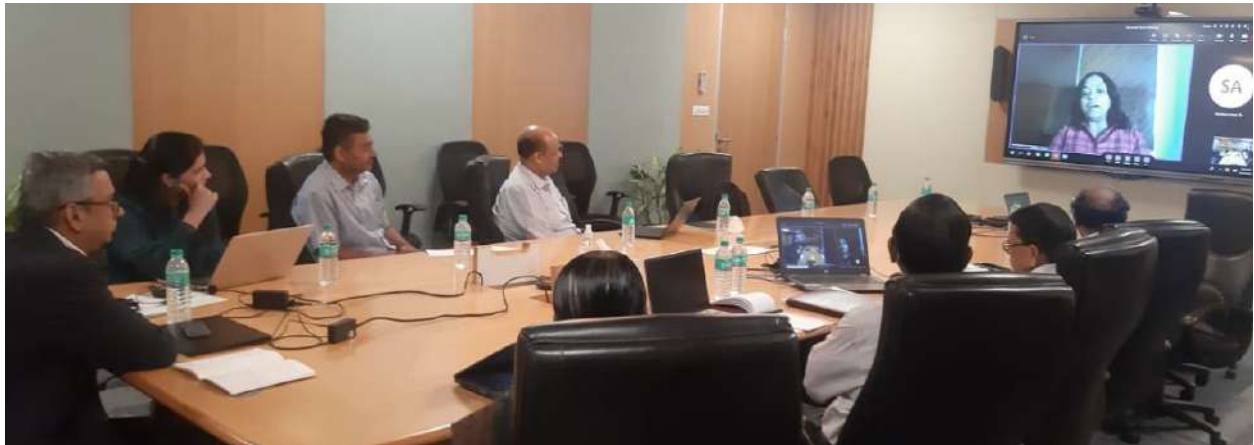
- Understand the capabilities of SSN with a focus on Cyber Security and technologies like IoT , AI /ML.
- Understand SSN's collaboration with other companies
- Agree on next steps in offering Value added Courses on Emerging technologies like: Blockchain Technologies security, IoT Security and API Security.

## SSN - SNU C - HCL Collaboration

A two days workshop was organized for exploring the potential partnership with HCL during 11<sup>th</sup> and 12<sup>th</sup> April 2022 at SNU-C. The Engineering and R&D Services (ERS) and Enterprise Technology Office (ETO) team from HCL participated in the workshop. Several research groups of SSN have presented their research works to the HCL team,

where all the sessions started with the presentation by SSN team, HCL team and followed by a discussion.

The first session was scheduled for Smart technology, the research team head Dr. S. Radha, Vice Principal, SSNCE presented about the team's objective, vision and the various sub-domains of this group. She also showcased the research work of the ECE department, followed by the presentation by Dr. Rajini, Professor & Head, EEE department. Myself, Dr. T.T. Mirnalinee, Professor & Head, CSE department presented about the research works done on edge computing. I started with the need for edge computing for smart technologies and my visit to Chengalpattu police headquarters regarding the collaborative work for person identification in surveillance footage. I also presented the initial work done for person re-identification in video surveillance which was sanctioned as a SSN Internal funded project. Followed by this, the HCL team shared their views specifically in the field of edge analytics along with their focus on its software stack. The HCL team also expressed their concern on the unavailability of the abnormal/failure data that leads to the discussion on generative models.



Second session was scheduled for MLRG research group presided by Dr. C. Aravindan, Professor & Head, IT department along with Dr. T. T. Mirnalinee and Dr. R. S. Milton. Members of MLRG, Dr. B. Bharathi, Dr. D. Thenmozhi, Dr. P. Mirunalini, Mr. B. Senthil Kumar were present during the meeting. The team head presented about the vision and the three main verticals of MLRG namely Text Analysis, Speech Analysis, and Image Analysis. The HCL team showed interest in text summarisation and its related research works.



On the second day, the HCL team visited the research labs of the CSE department. Dr. Shahul Hameed, presented his work on Software Defined Networks. Dr. R. Kanchana showed the HDFS based GPU cluster consisting of a server and 3 data nodes in the research lab established for a research project funded by BIRAC . This cluster is connected to a similar cluster at IIIT Una through a VPN for research collaboration. As part of the project, she explained Immunization Coverage Monitoring and Analysis and Exactly once semantics for streaming pipelines in detail. Few research projects in Machine Learning were demonstrated by faculty and students in HPC Lab.

The closing meeting held on the second day consolidated the views from both the sides on future project collaborations.

**Dr. T. T. Mirnalinee**

## Tiger Analytics

Mr. Saket Ram K, Senior Analyst, Tiger Analytics and Co-founder of LESA Tech Academy, a Placement Training Centre, handled the sessions on Docker in the Workshop titled “Web App Development with Low Code Backend using Strapi and Containerization with Docker” organized by Department of CSE, during 08-09, April 2022.

## INCUBATION TRAINING PROGRAM

**Dr. K. R. Sarath Chandran, Dr. V. S. Felix Enigo, Dr. S. V. Jansi Rani** attended the incubation training program "Introduction to Entrepreneurship with a case study and Entrepreneurial Ecosystem with IIT Bombay examples and learnings" by Dr. Devdip Purkayastha, Professor-of-Practice, DS School of Entrepreneurship at Indian Institute of Technology, Bombay, on 15/02/2022, organized by SSN incubation foundation.

## Business plan workshop for faculty entrepreneurs

**Dr. T. T. Mirnalinee, Dr. V. S. Felix Enigo, Dr. S. V. Jansi Rani Dr. K. R. Sarath Chandran, and Dr. S. Shahul Hamead** attended two-day business plan workshop for faculty entrepreneurs during 29 - 30th March 2022 organized by SSN School of Management and SSN Incubation Foundation.

The workshop on "A business plan perspective to the product ideas" conducted by the Department of MBA in association with the Incubation Center. Dr.Hariharanath, Director/MBA & Mr. Kabaleeswaran Murugan runs the show.

Mr. Kabaleeswaran Murugan has immense experience in guiding start-ups to put up strong business plans. The workshop was very interesting and interactive. We worked

on a case study. The key takeaways of the workshop are mapping our idea in alignment with the industry, understanding our idea, product values, target customers understanding, providing solutions, product business strategy, business plan. The program motivated us to become a faculty entrepreneur.



## PUBLICATIONS

### Patent Details

1. **Dr. D. Thenmozhi** along with students Kshitij Sharma, Kiruthika J, and Raghav R published a patent titled "Blind Abled Reading Frame (BARF)", Application number: 202241003724, in Indian Patent Office on 25.02.2022.
2. **Dr. D. Thenmozhi** submitted a response to FER for the patent application (202141033519-An automated tool for detecting depression from social media texts) to C-Intelligence.

### Journal Publications

1. **Dr. J. Bhuvana and Dr. T.T. Mirnalinee** published a paper titled, " An approach to Plant Disease Detection using Deep Learning Techniques ", in Revista ITECKNE, 18 (2), pp. 161 - 169, 2021, Clarivate.
2. **Dr. S.V. Jansi Rani, A. M. Ramakrishnan, and K. Rishivardhan,** published a paper titled, "Improving Water Quality Assessment through Anomaly Detection Using Hybrid Convolutional Neural Network Approach.", in Global NEST Journal, ISSN: 1790-7632, IF :1.475, Vol 24(1), 2022, pp 1-8, 2022, Clarivate.
3. **Dr. D.Venkatavara Prasad, Dr. Lokeswari Y Venkataramana,Dr.P. Senthil Kumar, Prasannamedha G , Harshana. ,Jahnvi Srividya, Harrinee, Sravya Indraganti** published a paper titled, " Analysis and

prediction of water quality using deep learning and auto deep learning techniques", Science of the Total Environment (STOTEN), 821 153311, 2022, Clarivate

4. **Dr. D.Venkatavara Prasad, Dr. Lokeswari Y Venkataramana, Dr. Saraswathi S , Sarah Mathew and Snigdha V**, published a paper titled " Bayesian approach to incremental batch learning on forest cover sensor data for multiclass classification", in Concurrent Engineering: Research and Applications, Vol.29(4) 405–414, 2021, Clarivate, 1.038, doi/10.1177/1063293X211058450.
5. **Dr. D.Venkatavara Prasad, Dr.P. Senthil Kumar, Dr. Lokeswari Y Venkataramana, Prasannamedha G, Harshana. Jahnvi Srividya, Harrinee, Sravya Indraganti** published a paper titled, "Automating water quality analysis using ML and AutoML techniques", in Environmental Research, 202(2021).111720, 2021, Clarivate.
6. **Dr. D.Venkatavara Prasad, Dr. Srinivas Gumparthi, Dr. Lokeswari Y Venkataramana, S Srinethe, R M Sruthi Sree and K Nishanthi**, "Prediction of Stock Prices Using Statistical and Machine Learning Models: A Comparative Analysis", The Computer Journal, 2021, Clarivate
7. **Dr. D.Venkatavara Prasad, Dr. Lokeswari Y Venkataramana, Dr.P. Senthil Kumar, Prasannamedha G , Soumya K. & Poornema A.J.**, "Prediction on water quality of a lake in Chennai, India using machine learning algorithms", Desalination and Water Treatment, pp 45-51, 218, 2021, Clarivate.
8. **Dr. J. Suresh, and Sathya Madhusudhanan** published a paper titled " Polarity classification of social media feeds using incremental learning - A Deep Learning Approach " in IEICE Transactions on Fundamentals of Electronics, Communications and Computer Science, Vol.E105-A,No.3 and 584-593, 2022, Clarivate
9. **Dr. D. Thenmozhi, and Kayalvizhi Sampath** published a paper titled "PreLcAP: Precedence Retrieval from Legal Documents Using Catch Phrases" in Neural Processing Letters, 1-19, 2022, Clarivate
10. **Dr. S.V. Jansi Rani, K. R. Sarath Chandran, Akshaya Ranganathan, M. Chandrasekharan, B. Janani & G. Deepshika** published a paper titled, " Smart wearable model for predicting heart disease using machine learning ", in Journal of Ambient Intelligence and Humanized Computing , Online first article, 2022, Clarivate

## Conference Presentations / Publications

1. **Aravind Kannan Rathinsabapathi, Sandeep Sekhar Bathala, Karthik A, Dr. P. Mirunalini, Dr. R. Priyadharsini** presented and received the



**Best paper award** for the paper titled "Zafe Zone - Self Defense Device for Children and Elderly" in the 5th International Conference on Intelligent Computing at Panimalar Engineering College, Chennai, March 25-26, 2022.

2. **Dr. K. Vallidevi and Ms. Suhasini** presented a paper titled, Insights from an Exploratory Data Analysis based on Amazon's Mobile Phone Reviews" in the IFIP International Conference on Computational Intelligence in Data Science (ICCIDS -2022) organized by department of computer science and engineering, SSN college of engineering during 24-26 March 2022.
3. **Arunima S, Amlan Sengupta, Aparna Krishnan, Dr Venkata Vara Prasad, Dr.Y.V Lokeswari**, presented a paper titled "SUPERVISED LEARNING OF PROCEDURES FROM TUTORIAL VIDEOS" in the international conference on Computational Intelligence in Data Science (ICCIDS-2022) organized by department of Computer Science and Engineering, Sri Sivasubramaniya Nadar College of Engineering during March 24-26, 2022. The paper got the best paper award.
4. **Dr. D. Venkatavara Prasad, Gowri Ganesh N.S., Venkatesh N.G.M** published a book chapter titled, "A Systematic Literature Review on Forensics in Cloud, IoT, AI & Blockchain", Springer, Cham, vol 109, [https://doi.org/10.1007/978-3-030-93453-8\\_9](https://doi.org/10.1007/978-3-030-93453-8_9).
5. **Dr. A.Chamundeswari**, published a book titled Illumination of Artificial Intelligence in Cybersecurity and Forensics, book series (LNDECT, volume 109) in Springer, Cham, XV, 372, <https://doi.org/10.1007/978-3-030-93453-8>.
6. **Dr. D. Thenmozhi, and B Harish** presented a paper titled "Self Driving Car" in ICCSP 2022 conference organized by SSN College of Engineering on 25th February 2022.
7. **Harshavardhan P, Beulah A, Logesh D**, presented a paper titled "Java Code Obfuscator to Prevent Reverse Engineering of Android Application" at 5th International Conference on Intelligent Computing IConIC 2K22 held during 25th & 26th March 2022, organized by Panimalar Engineering College, Chennai, India.

## **Ph. D. VIVA-VOCE EXAMINER / DC MEMBER**

1. **Dr. D. Thenmozhi** served as an examiner for evaluating a Ph.D thesis titled "Web personalization using opinion mining" for Ganpat University, Gujarat.

2. **Dr. S. Kavitha**, attended a Confirmation DC meeting at SRM IST, KTR in online mode.
3. **Dr. V. Balasubramanian**, attended the first DC meeting of VIT scholar Mr. Srikanth Prasad on 21.2.22 @ 12.00 Noon.
4. **Dr. Suresh Jaganathan** has attended a Synopsis Meeting online for the research scholar Ms. Aswathy Cherian convened by the supervisor Dr. E. Poovammal, Prof/CSE, SRM University on 26.02.2022, 10AM.
5. **Dr. S. Saraswathi**, attended a DC meeting on 2.02.2022 in virtual mode at Dr. M.G.R. Educational And Research Institute.
6. **Dr. G. Raghuraman**, has attended an online DC Meeting for the research scholar Ms. G. Manjula convened by her supervisor Dr. R. Sasikumar, Prof/CSE, R.M.D. Engineering College, Kavaraipettai on 21.03.2022. He has attended an online DC Meeting for the research scholar Mr. K. Saravanan convened by his supervisor Dr. B. Sasikumar, Prof/CSE, Infant Jesus Engineering College, Tuticorin on 19.01.2022. He has also attended an online Confirmation DC Meeting for the research scholar Mr. S. Vinu convened by his supervisor Dr. B. Diwan, Prof/CSE, St. Joseph's College of Engineering, Chennai on 24.01.2022. Dr. G. Raghuraman, acted as Expert Committee Member to conduct Six Month Review meeting for Ph.D Scholars at Sathyabama Institute of Science & Technology on 22.01.2022
7. **Dr. D. Venkatavara Prasad**, attended Virtual DC meeting for the Ph.D scholar Mr Karthikeyan, Rajalakshmi Engineering College on 3-3-2022. He also attended a Virtual DC meeting for the Ph.D. Scholar Mr Rajeswara Rao in the Department of Computer Science & Engineering, VIT University Vellore on 16-3-2022
8. **Dr. T.T. Mirnalinee** attended Virtual DC meeting for the Ph.D scholar, RMK Engineering College. on 2-3-2022. She also attended the Synopsis meeting of Mrs. Srijayanthi, AP RMK Engineering College.
9. **Dr. A.Chamundeswari** attended Ph.D first DC meeting for a research scholar at SRM university, Kattankulathur.

## SCHOLAR INFORMATIONS

1. **Dr. T.T. Mirnalinee** conducted the first DC meeting for her part time research scholar on 8th March 2022. She convened PhD VIVA VOCE for the part time scholar Mrs. S. Rajalakshmi on 30th March 2022. Also she conducted the first DC Meeting for her full-time research scholar on 14.02.2022.

2. **Dr. A. Chamundeswari**, organized the first DC meeting virtually for research scholar Mr. R.Ravichandar on 3rd march 2022.
3. **Dr. S. Kavitha** conducted the first DC meeting on 22.02.2022 for Ms.S.Dhivya Bhargavi (FT) joined in the January 2022 session .
4. **Dr. D. Thenmozhi** conducted the first DC Meeting for her part-time research scholar, Ms. R. Gayathri on 25.02.2022.
5. **Dr. B. Bharathi** conducted the first DC Meeting for her full-time research scholar, Ms. S. Saranya on 14.02.2022.

## Reaching the milestone

Happiness is the real sense of fulfillment that comes from hard work. - Joseph Barbara

I am very glad to share my happiness for the completion of my Ph.D. degree. I successfully defended my thesis on “Content Boosted Hybrid Filtering for Enhanced Personalization in Recommendation Systems” under the guidance of Dr. T. T. Mirnalinee, Professor and Head, Department of Computer Science and Engineering, SSN College of Engineering. The public Viva Voce Examination was conducted on 30.03.2022 in the Department of CSE through the Zoom online platform.



would like to thank my supervisor Dr. T. T. Mirnalinee, for her keen interest, inspiring

guidance, constant encouragement during my research work at all stages. My sincere thanks to Dr. R. S. Milton, Professor, for his constant advice and support throughout my research work. I am delighted to record my deep sense of gratitude and indebtedness to my Doctoral Committee members Dr. H. Khanna Nehemiah, Professor, Ramanujan Computing Center, Anna University, Chennai, and Dr. B. Ravindran, Professor, Department of Computer Science and Engineering, Indian Institute of Technology, Chennai, Examiners Dr. Tzung-Pei Hong, Professor, Department of Computer Science and Information Engineering, National University of Kaohsiung, Taiwan (Foreign Examiner), Dr. V. Masilamani, Associate Professor and Head, Department of Computer Science and Engineering, Indian Institute of Information Technology, Design & Manufacturing (IIITD&M) (Indian Examiner) and Dr. Mary Anita Rajam V, Professor, Department of Computer Science and Engineering, Anna University (Subject Expert) for shaping my research by providing valuable inputs and necessary improvements.

My heartfelt thanks to Professor, Dr. Chitra Babu, Principal Dr. V. E. Annamalai, and our college management for their support throughout my research work. I extend sincere thanks to all my friends, family members, the teaching and non-teaching staff of our department for their valuable support in attaining new heights and success.

**Dr. S. Rajalakshmi**

## **SANCTIONED EXTERNAL FUNDED PROJECT**



Project Titled, " Designing a lightweight Consensus Mechanism in Blockchain for IoT-based Asset Management," has been sanctioned by AICTE under the RPS scheme (21-22), with **Dr. Suresh Jaganathan as PI and Dr. D. Venkatavara Prasad as Co-PI.** Sanctioned amount 9.60 Lakhs.

# EXTERNAL FUNDED PROJECTS SUBMITTED

PI/Co-PI	Title of the project	Funding Agency	Budget proposed in lakhs
Dr.T. T. Mirnalinee Dr. J. Bhuvana	Computer vision based recommendation system for precision farming	TNSCST	4.99
Dr. J. Bhuvana	Representation learning for multi-modal theft detection system in home/ indoor environment	TARE - DST	18.30
Dr. B. Bharathi	Development of multilingual speech-enabled automatic form filling system for south Indian languages	TNSCST	3.55
Dr. K. Madheswari Dr.K.Lekshmi	Automated vegetation mapping of crops through satellite image fusion and convolution neural networks	TNSCST	4.76
Dr. K. Valli Devi Dr.T. T. Mirnalinee	Patrol's pal-smart CCTV surveillance camera to detect the clueless suspicious vehicle	TNSCST	4.99
Dr. J. Suresh Dr. D. Venkatavara Pasad	Decentralized infrastructure for eGovernance in land titling and registration	TNSCST	4.17
Dr. B. Prabavathy Dr. K. Lekshmi Dr. N. Surendar Dr. R. Rajkumar	An augmented flood map development for coastal regions	TNSCST	5.00
Ms.S.Angel Deborah Dr. R. S. Milton Ms. S. Rajalakshmi Ms. M. Saritha	Depression and Self- Harm Risk Assessment for Mental Health Diagnosis System Using Deep learning Techniques	TNSCST	4.98

Dr.R. Priyadharsini Dr. A. Beulah	Development of a computationally intelligent system for catastrophic environment monitoring	TNSCST	4.95
Dr.S.Kavitha Dr.S.Mohanavalli	Cognitive Reasoning based Learning Behavior Analysis in Massive Open Online Courses (MOOC) Environment with Explainable AI Tools	TNSCST	4.41
Dr.G.Raghuraman Dr.S.Kavitha	IoT based Fabricated Robot for Pipeline Inspection	TNSCST	4.97

## PAPER REVIEWS

1. **Dr. S.Saraswathi** reviewed Five papers on 03/02/2022 for ICCIDS 2022, organized by the Department of Computer Science and Engineering, Sri Sivasubramaniya Nadar College of Engineering.
2. **Ms.S.Angel Deborah**, reviewed five papers on 02/02/2022 for ICCIDS 2022, organized by the Department of CSE, Sri Sivasubramaniya Nadar College of Engineering.
3. **Dr. K. R. Sarath Chandran** reviewed one paper on 21/02/2022 for IEEE International conference ICESIC 2022 organized by the Department of Computer Science and Engineering, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology, Chennai.
4. **Dr.N.Sujadeen** reviewed a paper for the IFIP sponsored 5th International conference on Computational Intelligence in Data Science, (IFIP ICCIDS 2022) that will be conducted by the Department of CSE, SSNCE on 20-02-2022.
5. **Ms.S.Lakshmi Priya** reviewed a paper on 08.02.22 for the IFIP sponsored 5th International conference on Computational Intelligence in Data Science, (IFIP ICCIDS 2022) organized by the Department of CSE, SSN College of Engineering.
6. **Ms.S.Rajalakshmi**, reviewed 4 papers for the international conference ICCIDS 2022.
7. **Dr. K. R. Sarath Chandran** reviewed one paper on 07/03/2022 for IEEE International conference ICESIC 2022 organized by the Department of Computer Science and Engineering, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Chennai.

8. **Ms.S.Angel Deborah** reviewed a paper for the Transactions on Asian and Low-Resource Language Information Processing on 24th March 2022, SSNCE.
9. **Ms.S.Rajalakshmi** reviewed three papers for the 16th International Workshop on Semantic Evaluation (SemEval 2022) workshop conducted as a part of 2022 Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL 2022).
10. **Ms.S.Rajalakshmi** reviewed three papers for the Second Workshop on Language Technology for Equality, Diversity, and Inclusion (LT-EDI) conducted as a part of 60th Annual Meeting of the Association for Computational Linguistics (ACL 2022)
11. **Dr. A. Beulah** reviewed five papers for ICCIDS 2022, organized by the Department of CSE, Sri Sivasubramaniya Nadar College of Engineering.
12. **Dr.J.Bhuvana** has reviewed 4 papers for Women in Computer Vision Workshop, CVPR 2022. She also reviewed a paper for IEEE transactions on Artificial Intelligence.
13. **Dr.B. Bharathi** reviewed 6 papers for the Second Workshop on Speech and Language Technologies for Dravidian Languages - DravidianLangTech -ACL 2022 and 4 papers for second workshop on language technology for equality, diversity, inclusion (LT-EDI-2022).
14. **Dr. Suresh J** reviewed a paper for Automatika: Journal for Control, Measurement, Electronics, Computing and Communications on 06th April 2022.
15. **Dr. Betina Antony J**, reviewed 2 papers for "ACM Transactions on Asian and Low-Resource Language Information Processing"

## **FDP/ SEMINAR / WORKSHOP / CONFERENCE ORGANIZED**

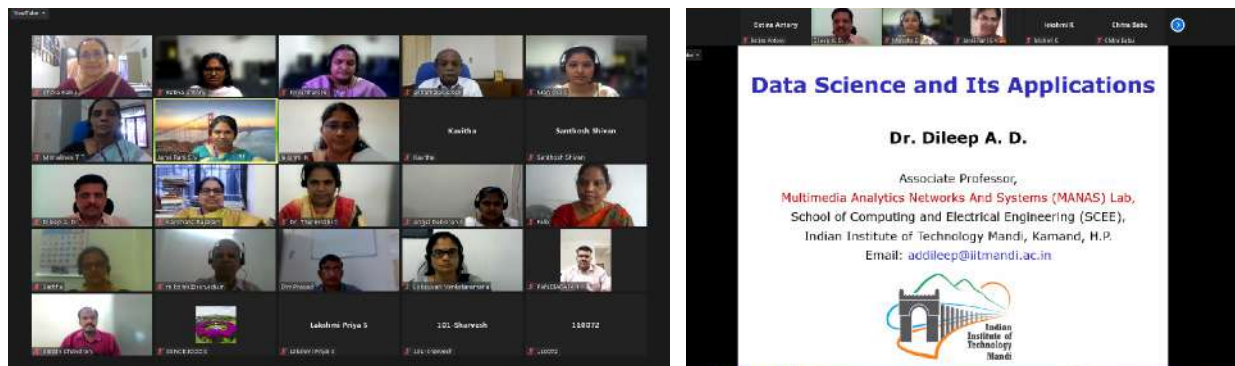
1. **Dr. Chitra Babu** as Chair of ACM India iSIGCSE(Special Interest Group on computer science Education, along with ACM Goa Professional Chapter and Don Bosco College of Engineering organized a National Workshop on "Deep into Python" on 19th and 26th Feb 2022.
2. **Dr. Chitra Babu** as ACM iSIGCSE Chapter Chair, organized a joint webinar on "Computational Intelligence at Edge" with ACM India Council and TCS Research

on 30th March 2022 at 5:30 PM IST. More than 160 attended the webinar all over India.

3. **Dr. R. Kanchana and Dr. K. Lekshmi** organized a guest lecture on “A new frontier: Exploring the interface between computer science and economics” for the third year UG students in physical mode on 18th Apr 2022. The speaker was Mr. Anand Bharadwaj, Research Scholar, University of Melbourne, Australia.

## International Conference on Computational Intelligence & Data Science

The Department of CSE took pride in hosting the Springer IFIP ICCIDS conference, 2022 from March 24th to 26th – the second virtual conference of the department. The theme of this conference was *Computational Intelligence in Machine Learning, Deep Learning, Internet of Things (IoT) and Cyber Security*. IoT and Machine Learning deliver insights hidden in data for rapid, automated responses and improved decision making. Machine Learning for IoT can be used to project future trends, detect anomalies, and augment intelligence by ingesting image, video and audio. With Machine Learning, Cyber Security systems can analyze patterns and learn from them to help prevent similar attacks and respond to changing behavior.



Accepted papers that are presented at the conference will be published in the Scopus Indexed Springer IFIP AICT (Advances in Information and Communication Technology) series. We had 28 papers presented in three parallel talks. The conference provides an opportunity for the researchers, engineers, developers, and practitioners from academia and industry to discuss and address the experimental, theoretical work and methods in solving problems related to data science. Also to share their experience and exchange their ideas in the field of Data Science and Computational Intelligence. This conference will be useful for professionals working in data science, machine learning, artificial intelligence, IoT and cyber security.

The conference programme included two pre-conference workshop sessions, along with prominent keynote talks and paper presentations. Pre-conference Workshop on *Image and Video Analysis (IVA-2022-VERSION 2.0)* was organized by Dr. T. T. Mirnalinee, Dr. P. Mirunalini and Dr.S. Poornima. Speakers from Niramai Health Analytix, VIT and



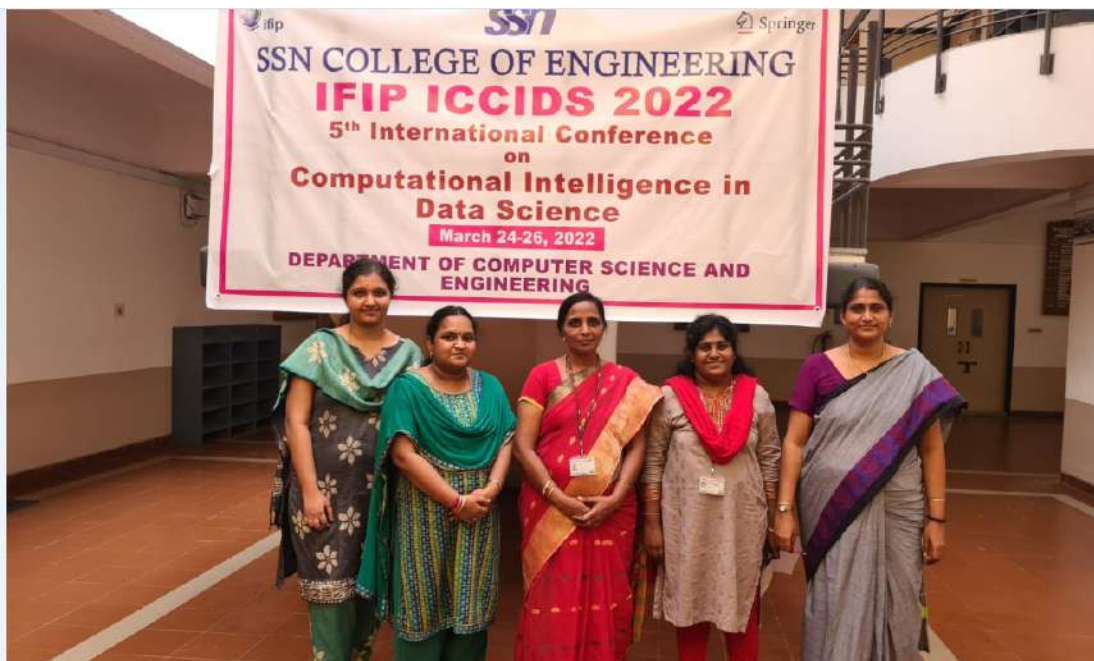
SSN Institutions elaborated various image and video analysis techniques. Another pre-conference workshop was organized by Dr. R. Priyadharsini and Dr. S. Manisha. **Mr. Mohit Sharma, Data Scientist, Ericsson, Bangalore** elaborated on the topic.

On the 25th, three keynote talks — Data Science and Its Applications by Dr. Dileep A.D, Associate Professor, IIT Mandi; What AI for Global Security by Prof Eunika Mercier-Laurent, France, Chair IFIP, TC12 (AI) and Prof Dominique Verdejo, France, Chair IFIP WG 12.13; and Research Trends in Computer Vision by **Dr. Sunando Sengupta, Senior researcher, Microsoft, UK** — were discoursed.

On the final day of the conference, Dr. Vinod Pathangay, distinguished technical staff, Wipro, graced the conference with his talk titled: From Features to Embeddings - Unified View of ML Pipelines for Text, Audio and Image Understanding. The conference concluded with Dr. Mieczyslaw L. Owoc — Professor Emeritus, Department of Business Intelligence, Wroclaw University, Poland — and his scholarly ideas on: Honeybee Democracy — Towards Collective Intelligence. Along with those 5 keynote talks, we also had paper presentation sessions in which 28 papers were discussed which paved the way to explore new ideas in the fields of data science and computational intelligence. We were happy that ICCIDS'22 served as a forum to present the current works as well as to exchange research ideas in those fields.

ICCIDS '22 was organized by Dr. R. Priyadharsini, Dr. S. Manisha, Dr.K.Lekshmi, and Dr.K.Madheswari. With its abundantly edifying workshops and keynote talks, it served as an invigorating milieu for expressing research ideas and directions and facilitated an intellectual forum to present current work.

**Dr.K.Madheswari**



# Recent Advances in Deep Learning and Its Applications – FDP

A five-day Faculty Development Programme (FDP) on “Recent Advances in Deep Learning & its Applications” was organized in the online-mode by the Machine Learning Research Group (MLRG), convened by Dr. C. Aravindan, Professor & Head, Department of Information Technology, and Dr. T. T. Mirnalinee, Professor & Head, Department of Computer Science and Engineering. It was coordinated by Dr. R. S. Milton, Dr. P. Mirunalini, Dr. N. Sripriya and Ms. M. Saritha during March 7 - 11, 2022. About 45 faculty members and 19 research scholars participated in the Faculty Development Programme. Eminent speakers from abroad Universities, reputed institutions in India (IITs, NITs) and industries delivered talks on the trends in deep learning and its usage in text, image, and speech processing.

On day 1, Dr. Naveena Yanamala from Rutgers Robert Wood Johnson Medical School, New Jersey delivered her talk on “Deep Learning in Healthcare - Path to Predictive, Preventive and Personalized Medicine”. It was an enlightening speech on topological data and her ideas showed a new dimension to the research community for medical image processing. The second session was handled by Dr. C. Chandra Sekhar from IIT, Chennai who addressed “Deep Learning Models for Text, Speech, Image and Video Processing”. We had a lot of takeaways especially on the transformer models. The day ended with hands-on training on various deep-learning frameworks given by Dr. S. Rajalakshmi and Ms. S. Angel Deborah, SSNCE which were useful and informative.

On day 2, a lecture on “Generative Adversarial Networks (GAN)” was given by Ms. Hemalatha, Madras Institute of Technology followed by Dr. Pratik Chattopadhyay from IIT (BHU), Varanasi delivered a talk on “Gait Recognition”. Both the talks were quite interesting. A hands-on training was given by Dr. J. Bhuvana, SSNCE on GAN models, which was very much beneficial to the participants.

On day 3, Dr. Preethi Jyothi from IIT Bombay gave an inspiring talk on the state-of-the-art in “Speech Technologies”. The various challenges in building end-end speech recognition systems were discussed by Dr. Muhammad Abdullah Adnan from Bangladesh University of Engineering and Technology. Hands-on Training on “End-End Automatic Speech Recognition System” was given by **Dr. Pradeep Rangan from Swiggy, Bengaluru** and the session was enlightening with illuminating ideas.

Day 4 started with the talk on “Sequence to Sequence Architectures for NLP Applications” delivered by Dr. M. Anand Kumar from NIT, Surathkal. It was followed by a detailed discussion on “Biomedical Question Answering” by Dr. S. Sangeetha from NIT, Tiruchirappalli. In the final session, we had hands-on training on deep learning models for named entity recognition and question-answering by Dr. D. Thenmozhi, Ms.

S. Angel Deborah, Dr. J. Betina Antony from SSNCE, which provided a detailed explanation on the text applications.

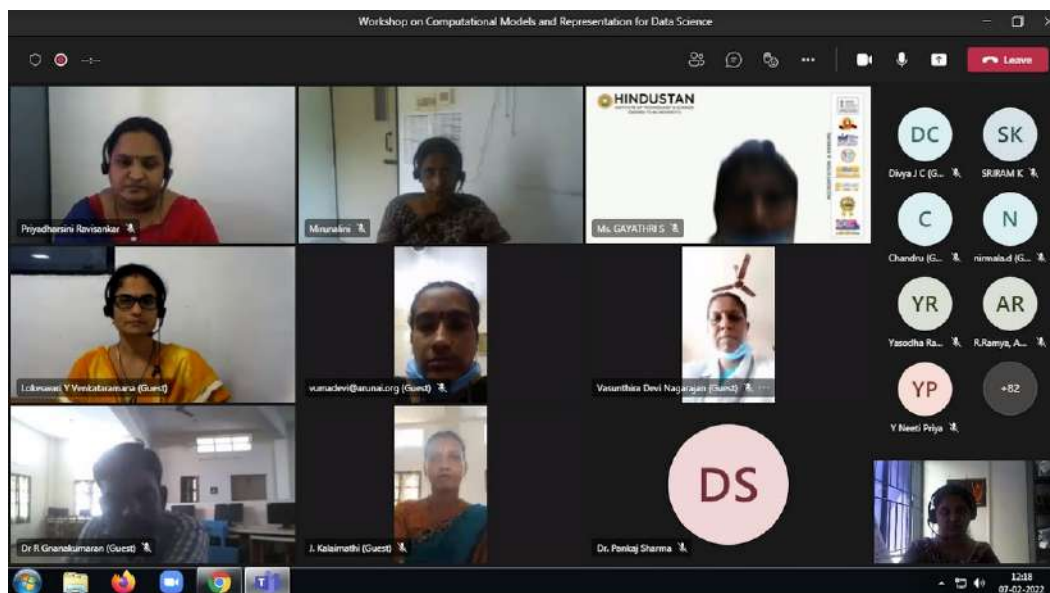
On the final day, we had **Dr. Ashish Tendulkar from Google Research India** and he delivered the talk on “Deep Learning for Healthcare Applications”, which was interactive and informative. The next talk was on “Deep Learning with Limited Data” by Dr. Vineet N Balasubramaniyam from IIT Hyderabad, whose talk gave an insight for few shot learning and explainable AI. The final talk on “Fairness in ML” by Mr. B. Senthil Kumar, SSNCE made us think how fairness is essential in the design of ML algorithms.

We mainly emphasized on the different deep learning architectures that are being used in text, image and speech applications. The feedback received from the participants showed that they were truly benefited by the professional talks and got insights about the recent trends in deep learning.

FDP Organizers

## Workshop on Computational Models and Representation for Data Science

A two day virtual workshop on “Computational Models and Representation for Data Science” was organized by Dr. P. Mirunalini, Dr. R. Priyadharsini, Dr. A. Beulah, Dr. S. Manisha during 7 & 8 February 2022. About 80 participants enthusiastically participated in the event. The attended participants were faculty members, research scholars, UG and PG students. This workshop focused on computational models and data representation tools. It was an eye opener to the fundamentals of data science, Business Analytics and data visualization tools.



Eminent speakers from academic institutions and industry gave talks in the workshop. Dr. Arunkumar T, Professor, Dept of Database Systems, VIT Vellore have an introductory talk on Current trends in Data Science. The second session of the first day was handled by Dr. Y. V. Lokeshwari, Associate Professor, Dept of CSE, SSNCE, Chennai on the topic Machine Learning and prediction Algorithms. The hands-on session on the topic R for Data Science was given by Dr. R. Rajalakshmi, Associate Professor, SCOPE, VIT Chennai.

On the second day **Vignesh Lakshminarayanan, Chief Engineer, Advanced Technology Lab, Samsung Research India, Bangalore** handled the session on Deep Learning in Data Science. This session was followed by the topic Business Analytics which was handled by Dr. M. Kavitha, Associate Professor, SSN School of Management, Chennai. The last session was an hands-on session which gave an exposure to Data Visualization using Tableau. This interactive session was handled by Dr. Sundhara Kumar KB, Assistant Professor, Department of CSE, Shiv Nadar University, Chennai. The workshop benefited the participants by exploring different research ideas and techniques in Data Science.

**Workshop Coordinators**

## Applications of Deep Learning in Computer Vision

Dr.T.T. Mirnalinee, Dr. J. Bhuvana and Dr.B. Bharathi have organized a **Three Days National workshop on Applications of Deep Learning in Computer Vision** during 10 - 12 February 2022. Totally 343 have registered as participants for the workshop and 226 have attended. This online workshop has widely received participants from all over Tamil Nadu, Karnataka, and Andhra Pradesh.

The first session was about Introduction to Deep Learning by Dr. R.S. Milton, Professor, Dept. of CSE, SSNCE, followed by Convolutional features for visual recognition by Dr.V.Uma, Assistant Professor, Department of Computer Science, Pondicherry University and third session was on Understanding Images through Visual Computing for generating Immersive Experience by Dr. Chiranjoy Chattopadhyay, Assistant Professor, Department of Computer Science and Engineering, Indian Institute of Technology Jodhpur, Rajasthan.

The second day started with the session by Dr. Radhika Selvamani B, Assistant Professor, School of Computer Science Engineering (SCOPE), VIT Chennai on Deep Learning for Object Detection, followed by Introduction to Attention Models by Dr. Dileep AD, Associate Professor, School of Computing and Electrical Engineering, IIT Mandi Kamand Campus Kamand , Himachal Pradesh and Deep Learning for 3D Point

Cloud Data by Dr. Surya Prakash Associate Professor , Department of Computer Science and Engineering, Indian Institute of Technology Indore, Simrol Indore Madhya Pradesh.

The third day began with the talk on Deep learning for semantic Segmentation by Dr. P. Mirunalini, Associate Professor, Dept. of CSE, SSNCE and continued by Dr. Dileep AD, Associate Professor, School of Computing and Electrical Engineering, IIT Mandi on Generative models in Vision. The last session was about AI in healthcare by **Dr. Lalit Gupta, Co-founder and CEO, DeepNeura Technologies LLP, Bangalore, Karnataka**. All the sessions were interactive, and the feedback given by the participants were appreciative.

**Dr. J. Bhuvana**



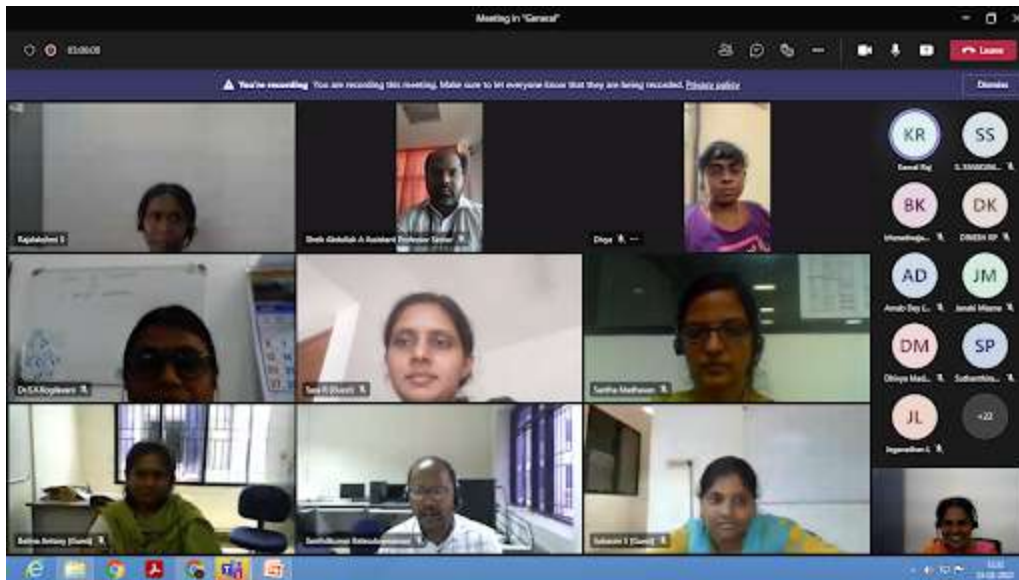
## Text analysis and Information Extraction & Retrieval (TIER 2022)

The 6th edition of the Text analysis and Information Extraction & Retrieval (TIER 2022) workshop was conducted in the Department of CSE on February 23, 2022. TIER 2022 was organized by Dr.C.Aravindan, Dr.T.T.Mirnalinee, Dr.D.Thenmozhi, Dr.R.Rajalakshmi and Mr.B.Senthil Kumar. This is one of the most happening series of NLP workshops organized by Machine Learning Research Group (MLRG) and this time it was co-located with the IFIP Event 04594 - ICCSP 2022 conference held during February 23-25, 2022.

In this edition, we have explored the power of Encoder-Decoder & Transformer models for Indian Languages. Thus, the theme of the workshop was named as "Transformer

Models for Indian Languages and its applications for various NLP tasks”. Dr. Anand kumar from National Institute of Technology, Surathkal delivered a talk on word embedding and sequential learning using encoder-decoder models with attention mechanisms. **Mr. Kamal Raj of Saama Technologies** delivered a talk on transformer models and transfer learning for Indian Languages. Hands-on Training on transformer models for Indian languages was given by Dr.D. Thenmozhi and Mr.B. Senthilkumar of SSNCE.

Dr. D. Thenmozhi



## Indian National Olympiad in Informatics (INOI 2022)

The department of Computer Science & Engineering hosted the Indian National Olympiad in Informatics (INOI 2022), a programming exam held at centers across the country on 20.02.2022 between 2.00 PM to 5.00 PM.

It was conducted this year at our Cloud Computing Lab in the CSE department Annexe building on the 20th February 2022 from 2:00 - 5:00 PM

The Indian Computing Olympiad is a nationwide competition used to identify school students with outstanding skills in algorithms and computer programming. The exam was held in 28 cities across India and SSN is the Chennai center. A total of 12 students from Chennai and Pondicherry schools participated and they got qualified from ZCO 2022. The center coordinators for the event are Dr. Chitra Babu, Professor, and Dr. V. Balasubramanian, Associate Professor.

## Workshop on ‘Unleash Your Creativity’

Dr. R. Kanchana and Dr. T. T. Mirnalinee organized an in-person workshop, ‘Unleash Your Creativity’, on the 23rd of April 2022. Over thirty-three faculty members, staff and research scholars from various departments of SSNCE were in attendance. The workshop holds the distinctive accolade of being the first workshop conducted physically post the COVID-19 pandemic.

**Dr. Sundararaman Chintamany**, a distinguished business storytelling coach and certified Industry 4.0 assessor by Confederation of Indian Industry (CII) and TUV, was the guest of honor for the workshop. Dr. Chintamany works closely with organizations and individuals in nurturing the art of business storytelling to achieve their goals in corporate life.

The workshop encouraged the participants to foster their individuality. The following topics were covered during the workshop to empower the participants to realize the above.

Ice breaker where the participants had a fun activity that required focus and attention	Brainstorming where the participants were discussing in groups about Haryana farmers	Out of circle thinking	Mind Mapping where a mind map tool was introduced and everyone came out with a mind map
Mentalism	Creative Combo	Biomimicry	Mental calisthenics
Divergent Thinking	Options Thinking	Opportunity Thinking	Threat to Opportunity
Threat to Opportunity	Perspective Matters – Involved an interesting zoom game which required explaining the perspective of each participant	Idea–Invention–Innovation	understand the ways to become creative in an experiential manner

The participants thoroughly enjoyed the workshop, as was evident from the feedback. They found the session to be engaging, interactive and out-of-the-box. The plethora of activities made the participants involve themselves and get to know more about creative thinking. The participants look forward to more such sessions in the near future.



Welcoming Dr. Chintamany



Zoom game for perspectives



Brainstorming



Memento for the speaker

**Dr. R. Kanchana**

## Workshop on Machine Learning and its Applications

The Department of Computer Science and Engineering organized a one-day workshop on "Machine learning and its applications" on 21<sup>st</sup> March 2022. The workshop was organized by Dr. B.Praba, Dr. T.T. Mirnalinee as conveners and Dr. N. Padmapriya, Dr. N. Sujaudeen, Ms. S. Lakshmi Priya as co-conveners. The speaker of the workshop was **Harishankar G, Member Leadership staff ZLabs – NLP, ZOHO**. The student volunteers were Sushaanth Srinivasan, S Nithin, Srivishnu S, Karthik D and Nikhita. The workshop spanned for 2 sessions and witnessed around 40 participants from the Department of Computer Science and Engineering.

The event was inaugurated with a warm welcome speech and an introduction to the speaker Mr. Harishankar G, by Dr. Padmapriya. Mr. Harishankar G started off the



workshop by explaining the basics of Artificial intelligence and its applications in the real world. The students participated in a hands-on session where they were guided to build their own machine learning model for the Titanic dataset topic using various classifiers such as Decision Trees, Naïve Bayes Classifier and Random Forest.



In the second session the speaker started with a real-world problem on classifying languages from a text, and then gave a presentation introducing the concept of Deep Learning, following which there was a hands-on session. The speaker gave away an Arduino Board as well as pen drives to the most interactive participants.

The hands-on sessions helped the participants practice the ideas in a Jupyter Notebook Environment as well as learn Python-based tools such as TensorFlow, Scikit-Learn, Matplotlib, Numpy and Pandas.

The participants highly appreciated the workshop content, and the speaker's talk on Machine learning and its applications. We had also received positive feedback for the hands-on sessions. We would like to thank our management, Principal and Head of the Department for providing us the necessary support in organizing the workshop.

**Dr. N. Sujaudeen, Ms. S. Lakshmi Priya**

## WEBINARS ATTENDED

1. **Dr. V. Balasubramanian**, attended a webinar titled " Data-centric Computing: A Challenge and opportunity for CS Education" organized by ACM India on Saturday 22 January 2022 at 6:30 pm IST by Shriram Krishnamurthy, Professor of Computer Science, Brown University, USA.
2. **Dr. V. Balasubramanian**, attended a webinar titled " Orientation session on IIC 4.0" by Dipan Sahu Asst. Innovation Director, Ministry of Education's Innovation Cell & AICTE, Govt. of India on 24.1.22 at 2.30 PM".

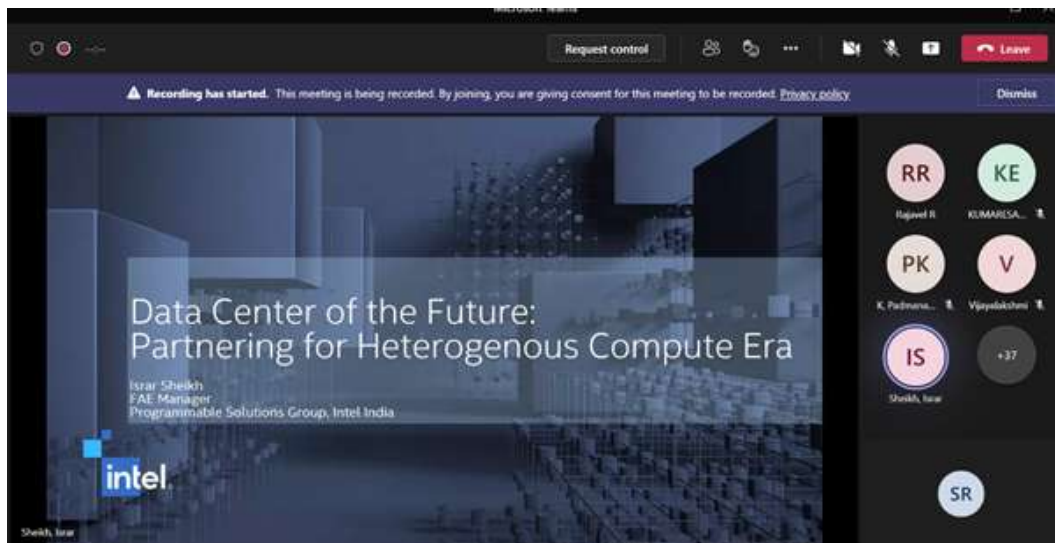
3. **Dr. G. Raghuraman**, has attended an online Synopsis Meeting for the research scholar Ms. Badi Alekha convened by her supervisor Dr. R. Sasikumar, Prof/CSE, R.M.D. Engineering College, Kavaraipettai on 31.03.2022.
4. **Dr. T. T. Mirnalinee, Dr. V. Balasubramanian**, attended a webinar titled "Computational Intelligence at Edge" organized by TCS Research in collaboration with ACM India & ACM iSIGCSE on 30.3.22
5. **Dr. V. Balasubramanian** attended a webinar on "Post Quantum Cryptography" scheduled on 29th March 2022 from 09.30 am to 5.30 pm. conducted by SETS India.

## SEMINAR / WORKSHOPS / FDPs ATTENDED

1. **Dr. V. Balasubramanian, Dr. R. Priyadharsini and Dr. S. Manisha** completed the Training on AZ-900: Microsoft Azure Fundamentals conducted by Microsoft in collaboration with AIU from 17th February to 19th February 2022.
2. **Dr. V. Balasubramanian** attended an International Conference "ACM India ARCS Symposium and ACM India Annual Event", 9-12 February 2022.
3. **Ms.S.Rajalakshmi** attended the preconference virtual workshop on "Data science :Capstone" on March 24, 2022, conducted as a part of IFIP approved 5th Virtual International Conference on Computational Intelligence in Data Science (ICCIDS-2022), Department of CSE, SSNCE
4. **Dr. N. Sujaudeen** attended a One day International level workshop on "Microservices and Internet of Things (MIOT): Beyond The Hype", organized by the Department of IT, SSN College of Engineering during the 6th Virtual International Conference on Computer Communication and, Signal Processing (ICCCSP 2022) on 22-02-2022.
5. **Dr. V. Balasubramanian** attended IIC second Meeting on 28.2.22 at 9.00 PM.
6. **Dr. Chitra Babu, Dr. R.S. Milton, Dr. K. Madheswari, Dr. R. Priyadharsini, Dr. D. Thenmozhi, Dr. S.V. Jansirani, Dr. Y.V. Lokeshwari** attended the workshop "Unleash your Creativity" on 23-04-22 at CSE Department, SSNCE.

## Embedded System Design using Intel SoC FPGAs

This 5 days FDP was organised by the Department of Electronics and Communication Engineering, SSN CE during February 1 – 5, 2022. Mr. Israr Sheikh, FAE Manager, India, ASEAN and ANZ, Intel-PSG and Mr. Padmanaban K, Program Specialist-India, FPGA University Outreach, Intel Programmable Solutions Group were the resource persons for this FDP. The programme covered the topics related to the FPGA based development using Intel devices and tools. On the first day, they demonstrated the basic development flow in Quartus and virtual lab setup. The details of timing analysis were the topic for the second day. The SoC design flow was explained with examples on the third day. The procedures for designing embedded systems using Cyclone V and ARM were discussed on the fourth day. The fifth day was about the FPGA memories and the design flow for an external RAM. This FDP was helpful in getting the knowledge on designing an SoC based embedded system using Intel boards and tools.



Dr. K. R. Sarath Chandran

## Security for Next Generation Technologies - Challenges and Solutions

Participated in online AICTE sponsored QIP short term course on Cyber Security for Next Generation Technologies : Challenges and Solutions from 7th to 12th March 2022 organized by Department of CSE, IIITDM Kancheepuram, Chennai. A total of 18 sessions were conducted in this course covering various aspects of security related

challenges. Many sessions were handled by experts from IIITDM, Wipro, Indian Servers, NIT Surathkal, Citi Bank, IIIT Guwahati, IIT Patna, IIT Bhilai, Advocate, and IIT BHU. Some sessions were revamping, and others were entirely new. Demonstration was kept consistent throughout the session. Many interaction, doubt clearing, thought provoking sessions were experienced by all the participants in all sessions. Cryptography, cloud security, IoT Security, Blockchain, Cyber Forensics, Hardware Security, Network Security, Biometric Security were covered by domain experts. The legal experts also shared their knowledge towards cyber laws and crime, Technology in education, and payment channels. Thanks to the management for giving us a wonderful opportunity to explore the challenges in the domain, cyber security.

**Dr. A. Chamundeswari**

**Dr. S. Saraswathi**

**Dr. V. Balasubramanian**

## Cyber Security: Fundamentals & Strategies

Dr. S. Saraswathi and Dr. V. Balasubramanian attended a Certificate Program on *Cyber Security: Fundamentals & Strategies* hosted by the *Confederation of Indian Industry* (CII) from February 21 to 25, 2022 on a virtual platform. Given the rising amount of cyber thefts and attacks across all company sectors, cyber security and cyber laws are quickly becoming buzzwords for all businesses — large and small. In today's networked world, where the cloud, mobile devices, and smart phones all play a role, it's critical to have solid Cyber Security measures in place to combat business risks. To this end, the program was incredibly instructive and engaging, with live demonstrations and hands-on activities. The resource person, Abrar Ahmad, is a Cyber Security Consultant who holds an EC Council certification. In this program, we learned about ethical hacking, and the technical know-how to set up a hacking lab to train in hacking, safely and legally. Other approaches for recovering lost data, implementing penetration tests, increasing computer and network security, and detecting, exploiting, and preventing several web application vulnerabilities including XSS and SQL injections were also discussed. Furthermore, the program also taught us about reactive actions in the event of a security breach. The program was fascinating. It helped us develop a well-formed insight about the current state of Cyber Security.

**Dr. S. Saraswathi**

## FDP on AI and Data Science Applications with OneAPI Heterogeneous Computing

We participated in a five-day Faculty Development Programme on AI and Data science applications with OneAPI Heterogeneous Computing organized by the Department of Information Technology, SSNCE in association with Intel and Boston during February 7-11, 2022. The FDP started with introductory topics on AI, Machine Learning and its applications. As part of the programme, we were given one month access to individual IntelDevcloud accounts.

We learned to set up the account and run a basic program on IntelDevcloud on the first day of the FDP. The following days, we had the forenoon sessions on topics including Introduction to Data processing, Statistical foundations of Data Science, IntelOneAPI and Machine learning algorithms. Post-noon on each day, we were able to do hands-on practice on IntelOneAPI, the Building blocks of Data Parallel C++, Accelerated Data Processing using Intel Optimised Pandas & NumPy, OneDAAL and MLops. The FDP ended with hands-on practice on building an End-to-End Data Science Application on a Real time Problem and its Deployment on the DevCloud platform.

**Dr.N.Sujaadeen & Ms. S.Lakshmi Priya**

## Techknow 2022

Techknow 2022, a two-day seminar was organised by All India Manufacturers Organization (AIMO) and Consortium of Indian Associations in partnership with Anna University was held during 22-23 April 2022 at Vivekananda auditorium, Anna University Chennai, conducted as a part of the “Naan Mudhalvan” scheme introduced by the Government of Tamil Nadu. The event was inaugurated in the august presence of AICTE Chairman Prof. Anil Sahasrabudhe, Secretary (Ministry of Labour and employment, Government of India) Sri Sunil barthwal, Additional chief secretary (Industries department) Sri S. Krishnan, and Secretary (Higher Education Department) Dr. D. Karthikeyan. The event was also supported by Consortium of Self Financing Professional, Arts & Science Colleges. In the event, over 15 Industry professionals presented on the growth prospects and expectations from students.

The event was attended by students and faculty members from various engineering colleges across Tamil Nadu. There were 8 sessions on topics focusing on employability of engineers. The topics were opportunities in E vehicle, opportunities in technology for sustainable energy systems, emerging technologies in core sector, opportunities in biomedical instrumentation, career opportunities in defence and aerospace sector,

growth opportunities in fintech space, infrastructure and logistics and the last session was a panel discussion on opportunities and challenges in skill development. Each session had 3 speakers, a private sector representative, a public sector representative and a policy maker.

Job fairs and project presentations were also conducted as a part of the event and the winners were felicitated by the honorable chief minister of Tamil Nadu Thiru. M. K. Stalin. The guest of honours were Dr. K. Ponmudi (Honourable Minister for Higher Education), Thiru. Thangam Thennarasu (Honorable Minister for Industries) and Thiru. Udhayanidhi Stalin (Syndicate Member of Anna University). This event was helpful in exploring the career and research opportunities for students and faculty members in the upcoming field of engineering. From the Department of Computer Science and Engineering, 2 faculty members (Dr. K. R. Sarath Chandran, Dr. S. Manisha), 4 PG students (Archana J. P., Santhosh Shivan, Swetha S, and Yazhini K) and 3 UG students (Karun Anantharaman, Lokesh N, N, and Naveen M. R.) attended the event.

**Dr. K. R. Sarath Chandran**

**Dr. S. Manisha**



## INVITED LECTURES - INSIDE SSN

1. **Dr. B. Bharathi** delivered a guest lecture on "Machine learning models and its applications" at Faculty Development Programme (FDP) on "IoT, AI and Blockchain: Insights and Open Challenges (IAB 2022)" during March 1 -5, 2022 in Virtual Mode, Department of IT, SSNCE.
2. **Dr.J. Bhuvana** along with Ms. Divya research scholar of Dr. Mohanavalli, ASP, IT gave a hands-on training on GANs in MLRG FDP on Recent Advances in Deep Learning and its Applications on Mar 8, 2022
3. **Dr. Lokeswari Y V** has delivered a talk on "Machine Learning and Prediction Algorithms" on February 7th, 2022 in the Two- Day Virtual Workshop on Computational Models and Representation for Data Science held during 7-8 February,2022 organized by the Department of Computer Science and Engineering, Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam, Chennai.
4. **Ms. S. Angel Deborah** handled a session on "Hands on Training on Deep Learning Frameworks (Pytorch)" in the FDP programme on "Recent Advances in Deep Learning and its Applications" on 7th March 2022
5. **Ms.S. Angel Deborah** handled a session on "Hands-on Deep Learning Models for NER-Tamil" in the FDP programme on "Recent Advances in Deep Learning and its Applications" held on 10th March 2022, Department of CSE, SSNCE.
6. **Dr. D. Thenmozhi** handled a session on "Hands-on Deep Learning Models for NER-English" in the FDP programme on "Recent Advances in Deep Learning and its Applications" held on 10th March 2022, Department of CSE, SSNCE.
7. **Dr. P. Mirunalini**, handled Hands-on session "Deep Learning Models for Medical Imaging" at IVA-2022(Version 2.0) on 24th March conducted by SSN-Machine Learning Research Group as a pre-conference virtual workshop in Springer IFIP 5th International conference on Computational Intelligence in Data Science, (IFIP ICCIDS 2022).
8. **Ms. S. Rajalakshmi** delivered a Hands-on session titled "Training on Deep Learning Frameworks (Keras)" in FDP on "Recent Advances in Deep Learning and its Applications" on 7, March 2022 conducted by MLRG, SSNCE.
9. **Mr. B. Senthil Kumar** delivered a Hands-on session on "Transformer models for Indian languages" at TIER-2022 on 23rd February.

## OTHER ACTIVITIES

1. **Ms.S.Rajalakshmi** acted as an Examiner for performing the invigilation duty for Teachers Recruitment Board Examination for PG teachers on 18/2/2022
2. **Dr. R. Kanchana** was nominated as a representative for coordinating the CO-PO attainment of the PG courses to work on the common framework and attended a meeting convened by the Vice Principal on 25th Feb 2022 for discussions.
3. **Dr. R. Kanchana** attended the meeting organized by the Vice-Principal with Prof. Samudra on the common framework for CO-PO attainment for PG programs on 8th March 2022
4. **Dr. R. Kanchana Dr. T. T. Mirnalinee, Dr.R.S.Milton** attended the meeting on CO attainment for PG program and presented the CO attainments using old and new methods to Prof Samudra. It was organized by Prof. S. Radha, Vice Principal on 21st March 2022
5. **Dr. R. Kanchana Dr. T. T. Mirnalinee Dr.Y.V.Lokeswari** attended the meeting on CO attainment for PG program on 28th March 2022 and got clarifications on the common framework. It was organized by Prof. S. Radha, Vice Principal
6. **Dr. Chitra Babu, Dr. T. T. Mirnalinee, Dr.R.S.Milton, Dr. R.Kanchana, Dr. B. Prabavathy and Dr.D.Thenmozhi** as part of the Question paper review team. They reviewed QPs of I M.E, II and III year CAT question papers.
7. **Dr.S.Kavitha, Dr.Y.V.Lokeswari, Mr.B.Senthil Kumar and Ms.S.Rajalakshmi** prepared the presentation on Research activities of CSE department for the consultancy discussion with Ford on February 4, 2022
8. **Dr. Chitra Babu** was invited to attend the workshop that was meant for disseminating the progress made so far in the revision of AICTE CSE model curriculum that was organized by the chair of the Committee Dr. Pankaj Jalote on 26th March 2022.
9. **Dr. Chitra Babu** has been invited to serve in the Program Committee of the ACM CTiS(Computational Thinking in Schools) conference that is going to be organized in Pune during July 2022.



10. **Dr. Chitra Babu, Dr Venkata Vara Prasad, Dr. R. Kanchana, Dr. S. Saraswathi, Dr. K. Vallidevi** served as session-chairs for the paper presentation track, which was a part of the International Conference on Computational Intelligence in Data Science organized by the department of CSE, SSNCE held during 24 March -26 March, 2022.
11. **Dr. Chitra Babu** convened the first Multiple Courses Committee (MCC) meeting for the II-year B.E(CSE) on 7th March 2022.
12. **Sairam R. Sureshababu** (I Mech), **Sanjhay Venkatachari** (I CSE) submitted a project titled "QR Code-based Smart Trolley System for Shopping malls" under the guidance of **Dr. K. R. Sarath Chandran,AP/CSE, Dr. N. Sujaudeen,AP/CSE** and **Ms. S. Lakshmi Priya AP/CSE** . Budget Rs. 23,800/-.
13. **S. A. Kaniska Kiran** (I ECE), and **S. Meenakshi Lalitha** (I CHEM) submitted a project titled "IoT-Enabled Locker System with App Intervention for Smart Campus" under the guidance of **Ms.S.Lakshmi Priya AP/CSE. Dr.N.Sujaudeen,AP/CSE, Dr. K. R. Sarath Chandran AP/CSE**. Budget Rs. 15600/-.
14. **Ishwarya Ramachandran** (I BME), **Sarvajith .P** (I BME) and **Karishmaa Sathish Kumar** (I BME) submitted a project titled "Smart TV add-on system for Child Eye Safety" under the guidance of **Ms.S.Lakshmi Priya, Dr. K. R. Sarath Chandran** and **Dr.N.Sujaudeen**. Budget Rs. 20700/-
15. **Dr. R. Kanchana** attended the meeting convened by the Vice Principal on designing industry relevant courses and planning for industry participation in content delivery in the curriculum of ME CSE under PG 2022 regulation, on 20th Apr 2022.

## Q! - THE SSN QUIZ CLUB

The SSN Quiz Club — Q! — has long been an integral part of SSN’s club activities. Quizzing is not just about knowing facts and trivia, but about working out the answer from the clues in the question, and intelligent guessing. It gets incredibly exciting and enthralling as you work with your teammates to crack the questions.

After two years confinement in a virtual world, Q! conducted its first offline club meet on the 25th of April, 2022, at the CSE Seminar Hall. Club members and first-time quizzers attended the meet and had the, rather cast-away opportunity to interact in-the-flesh.

The participants were sorted into 6 random teams, as is Q! tradition, to contest in the quiz. The quiz was made up of three rounds — 2 “Dries” or Bounce/Pounce rounds, and one written round. The theme of the written round was *Reality is Stranger than Fiction*, based around entities from fiction that are based on real-life, from movies and books. This was indeed a crowd favorite. The quiz covered topics from *Harry Potter* to *Test Matches* and everything in between, and the teams battled it out in a close-fought match to grab the top spots.

In the lead up to SSN’s cultural fest — Instincts 2022, Q! will be conducting a fundraiser quiz. Going with the theme of Instincts 2022 — *Entertainment Redefined*, the quiz will be an *Entertainment A-Z Quiz*, based on all things entertainment - movies, TV-Shows, gaming, and more. It will be held on the 10th of May, 2022 at the Mini Auditorium.

As part of Instincts, Q! will be conducting two quizzes — a *General Quiz* and a *SpEnt (Sports and Entertainment) Quiz*, open to all colleges, and we are looking forward to a grand success!

### Team Q!



## CODING CLUB

The Competitive Programming Team of the Coding Club conducted an offline meeting on 8th April, Friday from 3:30 pm to 5:30 pm. The topic covered in the meeting was “Introduction to graphs”. About 80 students from across all departments and all years took part in the meet.

The concepts discussed in the meeting were:

1. Definitions, standard notations, and terminologies used in graphs
2. Representation of a graph using adjacency list and adjacency matrix
3. Depth-first search (Theory, Implementation, Path between two nodes, Cycle detection)
4. Breadth-first search (Theory, Implementation, Shortest path between two nodes).

While two students of the club, Joseph Amirtharaj, and Anirudh TN took turns teaching the concepts, the other club members went around clarifying the doubts and personally made sure that the concepts taught and the problems discussed were understood by all the participants. There was active participation from everyone present throughout the meeting and the feedback received was very positive.



The meet was conducted successfully and we, The SSN Coding Club would like to thank the HoD, the staff, and the department of CSE without their support, the meeting would not have been possible. The Coding Club looks forward to conducting more such offline meets in the future.

List of other events conducted include:

S. No	Date	Title	Speakers
1	9 January, 2022	Introduction to Flutter (Dart Basics)	Aditya R
2	12 January, 2022	Building a Sudoku Solver - Part 1	Karthik D Pranith
3	14 January, 2022	Introduction to CP	Avinash Kartik Joseph Amritharaj
4	16 January, 2022	Building an App using Flutter	Aditya R
5	21 January, 2022	Introduction to Time Complexity and other CP Fundamentals	Hariprasad B Karun Anantharaman
6	24 January, 2022	Building a Sudoku Solver - Part 2	Siddharth Sachin
7	27 February, 2022	AMA with an alumnus who participated in GSoC 2020	Alumnus: Nanda H Krishna (2017-21)
8	19 March, 2022	Introduction to UI/UX	Mohammed Arshad, S R Kailash
9	8th April, 2022	Introduction to Graphs (offline)	Anirudh TN Joseph Amirtharaj

# GRADUATE SCHOOL ADMISSIONS CONCLAVE

On 27 April 2022, the Association of Computer Engineers organised an informative seminar titled "Graduate School Admissions Conclave" in collaboration with the consultancy company Learners Cortex-Magoosh. The talk was directed toward the second and third years in the CSE department. At the outset, Learners Cortex is a proud partner of Magoosh test preparation based out of California, USA. Sriram Rangarajan gave the talk, who currently is serving as a chief instructor and admissions associate at Learners Cortex - Magoosh since 2017. He has 6 years of experience in training students for the GRE, GMAT, SAT, ACT, IELTS, TOEFL, PTE, BEC, STEP+.

Mr. Sriram started off the talk with insights on worldwide university rankings, university admissions criteria and academic prerequisites for graduate schools across the globe. He then explained the exams one would have to take and gave relevant profile-enhancement tips in order to get into a great graduate school. Then, he took everyone through the different sections of the GRE exam and interacted with the audience by presenting some sample questions while showing a snapshot of the company's piecemeal approach adopted in GRE/GMAT/IELTS/TOEFL preparation as well as the USPs of their training methodology. Company brochures were also distributed to the students.



# SMART INDIA HACKATHON

Smart India Hackathon 2022 is an initiative by All India Council for Technical Education (AICTE) under the aegis of the Ministry of Human Resource Development (MHRD) in collaboration with Inter-Institutional Inclusive Innovations Center (i4c), MyGov, Persistent Systems, and MIC. It is a nationwide initiative to provide students with a platform to solve some of the pressing problems we face in our daily lives, and thus inculcate a culture of product innovation and a mindset of problem-solving. It is considered the world's biggest open innovation movement where talented youngsters from all over the country offer out-of-the-box solutions to real-life problems.

Problem statements for SIH2022 Software & Hardware Edition are submitted by Central & State Ministries, Departments, PSUs, Industries & NGOs on the SIH portal. The Colleges are responsible for conducting an internal hackathon on the campus to finalize 30 teams (20 shortlisted + 10 waitlisted). Teams whose ideas have been selected, proceed to compete at the SIH grand finale.

The 12-hour long internal hackathon was conducted at SSN Campus on 23rd March 2022, Wednesday between 8 AM and 8 PM. Dr. V.E. Annamalai, Principal, served as the Ambassador for SIH 2022, Dr. T.T. Mirnalinee, Prof & HOD/CSE served as the Nodal Officer and Dr. K. Madheswari ASP/CSE served as the SPOC for SIH 2022-Internal Hackathon.

## The SIH 2022 – Internal Hackathon coordinators were:

Department	Name of the Coordinator
Civil	Dr. Vijayalakshmi
EEE	Dr. V.S. Nagarajan
CSE	Dr. K. Lekshmi
ECE	Dr. Rajavel Dr. Sakthivel Murugan
Mech	Dr R Vimal Sam Singh
IT	Dr. T. SreeSharmila
Biomedical	Dr. S. Saranya
Chemical	Dr. B. Ambedkar

Ms. Annie Christina, (Assistant Manager Marketing and Alumni Relations), Ms. Manjari P (Digital Marketing Executive(Dr. Ashwint Janarthanan, Asst. Prof., IT) were part of the invitation committee and they promoted the event on social media like Twitter/FB/LinkedIn/youtube.

The SIH 2022 internal evaluation committee members were Dr. S. Sakthivel Murugan, ASP/ECE, Dr. K. Lekshmi, ASP/CSE, Dr. S. Saranya, AP/BME Dr. V. Arulkumar, AP/IT. The Jury Coordination team consist of Dr. Sasirekha, ASP/IT, Ms. M. Saritha, AP/CSE, Dr. Gulam Nabi Alsath, ASP/CSE, Dr. S. Kirubaveni, ASP/ ECE. These teams worked together for coordinating the Jury members and selected the Top 30 teams. Dr. T. Sree Sharmila, ASP/IT, Ms. J.K. Josephine Julina,AP/IT and Dr. S. Vidhusha AP/IT were part of the Registration Committee.

Mr. Bala Thiruppathy, Deputy Manager-Facilities and their teams took care of Hall arrangements, Table & Chairs and Power Connection points Power back-up in SIH 2022 Internal hackathon venues. The Hall in charge managed the hall during the event. Dr. R. Rajavel, ASP/ ECE, Dr. C. Annadurai, ASP/ECE, Dr. B. Ramani, ASP/ECE, Dr. J. Bhuvana ASP/CSE, Dr. Y. V. Lokeswari, ASP/CSE, Dr. A. SandanaKaruppan, AP/ IT, Dr. I. Joe Louis Paul, ASP/IT, Dr. R. VijayaLakshmi, ASP/Civil and Dr. K. S. Jayakumar, ASP/Mech were part of the Hall in-charges team.

Dr. S.T. Jothi Basu, Manager - Placement, CDC and Mr. S. Ramaiah Ramesh, Placement Executive were the members of the Sponsorship Committee. AV Facilities and photography teams consisted of Mr. Bala Thiruppathy, Deputy Manager-Facilities, Dr. K. K. Nagarajan, ASP/ECE, Dr. K. R. Sarath Chandran AP/CSE and Mr. R. Jeyakumar, Electrical Engineer.

Mr. Guruswamy Rajesh, IT Manager and Team, Dr. V. Balasubramanian, ASP/CSE and Dr. K. Kabilan, AP, IT were part of the IT infrastructure committee. The team ensured the uninterrupted High-speed Internet – wifi, LAN connectivity during the event.

The food and refreshments committee arranged the food and refreshments for all participants and Jury members during the event. Dr. V.S. Nagarajan, Asso. Prof., EEE, Dr. M. Balaji, Asso. Prof., EEE, Dr.M. Suresh, Asso. Prof., Mech, Dr. P. Vasuki, Asso. Prof., IT and Dr. S. V. Jansi Rani, Asso. Prof., CSE were a part of the Food and Refreshments committee.

The transport team facilitated travel for student participants, faculty and Jury members. Mr. Dhakshinamoorthy, Transport Incharge, Dr. K. Babu, Asso. Prof., Mech. and Dr. B. Divya, Asst. Prof., BME were a part of the transport committee. The emergency care Team had Dr. Sachin Sarate & Team, Mr. K. Kannan Supervisor Hostels to serve for medical emergencies.

Mr. R. Gopalakrishnan, Deputy Manager and Mr. A. Chakkarapani, Asst Executive, Admin provided support for any admin related activities.

60 student teams from different years and different branches of study participated in the internal hackathon with utmost enthusiasm. The top 30 teams were selected by the jury members after carefully evaluating the teams' ideas by scrutinizing the teams' work in multiple rounds.

The event kickstarter at 8 AM and the teams were allotted their respective venues(with WiFi/LAN network facilities) by the event coordinators. The first round of evaluation started at 9:30 AM in multiple venues by 18 jury panels, and each panel consisted of 3 members. The total number of jury members was 54 of which 27 were external and 27 were internal. The next round of evaluation started at 4 PM by a different jury panel from the previous rounds.

Dr. K. Lekshmi(CSE), Dr.Mahesh Veezhinathan(BME), Dr. J. Bhuvana(CSE), Dr. S. Santosh(MECH), Dr. R. Amutha(ECE), Dr. B. S. Sreeja(ECE), Dr. K. Vallidevi (CSE), Dr. R. Kanchana(CSE), Dr. N. Muthu Selvan(EEE), Dr.P Vasuki(IT), Dr. A. K. Lakshminarayanan(MECH), Dr. P. Senthil Kumar(CHEMICAL), Dr. V. Vaithianathan(ECE), Dr. S. Chitra(IT), Dr. J. Dhanalakshmi(CHEMICAL), Dr. K. R. Sarath Chandran(CSE), Ms. Lakshmi Priya S(CSE), Dr. Balaji D(CHEMICAL), Dr. R. Ramaprabha(EEE), Dr. I. Joe Louis Paul(IT), Dr. Edna Elizabeth N.(ECE), Dr. S. Kavitha(CSE), Dr. A. Jawahar(ECE), Dr. K. Muthumeenakshi(ECE), Dr. R. Hemalatha(ECE), Dr. K. Nirmala(BME), Dr. T. Sree Sharmila (IT) and Dr. S. Arun Karthick(BME) have served as Internal Jury members.

### External Jury Members

<b>Jury name</b>	<b>Designation</b>	<b>Organization</b>
Mr. Ganesh Nagarajan	Director, Engineering	Mecwin Technologies India
Mr. Sathyanarayana	CEO	RSC Technologies, Chennai
Mr. R.Vaithianathan	Program Head	Zones Corporate Solutions Pvt Ltd
Ms. Janet Reshma J	Software Engineer	
Ms. Narmatha Muthu Sivan	Senior Consultant	Capgemini
Ms. Indhu Priya M	Application Developer	Entity Data Business Solutions, Chennai



Ms. Sonu Shaji	Senior Software Engineer	QBurst Technologies and Sol
Mr. Bala Manikandan	Tech Lead	Zoho
Mr. Deepak Arumugam	Electromagnetics Design Engineer	ePropelled systems
Mr. K.N.Dinesh Babu	Application Manager	Megger
Ms. Sneha G	Software Developer	Trimble
Mr.Kanishq S	Senior Developer	HackerRank
Mr. Rohit Midha	Analyst	Goldman Sachs
Mr. Arvindh Swaminathan	Former Project Associate	HTIC –IITM
Mr. Manickavel	Associate	CTS
Mr. Padma Shravan	Experienced Associate	PWC
Mr. Deepak A D	Associate Data Scientist	Shell
Mr. Gaudam K Chanakya	Consultant	KPMG Global Services
Mr. Sibi Mathew		
Mr.D.Shanthakumar	Director	Kornerstone Devices Pvt.Ltd
Mr. N. Sivasankaran	Chief Technical Officer	Viruksa Manufacturing Solutions Pvt Ltd
Ms. Geetika B	Senior Software Engineer	GAIN credit
Mr. Arvind Muthuraman	Manager - Application Development and Data	Presidio
Ms. Yamini	Junior ML Engineer	Mad Street Den
Mr. Rajeshwaran Murugan	Senior Cloud Engineer	Sirius computer solutions
Mr. Raghuraman Krishnamoorthy	Lead consultant	Sirius computer solutions

Dr. N. Sujaudeen AP/CSE and Ms.S.Rajalakshmi AP/CSE mentored the team "Thinkquanaut" which comprised of 6 second-year CSE students for the proposal - "E-commerce for Artisans".Dr. A. Beulah AP/CSE and Ms.S.Angel Deborah AP/CSE mentored the team "Intecoders" which comprised of 6 CSE students. Dr. K. Vallidevi, ASP/CSE was the mentor for the team "Hexclan", which was one of the selected teams for the final Hackathon.

The following teams from our college have been selected for further rounds in SIH 2022.

SI. No.	Team Name	Category
1	ByeWorld	Software
2	HEXCLAN	Software
3	405 Found	Software
4	ADHYAP	Software
5	Kyogre	Software
6	J-Nano	Software
7	Mech Maniacs	Software
8	VSCube	Software
9	Iconic	Software
10	RandomVariables	Software
11	Challengers	Hardware
12	Mech A4	Hardware
13	Drone Vision	Hardware
14	Zeolite	Hardware
15	Pacifiers	Hardware
16	Phantom	Hardware
17	Voyagers	Software
18	Electric Guest	Hardware
19	Icarus	Software
20	Electro Brains	Software

21	Edromis	Hardware
22	Republic of Neotrics	Hardware
23	Intecoders	Software
24	Daredevils	Software
25	SSN Squad	Software
26	Acyclic	Software
27	SSN SSAGA	Software
28	MediNeers	Software
29	Tech Robust	Software
30	The Vanguard	Software

Later the teams were given a chance to submit ideas against multiple problem statements through the team leader dashboard as a “**wild card entry**” submission. This increases the chance of a team’s idea getting shortlisted.

### SIH 2022 - CSE Department

The following teams from CSE department have been selected for further rounds in SIH 2022.

The department congratulates the teams that have been selected for the next round of Smart India Hackathon 2022.

SI. No.	Team Name	Team Leader	Problem statement
1	ByeWorld	Vignesh Balaji S	Graphical password authentication
2	HEXCLAN	S Nithin	Developing a solution for Gesture enabled commands for operating Laptops/PCs for frequently used operations on daily basis.
3	Kyogre	Karthik D	Pattern recognition algorithm to identify marine animals.

4	VSCube	Varsha Yeshwanth	An AI/ML based solution that generates short summaries of press releases for easy and more targeted dissemination of information to the people. Such a TL,DR (Too Long, Didn't Read) software may be integrated in an app-based solution.
5	Voyagers	Vaishnav	Comprehensive and consultative approach on destination's branding and marketing for various stakeholders and industry requirements
6	Intecoders	Madhuri Mahalingam	Portal to know about various National and International scholarships
7	Daredevils	KOUSHIK VISWANATH S	AI based Chatbot to answer FAQs



# STUDENT ACHIEVEMENTS

## Placement Updates

### Undergraduate Placements

	NITIN A	Rs. 15 L
	MOHAMED HASHIM G	Rs. 11.44 L
	SRIPRABHA ARUMUGAM	Rs. 6.57 L
	RAGHURAMAN A R	Rs. 6.5 L
	ARAVINDH KANAGARAJ	Rs. 6 L
	NAVEENA P NITHISHKUMAR R	Rs. 6 L
	SWETHA P	Rs. 5 L
	JOTHIGA J	Rs. 4 L
	KABILASUDHAN NC RAVIRAJAN SIVAKUMAR	Rs. 4 L
	RIYASAHAMAD A S KARTHICK RAJ	Rs. 3.5 L

### Postgraduate Placements

	ANGELINE HILDA	Rs. 12.59 L
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## Research Update

1. **Praveenkumar V, Prathyush S, Aravind P**, IV year along with **Ms. Angel Deborah S, Ms. Rajalakshmi S, Dr. R. S. Milton and Dr. T. T. Mirnalinee** participated and developed a system in the International Shared Task on “Hope Speech Detection for Equality, Diversity, and Inclusion (English, Tamil, Spanish, Kannada, and Malayalam)” conducted in Second Workshop on Language Technology for Equality, Diversity, Inclusion (LT-EDI-2022) as a part of 60th Annual Meeting of the Association for Computational Linguistics ([ACL 2022](#)) to be held during 22nd-27th May 2022 at Dublin. The system was ranked first for Kannada language, second for Malayalam language, third for Tamil language and sixth for English language.
 




2. **Karun Anantharaman, III year CSE, Divyasri K, II year CSE** along with **Ms. Angel Deborah S, Ms. Rajalakshmi S, Dr.R.S.Milton and Dr.T.T. Mirnalinee** participated and developed a system in the International Shared Task on “Structured Sentiment Analysis” conducted in the 16th International Workshop on Semantic Evaluation (SemEval 2022) colocated with Annual Conference of the North American Chapter of the Association for Computational Linguistics ([NAACL 2022](#)) Seattle, Washington July 10–15, 2022. The system was ranked 26th.
 



3. **Karun Anantharaman, III year CSE** along with **Ms. Rajalakshmi S, Ms. Angel Deborah S, Ms.Saritha M and Dr. R. S. Milton** participated and developed a system in the International Shared Task on “Detecting Signs of Depression from Social Media Text” conducted in Second Workshop on Language Technology for Equality, Diversity, Inclusion (LT-EDI-2022) as a part of 60th Annual Meeting of the Association for Computational Linguistics ([ACL 2022](#)) to be held during 22nd-27th May 2022 at Dublin. The system was ranked 27th.
4. **Shruthi H, Sarika Esackimuthu, II year CSE** along with **Ms. Saritha M, Ms. Rajalakshmi S and Ms. Angel Deborah S** participated and developed a system in the International Shared Task on “Troll Meme Classification in Tamil” conducted in the Second Workshop on Speech and Language Technologies for Dravidian Languages ( DravidianLangTech-2022 ) as a part of 60th Annual Meeting of the Association for Computational Linguistics ([ACL 2022](#)) to be held during 22nd-27th May 2022 at Dublin. The system was ranked 3rd.
 




5. **Sarika Esackimuthu, Shruthi H** along with **Ms. Rajalakshmi S, Ms. Angel Deborah S, Dr.R. S. Milton and Dr. T. T. Mirnalinee** participated and developed a system in the International Shared Task on “Detecting Signs of Depression from Social Media Text” conducted in Second Workshop on Language Technology for Equality, Diversity, Inclusion (LT-EDI-2022) as a part of 60th Annual Meeting of the Association for Computational Linguistics ([ACL 2022](#)) to be held during 22nd-27th May 2022 at Dublin. The system was ranked 20th.

6. **Varsini S, Kirthanna Rajan**, III year CSE along with **Ms. Angel Deborah S, Ms. Rajalakshmi S, Dr. R. S. Milton and Dr. T. T. Mirnalinee** participated and developed a system in the International Shared Task on “Emotion Analysis in Tamil” conducted in the Second Workshop on Speech and Language Technologies for Dravidian Languages (DravidianLangTech-2022) as a part of 60th Annual Meeting of the Association for Computational Linguistics([ACL 2022](#)) to be held during 22nd-27th May 2022 at Dublin. The system was ranked 5th.

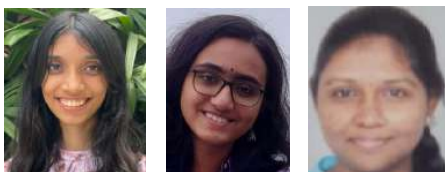


7. **Ram Dhanush V**, II Year CSE along with **Ms. Rajalakshmi S, Ms. Angel Deborah S, Dr. R. S. Milton and Dr. T. T. Mirnalinee** participated and developed a system in the International Shared Task on “[iSarcasmEval - Intended Sarcasm Detection in English and Arabic](#)” conducted in the 16th International Workshop on Semantic Evaluation (SemEval 2022) colocated with 2022 Annual Conference of the North American Chapter of the Association for Computational Linguistics ( [NAACL](#) 2022) Seattle, Washington July 10–15, 2022. The system was ranked 27th for English, 29th for Arabic, and 16th for multilabel classification.

8. **Nivedhitha D of IV Year and Karthik D of III Year** from the CSE department have presented a paper titled "Localization Systems for Autonomous Operation of Underwater Robotic Vehicles: A Survey" in the [IEEE OCEANS 2022](#) conference held during 21.02.2022 to 24.02.2022 organized by IIT Madras.



9. **Gayathri G L, Krithika S, Divyasri K** along with **Dr. Durairaj Thenmozhi, Dr. B. Bharathi**, participated and developed a system in the International Shared Task on “Abusive Comment Detection in Tamil Code-Mixed Data” conducted in conducted in the Second Workshop on Speech and Language Technologies for Dravidian Languages (DravidianLangTech-2022) as a part of 60th Annual Meeting of the Association



for Computational Linguistics ([ACL 2022](#)) to be held during 22nd-27th May 2022 at Dublin.

10. **Krithika S, Divyasri K, Gayathri G L** along with **Durairaj Thenmozhi, B. Bharathi, B. Senthilkumar**, participated and developed a system in the International Shared Task on “Emotion Analysis in Tamil” conducted in the Second Workshop on Speech and Language Technologies for Dravidian Languages (DravidianLangTech-2022) as a part of 60th Annual Meeting of the Association for Computational Linguistics ([ACL 2022](#)) to be held during 22nd-27th May 2022 at Dublin.

11. **Krithika Swaminathan, Hrishik Samptah, Gayathri G L** along with **Dr. B. Bharathi** participated and developed a system in the International Shared



Task on “Homophobia/Transphobia Detection in social media comments” conducted in Second Workshop on Language Technology for Equality, Diversity, Inclusion (LT-EDI-2022) as a part of 60th Annual Meeting of the Association for Computational

Linguistics ([ACL 2022](#)) to be held during 22nd-27th May 2022 at Dublin. The system was ranked ninth for Tamil language, twelveth for English language and ninth for Tamil-English language.

12. **Dhanya Srinivasan, Josephine Varsha** along with **Dr. B. Bharathi, Dr. D. Thenmozhi and Dr. B. Senthil Kumar** participated and

developed a system in the International Shared Task on “Hope Speech Detection for Equality, Diversity, and Inclusion (English, Tamil, Spanish, Kannada, and Malayalam)” conducted in Second Workshop on Language Technology for Equality, Diversity, Inclusion (LT-EDI-2022) as a part of 60th Annual Meeting of the



Association for Computational Linguistics ([ACL 2022](#)) to be held during 22nd-27th May 2022 at Dublin. The system was ranked fourth for Kannada language, fifth for Malayalam language, third for Tamil language, seventh for English language and third for Spanish language.

13. **Dhanya Srinivasan** along with **Dr. B. Bharathi, Dr. D. Thenmozhi Dr. B. Senthil Kumar** participated and developed a system in the International Shared Task on “Speech Recognition for Vulnerable Individuals in Tamil” conducted in Second Workshop on Language Technology for Equality, Diversity, Inclusion (LT-EDI-2022) as a part of 60th Annual Meeting of the Association for Computational Linguistics ([ACL 2022](#)) to be held during 22nd-27th May 2022 at Dublin. The system was ranked first.

14. **Sahasini S** along with **Dr. B. Bharathi** participated and developed a system in the International Shared Task on “Speech Recognition for Vulnerable





Individuals in Tamil” conducted in Second Workshop on Language Technology for Equality, Diversity, Inclusion (LT-EDI-2022) as a part of 60th Annual Meeting of the Association for Computational Linguistics ([ACL 2022](#)) to be held during 22nd-27th May 2022 at Dublin. The system was ranked second.

## Pragyan WebWars NIT Trichy

Lokesh N N and Moniesh Ravichandran of III year CSE A, participated in Web Wars, Pragyan Techfest organized by NIT Trichy at the national level held at NIT Trichy, from 17.03.2022 to 21.03.2022. The contest involved two rounds. The first round was a MCQ test on HTML,CSS and JS. 20 teams were shortlisted and the second round was a web development contest. Nearly 1500+ students of various colleges participated in the contest and they secured Second Place and received a cash prize of Rs.6000.



**Lokesh N N**



**Moniesh Ravichandran**

## Team ByeWorld @SIH 2022 - Internal Hackathon

The Govt. of India organized the Smart India Hackathon to seek participation from students to help address the challenges faced by various industries and ministries. In this regard, our college conducted an Internal Hackathon to select the top 15 teams. We, the team ByeWorld, secured the first position. We designed a web application for graphical password authentication. It is a user-centered, straightforward system. Our application is a recognition-based authentication system where a user must identify the image sequence selected during registration.

This authentication software provides maximum security with a minimalistic design and a highly secure database. It resists various attacks (shoulder-surfing, brute force, dictionary attacks). It can be used as a third-party authentication service for different websites that require frequent logins. It is a potential replacement for alphanumeric two-factor authentication.

**Team Leader:**

Vignesh Balaji - CSE-B II Year

**Team Members:**

Sumon Kumar - CSE-B II Year

Supraja S. - CSE-B II Year

Thejas Narasimhan - CSE-B II Year

Shruthi D. - CSE-B II Year




Shri Keshavinee R - CSE-B II Year

**Mentors:**

Dr. V. Balasubramanian & Dr. Sanjeet Kumar Nayak



## Co-curricular Activities

1. **Vikash Anand S** participated in "Mimamsa", a National level Annual Science Quiz organized by the students of IISER Pune for students at the undergraduate level. The prelims was held on Feb 20, 2022. The results will be announced on Mar 20, 2022. 
2. **Mrithula KL**, II year CSE participated in the "3rd IBSE International Symposium on Clinical Genomics to Systems Medicine", a 4-day symposium with key focus on novel techniques, methods and algorithms to dissect genomics data at multiple levels, enabling a deeper understanding of complex human diseases. 
3. **Mrithula KL**, II year CSE participated in Coding practice session 1 for Google Kickstart.
4. **Mrithula KL**, II year CSE participated in Design Heist, the flagship event of IEEE student branch of Bharati Vidyapeeth's College of Engineering, New Delhi. It is an online UI/UX competition. The competition is divided into two rounds: the design round and then the coding round. Only the shortlisted teams will be required to code their design for the final presentation. Her team is currently shortlisted for round 2.
5. **Vaibhav S IV** year CSE attended the Online National Seminar on Amazon Web Services conducted by Sri Sivasubramaniya Nadar College of Engineering. 







6. **Megan Kirupa Roxanne R** of III year CSE had participated in the 6th ICCSP 2022 Co-Located Workshop on MIoT - Microservices and

Internet of Things organized by the Department of Information Technology, SSN College of Engineering on 23.02.2022.

7. **Sudharsan S** of PG 2nd year CSE has participated in the Info-Graphic Designing Competition held during 07.02.2022 organized by Nimetler Technologies Private Limited at the national level.
8. **Sudharsan S** of PG 2nd year CSE has participated in the Case Submission of Hawk Eye: The Case Study Competition held during 08.02.2022 organized by Delhi Technological University (DTU), New Delhi at the national level.
9. **Sudharsan S** of PG 2nd year CSE has participated in Mulyankan 2022, a National level B-School paper presentation competition held during 12.02.2022 organized by Finance Forum at national level.
10. **Sudharsan S** of PG 2nd year CSE has participated in the Online Quiz of Mulyankan 2022 - The Equity Research Competition organized by Indian Institute of Management (IIM), Raipur at national level.
11. **Sudharsan S**, II-year M.E CSE has participated in the Data Analysis of Vishleshan'22 held during 04.03.2022 organized by Department of Business Economics (DBE), University of Delhi (DU), New Delhi at National level.
12. **Sudharsan S**, II year M.E CSE has participated in the Ultimate PM of Ethos 2022 held during 08.03.2022 to 10.03.2022 organized by Indian Institute of Management (IIM), Sambalpur at National level.
13. **Sudharsan S**, II year M.E CSE has participated in the Ranneeti - A National Level Case Study Competition of Enphilia 2022, the Annual Entrepreneurship Summit, held during 18.03.2022 at IIM Lucknow organized by Indian Institute of Management (IIM), Lucknow at National level.
14. **Sudharsan S**, II year M.E CSE has participated in the Quiz-O-Mania of Binge-O-Mania held during 20.03.2022 organized by Sri Aurobindo College Evening (SACEVE), University of Delhi, New Delhi at the national level.
15. **Vishal. V**, II year CSE has secured first place in Medley in eXLog 2022 held on 25.03.2022 at SSN College of Engineering, Kalavakkam.
16. **Mohamed Ajwad A** of II year CSE has participated in Alcatraz of Kurukshetra '22 held during 05.04.2022 to 08.04.2022 organized by Anna University at state level, CEG campus, chennai and secured first place.
17. **T.N. Anirudh** of III year and Avinash Karthik of IV year have participated in the onsite programming contest of Samhita'22 held on the 23.04.2022 organized by MIT at national level, MIT campus, Chennai and won the cash prize of Rs.2000/-



## Extra-curricular Activities

1. **Megan Kirupa Roxanne R** of III Year CSE has won the Second prize in Tamil Elocution Competition conducted by Saaral Tamizh Mandram of SSNCE in association with AICTE for "World Mother Language Day" on 21.02.2022 in online mode and was awarded Cash Prize of Rs.300. 
2. **Sudharsan S** of PG 2nd year CSE has participated in B-Roll: Videography Competition of Vista 2021 IIM Bangalore's International Business Summit held during 01.02.2022 organized by Indian Institute of Management (IIM), Bangalore at national level. 
3. **Sudharsan S** of PG 2nd year CSE has participated in Ideonator 6.0 of FINALYTIX CLUB, MOQSH 2021-22 held during 02.02.2022 organized by Shiv Nadar University (SNU), Greater Noida at the national level.
4. **Sudharsan S** of PG 2nd year CSE have participated in the General quiz hosted by Indian Institute of Management (IIM), Calcutta of Online Quizzing Festival (OQF) Season 7 held during 05.02.2022 to 12.02.2022 organized by the Indian Institute of Management (IIM), Calcutta at the national level.
5. **Sudharsan S**, II year M.E CSE has participated in the Sustainable Entrepreneurship 1.0 of TAPMI Sustainability Week held during 11.03.2022 to 18.03.2022 organized by T. A. Pai Management Institute (TAPMI), Manipal at National level.
6. **Sudharsan S** of PG 2nd year CSE has participated in Mind Scribbles of Samagra Quiz organised by Samagra Foundation at national level.
7. **Sudharsan S**, II year M.E CSE has participated in the Riddle Crypt of Virtual Escape held during 22.02.2022 organized by Sri Aurobindo College Evening (SACEVE), University Of Delhi, New Delhi at National level.
8. **Sudharsan S**, II year M.E CSE has participated in the Predict It or Let It Go! OfStonks - The Stock Trading Game held during 21.03.2022 organized by Sri Aurobindo College Evening (SACEVE), University of Delhi, New Delhi at the national level.
9. **Sudharsan S**, II year M.E CSE has participated in Spill the Ink held during 04.03.2022 organized by Manav Rachna University at the national level.
10. **Sudharsan S**, II year M.E CSE has participated in the Samadhaan of Karmaanta 2022 held during 17.03.2022 organized by the Indian Institute of Management (IIM), Raipur at the national level.
11. **Shashank Panda and Pradeep Ganesh** of III year were part of the music band that won first place in 120dB  

conducted as part of The Big Band Theory - Battle of the Bands during March 2022.

12. **Shashank Panda** and **Pradeep Ganesh** of III year were part of the music band that won first place in 120dB conducted as part of Band-it Battles during March 2022.
13. **Shashank Panda** of III year was part of the music band that won first place in 120dB conducted as part of Mandra Mayhem(Battle of Bands)during March 2022.
14. **Pradeep Ganesh** of III year was part of the music band that won second place in Samgatha conducted as part of Battle of the Bands by IIITDM Kancheepuram on 2nd April 2022.

## Hero CoLabs eXperience Challenge

It was one of my friends' fathers who noticed the "Hero CoLabs eXperience Challenge" and asked me to register. So as a Team Myself with Manoj Kumar and another friend from IIT registered for the competition. The challenge was about 3D Rendering of design and I started learning it around 1 year back, so I thought of giving my best. I did not even think I was ready for it. I just remembered, " You are never ready for the final exam." So, we decided not to regret an opportunity I did not seize for the challenge. Truth to be told, we didn't even expect to make it to the second round!

When I got a call from the concerned authority of the challenge, I got nervous, but to my surprise, she told me the news of bagging the title of 3<sup>rd</sup> Runner up of Hero CoLabs eXperience Challenge. It was a great moment, a sigh of relief. It was a fantastic journey, from not even knowing the basics to making a presentable design and even finishing on the podium. It was an excellent opportunity to showcase your skills in different fields/ Kudos to Hero and D2C! Going back in time, I was exploring a few months ago, and their 3D software excited me. Hence I decided to keep working on it. And then, I registered for this challenge. It was the turning point when I decided to learn more and more about architecture as I didn't belong in this field.

Because of the pandemic, we had to prepare by coming online in a virtual setup through Google Meets or zoom calls. We took one step at a time and broke down the problem into several smaller steps. We also divided the work among ourselves so that we could leverage what we were good at. We worked on the problem almost daily by coming into virtual meetings and brainstorming for at least an hour. Every solution allowed us to creatively think and come up with a lot of ideas. However, that also initiated hot debates and led to a lot of conflicts. To come up and finalize one single solution, required us to reject a lot of good ideas and that led to a lot of intense discussions among the three of us.

That was not it. At first, we didn't have enough time; the deadline was near(which got postponed later), but we didn't check it and had to finish everything in a hurry as We got to know about this challenge two weeks before the deadline. It was not a cakewalk. The

most challenging phase was learning the basics of architecture, business strategies that most top companies use while making their models, and adding new and innovative ideas to them. It was all trial and error process. There were numerous learnings throughout the competition and we really enjoyed the whole process. The whole process was a very smooth affair.



**Sudharsan S &  
Manoj Kumar S**

**M.E(CSE) Final Year**

## **D2C Most Competitive Leader for Maximum Participation 2022**

I am overjoyed to have been named the “**D2C Most Competitive Leader for Maximum Participation 2022**” across India, as well as to have my name published in "Forbes India Magazine - April Edition"!

By the end of June, I had competed in 24 competitions and had failed in all of them. When I first became a National Finalist in Pitch Perfect 2.0, it served as a motivator for me. After a few 'failures' and getting a handle on the approach to curating winning submissions, I picked up the pace around October. Then there was no turning back. I and my team won 30+ competitions, including those organized by prestigious B-Schools, that included domain-specific case studies, B-Plans, Paper Presentations, Idea-thons, CSR, quizzes, and so on.

2021 was a year full of challenges, including juggling competitions and college exams without sacrificing either, as well as placements. The plan was to “fail fast and fail forward”, focusing on the process rather than the outcome, and to build a portfolio of failed efforts, each of which provided me with valuable process information. Competitions provide an opportunity for holistic development outside of the classroom, from primary research and data analysis to aesthetic presentation and delivery. My most important takeaways came from various suggestions and the work of my peers/competitors. I was also able to pass some of my PhD interviews and obtain offer letters from reputable universities. It was all worth it in the end! Remember this when someone doubts your abilities:

"DO NOT limit yourself to someone else's opinion of your capabilities."

"Be yourself, dream, plan, and execute."

[Leaderboard - D2C Competitive Leaders 2022](#)

**Sudharsan S, M.E. (CSE) Final Year**

# Internship Interview Experience with Zebpay

**Zebpay R&D Lab** is an innovation hub that supports Zebpay and the Indian crypto ecosystem since 2014. The company held an internship drive on our campus in early February. Interns will actively participate in **blockchain** and **cryptocurrency R&D** project initiatives, with a focus on smart contracts, cryptographic protocols, mining, and other applications of distributed ledger technologies. Through research publications, they will be expected to deliver high-impact intellectual property values.

Good knowledge of Java and Python was one of the qualification criteria. Prior experience with Golang and Solidity was considered to be advantageous for candidature. A basic understanding of public-key crypto primitives such as encryption and digital signatures (DSA, Schnorr, BLS) was mandatory. The internship will last 2 to 6 months.

There were two rounds of Online Assessments (OA) involving coding and multiple-choice questions. The difficulty of the coding questions ranged from Leetcode easy to medium. The majority of the MCQs were about encryption standards (such as AES and DES) and operating system questions. For preparation, a review of topics from UCS1505 Introduction to Cryptographic Techniques should suffice.

There were two rounds of interviews as well. Questions about blockchain fundamentals, data structures, and algorithms were asked during the technical interview round. There was also a question about the Byzantine Agreement. It would be beneficial to supplement your preparation with concepts from the course UCS1701 Distributed Systems. During the HR interview, they focused primarily on the culture fit round. My Blockchain specialisation on my resume increased my value. For DSA, solving leetcode is sufficient. For technical rounds, review the college-offered course, UCS1505 Introduction to Cryptographic Techniques. Web3 fundamentals improve your profile as well.

I've compiled a list of resources that aided my preparation: [Byzantine Fault Tolerance](#), [Check Balanced Paranthesis using Stacks](#), [Two Pointers Technique](#), [Solidity Programming - ERC-20 Token](#), [Future of NFTs](#), and [AES Vs. DES Ciphers](#).

I would like to thank Dr V Balasubramanian Sir for sharing this opportunity.



**Sriram M**

**Final Year B.E. CSE**

## Internship Updates



AADHITHYAN P  
CHAITHANYA A



NITHISHKUMAR R



ABDUL AZEEZ B



S SAIKRISHNAN



AJAY BHAT  
AMITH KUMAR N



SAKTHI SAIRAJ



ARAVIND P



SHRINISHA N



ARUNESH  
KUMAR



SNEHA PRIYA M



GOUTHAM NATH  
P  
NIJANTHAN S  
ROHIT KUMAR J



SREEDHAR V



HEMANTH  
KUMAR K M



SUBA SHREE V S



KARTHIKEYAN K



AMARNATH B K  
JEYASURIYA B



KEERTHANA T



KABILASUDHAN N  
C



MANIKANDAN S



RAGHURAMAN A  
R



MOHAMED  
HASHIM G



PRAKASH R



NANTHINI R  
PREETHI P



NAVEENA P



# ART CORNER

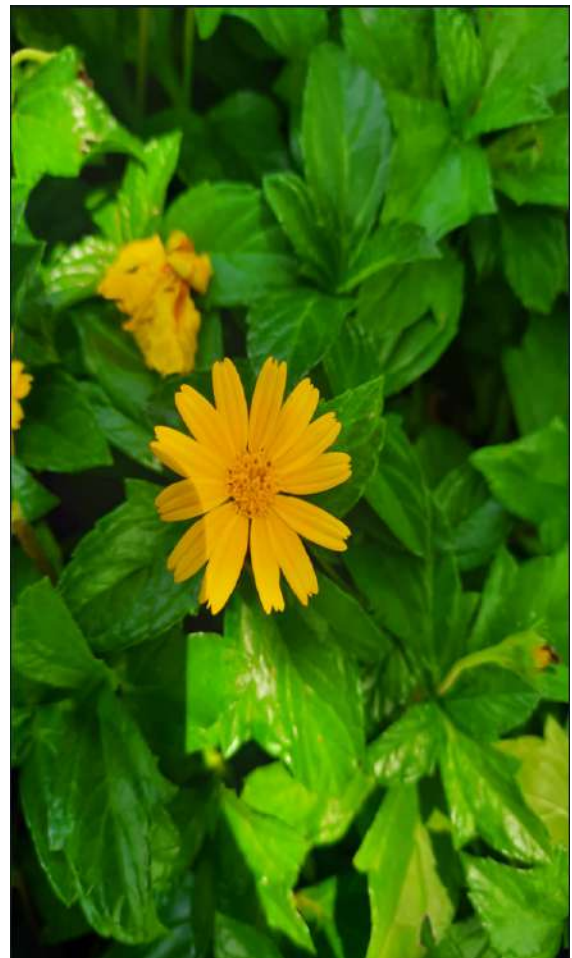


Art by Gayathri E, CSE A, 3rd Year.



Art by Sharvesh Shankar, CSE B, 3rd year

# PHOTOGRAPHY CORNER



Photography by P. Sanmati, CSE B, 3rd year



**Photographed by Krupa Elizabeth Thannickal, CSE A, 3rd year**

# **EDITORIAL TEAM**

## **FACULTY EDITORS**

**Dr. T. T. Mirnalinee**

Professor & Head/CSE

**Dr. A. Beulah**

AP/CSE

**Ms. S. Angel Deborah**

AP/CSE

## **STUDENT EDITORS**

**Nivedhitha D**

IV Year

**Varsini S**

III Year

**Karthik D**

III Year

**Srivarsha Elangovan**

III Year

**Anirudh A**

III Year