

SMRITI

Department of
Computer Science and
Engineering

VOLUME : 11 ISSUE : 3



TABLE OF CONTENTS

EDITORIAL DESK

EXTERNAL INTERACTIONS AND RECOGNITIONS

Invited Lectures

Doctoral Committee Member Activities

BoS, Anna University, Chennai

Advisory Committee Member

Georgia Institute of Technology

NPTEL Course Oral Examiners

Chief Guest

ACM-W India

INDUSTRY COLLABORATION

annalise.ai

Chettinad Academy of Research and Education

Kauvery Hospital, Chennai

Cognizant, Chennai

Valeo, Chennai

Intel, Bangalore

BMW

Caterpillar India Pvt Ltd, Chennai

HCL

PUBLICATIONS

SCHOLAR INFORMATIONS

FUNDED PROJECTS SANCTIONED

FUNDED PROJECTS APPLIED

PAPERS REVIEWED

EVENTS ORGANIZED

FDP / SEMINAR / WORKSHOPS ATTENDED

INVITED LECTURES - INSIDE SSN

OTHER ACTIVITIES

STUDENT ACHIEVEMENTS

CO CURRICULAR ACTIVITIES

EXTRA - CURRICULAR ACTIVITIES

ALUMNI CORNER

ART CORNER

EDITORIAL DESK

Greetings to all SMRITI readers. We are delighted in consolidating the accomplishments and remarkable works that happened in the department during this period.

The department congratulates Dr. B. Bharathi who got a fund of Rs. 13.77 lakhs from Tamil Virtual Academy for her project titled "Real-time multi dialect speech recognition for Tamil". Additionally, we would like to acknowledge the remarkable achievement of Dr. D. Thenmozhi, who has received a financial sanction order of Rs. 23,86,696 from DST under TDP scheme for the project titled "Blind Abled Reading Frame – BARF."

We appreciate the efforts of Dr. K. R. Sarath Chandran, Dr. N. Sujaudeen, Dr. A. Beulah, Dr. H. Shahul Hamead Dr. S. Rajalakshmi, Dr. M. Saritha, Ms. S. Lakshmi Priya and Dr. S. Angel Deborah in organizing the International Conference on Computational Intelligence in Data Science (ICCIDS) 2023.

The department acknowledges the commendable efforts put by Dr. Chitra Babu and Dr. N. Sujaudeen in celebrating SSN-ACM Student Chapter's 10th year anniversary through a special talk by Prof. Madhavan Mukund and a hackathon.

Our students have immensely contributed towards the growth of the department. We take pride in the outstanding performance of our students in the prestigious Tech Showcase contest. Among the 7000 applications received, the team led by Namshika won third place for their project. This achievement highlights the dedication and hard work of our students towards innovative and impactful projects in the field of computer science.

We are thrilled to announce that two teams from 2nd year CSE have secured the first and second positions in the ACM Codher 2023 challenge. We extend our heartfelt appreciation to Deepak Sriram, Harshavardhan Suresh, and Kiran Raj for their remarkable achievement in ranking 10th among 130+ teams in the ICPC Amritapuri 2022 Regional Round. Their hard work and dedication have led them to be selected for the finals, which will take place in May 2023.

We are delighted to witness the recent accomplishments of both our faculty and students during this quarter. With eager anticipation, we look forward to an even more productive quarter ahead.

SMRITI Editorial Team

EXTERNAL INTERACTIONS AND RECOGNITIONS

Invited Lectures

1. **Dr. R. Kanchana** delivered a talk on “The process of Outcome Based Education” in 3 sessions on 13th Feb 2023, to the newly joined faculty members (Batch 1) of Mepco Schlenk College of Engineering, Sivakasi as a part of their faculty orientation program organized by IQAC/ISO/ISTE.



2. **Dr. R. Kanchana** delivered a talk on “The process of Outcome Based Education” in 4 sessions on 6th March 2023, to the newly joined faculty members (Batch 2) of Mepco Sholenk College of Engineering, Sivakasi as a part of their faculty orientation program organized by IQAC/ISO/ISTE.
3. **Dr. Chitra Babu** handled a session on "Naive Bayes Classification" on the 14th March 2023 in the 5-days virtual Faculty Development Program organized by the Department of Mathematics at VIT, Chennai on "Current trends and methodologies in AI and ML".

Doctoral Committee Member Activities

1. **Dr. B. Bharathi** attended a confirmation DC meeting for the scholar of SRM Institute of Science and Technology, Chennai
2. **Dr. R. Priyadharsini** served as a DC member for the second Doctoral Committee Meeting (Online mode) of scholar Ms J. Priya of Easwari Engineering College, Anna University, on 17.03.2023.
3. **Dr. B. Bharathi** attended a third DC meeting for the scholar Ms. Sherin Eliyas at Hindustan institute of technology and science, Chennai on 14.03.2023
4. **Dr. B. Bharathi** attended a first DC meeting for the scholar Ms. Nalini Poornima S at Dr.M.G.R Educational and Research Institute University, Chennai on 29.03.2023.

5. **Dr. Y. V. Lokeswari** acted as an Indian examiner for the Ph. D full time scholar Mr.Sukumar R (IFT-16PhDo218) VIT Vellore under the supervision of Dr. Prabhu J, Professor, CSE, VIT Vellore. The oral examination was attended in the MS Teams on 17 April 2023 at 02:00 PM IST.
6. **Dr. V. Balasubramanian** attended the Comprehensive Viva Voce Examination of Ms. Vinothini, Research Scholar, VIT Vellore on 26.5.23 at 11.00 AM.
7. **Dr. S. Saraswathi** attended virtual Confirmation Doctoral Committee meeting of Ms.Panimalar S P on Friday, 28 th April 2023 at 1 p.m., Velammal Engineering College.

BoS, Anna University, Chennai

Dr. Chitra Babu attended the Special BoS meeting of Anna University on the 28th March 2023 to discuss the syllabi of skill-based courses that are going to be offered to the University departments and non-autonomous affiliated colleges . The process related to enrolling in these courses was also discussed in this meeting.

Advisory Committee Member

Dr. Chitra Babu attended the online Department Advisory Borad(DAB) meeting of the IT department of Kumaraguru College of Technology, Coimbatore on the 27th Jan 2023.

Georgia Institute of Technology



Prof. Paul Joseph Principal Research Scientist at the Institute for Electronics and Nanotechnology and Director of External User Programs for the Southeastern Nanotechnology Infrastructure Corridor (SENIC) from Georgia Institute of Technology visited the department of CSE on 27th Feb 2023 and discussed with our faculty members for a possible research collaboration. Dr. T.T. Mirnalinee, HoD, CSE gave a presentation about the department. Dr. R. Kanchana organized this visit.

NPTEL Course Oral Examiners

Dr. B. Bharathi, Dr. J. Bhuvana and Dr. P.Mirunalini conducted NPTEL course oral examination for third and final year students of Department of ECE, Sri Venkateswara College of Engineering, Sriperumpadur on 09.03.2023

Chief Guest

Dr. B. Bharathi was invited as Chief Guest for the "Ideathon" contest conducted by Department of Artificial Intelligence and Data Science, Panimalar Institute of Technology, Chennai on March 1st 2023.

ACM-W India

1. **Dr. Chitra Babu** as a member of the ACM-W India Council was invited to attend the ACM India Annual event and its co-located events organized at the Oriental Institute of Science and Technology, Bhopal during 9 - 11 February 2023.
2. **Dr. Chitra Babu** served as one of the organizing committee members for the ACM-W India Decade Celebration event that was organized on 10th Feb 2023 at the Oriental Institute of Science and Technology, Bhopal. She also served as a session chair for the keynote talk by the Outstanding Contributions to Computing by a Woman(OCCW) award winner - Dr. Shweta Agrawal from IIT Madras.
3. **Dr. Chitra Babu** attended the online ACM-W India Council meeting on the 4th February 2023.
4. **Dr. Chitra Babu** was invited as a Chief Guest to inaugurate the ACM-W Student Chapter of VIT, Chennai on the 7th March 2023.



INDUSTRY COLLABORATION

annalise.ai

On 6th Feb 2023, **Dr. T.T. Mirnalinee, Dr. R. Kanchana, Dr. A. Aravindan Prof and Head, IT, Mr. Pushpak Kumar, Manager, Placements and Dr. V.E. Annamalai, Principal, SSNCE** had a discussion with the team of annalise.ai Mr. Lakshmi Gudapakkam, CEO and Ms. Mohita Pathak, HR People Lead regarding possible ways of SSN-annalise.ai collaboration.



Chettinad Academy of Research and Education

On 6TH Feb 2023, **Dr. T.T. Mirnalinee and Dr. R. Kanchana** along with 4 UG students had a discussion with Dr. R. Arun Kumar, Vice Principal, Chettinad Academy of Research and Education regarding the healthcare projects on stroke type detection, renal stone detection and heart attack prediction as well as data / image collection.

Kauvery Hospital, Chennai

1. **Dr. R. Kanchana** helped the team comprising of **Dr. P. Mirunalini and Dr. K. Lekshmi** in preparing the department presentation to be shown to the team of doctors from Kauvery toward collaboration effects
2. **Dr. R. Kanchana** presented the details of her healthcare project “Immunization coverage analysis” to the team of doctors from Kauvery hospital, Chennai on 8th Feb 2023 for possible collaboration.
3. **Dr. S. Angel Deborah, Dr. T. T. Mirnalinee, Dr. S. Rajalakshmi and Dr. M. Saritha** presented the details of their healthcare project “Detecting PTSD using Emotion Analysis from Multimodal Data” to the team of doctors from Kauvery hospital, Chennai on 8th Feb 2023 for possible collaboration.
4. **Dr. A. Beulah** presented the details of her healthcare project “Degenerative disc disease diagnosis from lumbar MR images using hybrid features” to the team of doctors from Kauvery hospital, Chennai on 8th Feb 2023 for possible collaboration.



5. **Dr. V. S. Felix Enigo and Dr. A. Beulah** attended a meeting with Dr. Iyyappan, Radiologist, Kauvery Hospital and demonstrated their research work for possible collaboration on 26-04-2023.

Cognizant, Chennai

1. **Dr. T.T. Mirnalinee and Dr. R. Kanchana** showed the CTS lab for improving/upgrading it to Mr. Raghuraman Rajaraman, CTO, Health Science Unit of Cognizant on 10th Feb 2023. The visit was to explore the possible avenues for collaboration.
2. On 31st Mar 2023, **Dr. R. Kanchana** discussed with Mr. Raghuraman Rajaraman, Cognizant Technology Solutions, Chennai to finalise the guest lectures and a value added course from resource persons from Cognizant.

Valeo, Chennai

1. **Dr. R. Kanchana** prepared a report containing the details of college credentials and submitted it to Valeo, Chennai on 12th Feb 2023 towards the collaboration efforts.
2. On 7th March 2023, **Dr. T.T. Mirnalinee, Dr. R. Kanchana, Dr. H. Shahul Hamead, Dr. K.R. Sarathchandran, Dr. S. Saraswathi, and Dr. S. Rajalakshmi** visited Valeo and had a discussion with Prabhakar Nerella Sr. Engineering Manager - CDA Electronics, Chennai TC as well as Mr. Jeyantha Panda, Valeo India Private Limited regarding two consultancy projects. As a follow up, the research proposals were submitted on 15th Mar 2023.
3. A team from Valeo India Private Limited, Chennai comprising Mr. Prabhakar Nerella, Mr. Vijayaragavan S, Mr. Balraj, V, and Mr. Guruparan P visited SSN on 16th Mar 2023. Dr. R. Kanchana participated in the meeting with them to explore the different avenues of collaboration.



Intel, Bangalore

Dr. R. Kanchana, Dr. T.T. Mirnalinee, Dr. D.V.V. Prasad, and Dr. K. Lekshmi, had a meeting with Mr. Ashok, Intel, Bangalore on 10th March 2023 to discuss the topics and timeline for the lectures on the course Computer Organization and Architecture under industry participation in curriculum delivery.

BMW

Dr. T.T. Mirnalinee, Professor and Head, Department of CSE attended and presented the department expertise with BMW Delegates on 26th April 2023.



Caterpillar India Pvt Ltd, Chennai

Dr. Chitra Babu, along with Dr. Felix Enigo, and two 3rd year students, Shrikeshavinee and Sarika attended a meeting with the Caterpillar technical team on the 24th March 2023 to demonstrate the progress made in the consultancy project related to downloading of files in the background mode without interruption. The work that remains to be completed was also discussed in the meeting.

HCL

Dr. T.T.Mirnalinee, Dr. J. Bhuvana, Dr. R. Priyadarshini, Dr. K.R. Sarath Chandran, Dr. A. Beulah, Dr. H. Shahul Hameed and Dr. S. Angel Deborah attended a Workshop on HCL and SSN Collaboration on 6th April 202, to discuss their research works in the areas of AR, VR, AI and Sustainability.

PUBLICATIONS

Journal Publications

1. **Seyezhai Ramalingam, Muthuselvan N.B, Dr. J. Bhuvana**, published a paper titled “A Study and Review of Classical, Machine Learning and Deep Learning Methods of Software Reliability Estimation for Safety-Critical Systems”, Indian Journal of Natural Sciences, Vol:13, issue:76, Clarivate, IF:1.988, P.no: 52452- 52467.
2. **Dhivya, S, Mohanavalli, S and Kavitha, S**, published a paper titled “Automated Carcinoma Classification Using Efficient Nuclei-based Patch Selection and Deep Learning Techniques”, Journal of Intelligent & Fuzzy Systems, online first, April 2023, pp.1-15, Clarivate, IF: 1.737
3. **R.Srijith, A.Beulah, H.K.Vishal**, published a paper titled “Visual Scene Understanding for Self-Driving Vehicles using Mask RCNN”, Indian Journal of Natural Sciences, 14 (77), April 2023, pp.54833-54840, Clarivate, IF: 1.988

Book Chapter / Book series

1. **Vijay Jeyakumar, K. Rama Abirami, Dr.S. Saraswathi, R. Senthil Kumaran and Gurucharan Marthi**, published a book chapter titled, “"Secure medical image storage and retrieval for Internet of medical imaging things using blockchain-enabled edge computing.." in Intelligent Edge Computing for Cyber Physical Applications, Elsevier - Academic Press”,Vol and page no: 85-110
2. **Dr. Kanchana Rajaram, Pankaj Sharma & S. Selvakumar**, published a book chapter titled Cognitive Science and Technology / DLoader: Migration of Data from SQL to NoSQL Databases, Springer, Singapore, vol and page no: 193-204

Conference Presentations / Publications

1. **Subalalitha Chinnaudayar Navaneethakrishnan, Bharathi Raja Chakravarthi, Kogilavani Shanmugavadivel, Malliga Subramanian, Prasanna Kumar Kumaresan, Bharathi, Lavanya Sambath Kumar, and Rahul Ponnusamy**. 2023. Findings of shared task on Sentiment Analysis and Homophobia Detection of YouTube Comments in Code-Mixed Dravidian Languages. In Proceedings of the 14th Annual Meeting of the Forum for Information Retrieval Evaluation (FIRE '22). Association for Computing Machinery, New York, NY, USA, 18–21. <https://doi.org/10.1145/3574318.3574347>
2. **Dr. Chitra Babu** attended the 6th Edition of the IFIP International conference on Computational Intelligence in Data Science (ICCIDS). A paper titled "AJNA- Voice Assisted Captioning Tool for the Blind" was selected for presentation in this conference. Her co-authors (Three students who graduated in 2022) presented the paper on the 25th February 2023.

Patents

Dr. A. Beulah, Dr. S. Angel Deborah and Dr. S. Rajalakshmi filed the FER response for their Indian Patent on “Braille Interpretation Pad“ on 15th April 2023. (Ref. No. 202241037782, Application No. E-91/5157/2023/CHE)

SCHOLAR INFORMATIONS

1. **Dr. B. Bharathi** has Conducted a DC Meeting for her research scholar Ms. S. Suhasini for Confirmation of her Provisional Registration on 06.03.2023.
2. Ms. Suvidha Rupesh Kumar, Full time research scholar guided by **Dr. B. Bharathi** successfully defended her thesis titled "Measure towards generalization of automatic speaker verification anti-spoofing techniques" on 16.03.2023 at Department of CSE, SSN College of Engineering.
3. **Dr. T.T. Mirnalinee**, Convened Confirmation meeting for the full time scholar Ms. J. C. Divya

FUNDED PROJECTS SANCTIONED

1. **Dr. B. Bharathi(PI) ASP/CSE**, Dr. P. Vijayalakshmi, Prof&Head, ECE (Co-PI), Dr. T. Nagarajan, Prof&head, CSE, SNU, externally funded project titled “Real-time multi dialect speech recognition for Tamil”. Funded by Tamil Virtual Academy, Project amount Rs. 13.77Lakhs. Duration: 12 months (Feb 2023)
2. **Dr. D. Thenmozhi ASP/CSE** received a financial sanction order of Rs.23,86,696 from DST under TDP scheme for the project titled Blind Abled Reading Frame – BARF.
3. The Internally Funded Faculty project titled "Electronic Braille Pad: A Voice Enabled Learning System for Visually Impaired" proposed by **Dr. A. Beulah, Dr. S. Angel Deborah and Dr. S. Rajalakshmi**, was sanctioned on April 17, 2023 (2022-23) with the budget of Rs.1.35 Lakhs for 2 years.

FUNDED PROJECTS APPLIED

1. **Dr.T. T. Mirnalinee as PI, Dr. J. Bhuvana & Dr. B. Bharathi, as CO-PI** applied a project titled "Development of AI- based smart, lab assist device for the visually impaired Tamil medium higher secondary school students", in TN Chief Minister’s Research Grant for budget of Rs.22.99 Lakhs for a duration of 36 months on 15.03.2023
2. Project titled, Multi-objective optimization for efficient Deep learning model design with multiple teacher knowledge distilled anomaly detection for smart home security' was submitted by **Dr. J. Bhuvana**, to DST TARE on 20 March 2023 for a budget of 18.3 Lakhs for 3 years

3. Dr.S.M.Jaisakthi VIT chennai along with Dr.T.Janani VIT chennai **Dr.P.Mirunalini** and Dr.C.Aravindan, Professor and Head/IT SSNCE as CO-PI submitted a project proposal titled "Smart Information Retrieval System for Water Reservoirs and Encroachments using Change Detection Technique with Remotely Sensed Data" under DST-Core Research Grant was submitted for a budget of amount Rs.59,05,480 for a duration of 36 months on 20.03.2023
4. Dr. G. Satheesh Kumar Gopal, ASP/Mech, **Dr. S. V. Jansi Rani**, Dr. K. Sathish Kumar, Professor and Head/Chem, SSNCE, Dr. M. Sukumar, Prof & Director of Food technology, Anna University, Chennai, had submitted a project proposal on "Rapid detection of food spoilage for better human health using Thermal imaging and Machine learning", to Chief Minister Research Grant on March 14,2023 with a budget of ₹.39,02,840.
5. Dr. R. Hemalatha ASP/ECE, Dr. S. Radha, VP & Professor, **Dr. S. Angel Deborah AP/CSE**, SSNCE along with Dr.M.Alagar, Dr.V.Baskaran, Dr.P.Latha, TNAU submitted a project proposal titled "Early Rapid Detection and management of Red Palm Weevil in Coconut Plantations using LoRA enabled Acoustic Sensing Network" under DST-Core Research Grant on 14th March 2023 for a budget of Rs. 65.42 Lakhs for 3 years.
6. Dr. D. Praveen Sam (English) and **Dr. D. Thenmozhi** applied for a project titled "Enabling Digital Marketing Opportunity for the Indigenous Tribal Products/Produce of Toda Tribes in the Nilgiris District of Tamil Nadu" to IEEE HTB/SIGHT projects with a budget of \$9350.

PAPERS REVIEWED

1. **Dr. R. Kanchana** reviewed a research paper for the International Conference ICCIDS 2023 organized by the department of CSE, SSNCE on 1st Feb 2023. The conference is to be held during 23-25 Feb 2023
2. **Dr. B. Prabavathy** has reviewed 2 technical papers for the journals Computer Modeling and Engineering Sciences and Soft Computing.
3. **Dr. A. Beulah** reviewed a paper for Circuits, Systems, and Signal Processing.
4. **Dr. S. Rajalakshmi** reviewed one paper for the Journal of Ambient Intelligence and Smart Environments on February 15, 2023.
5. **Dr. V. Balasubramanian** acted as a reviewer for sixth international conference on computational intelligence in data science (iccids 2023)
6. **Dr. R. Kanchana** reviewed a paper titled "Fifteen years of metaverse in Higher Education: A systematic literature review " for IEEE Transactions on Learning Technologies on 13th Jan 2023
7. **Dr. A. Chamundeswari** acted as a reviewer for Sixth International conference on computational intelligence in data science (ICCIDS 2023)

8. **Dr. S. Angel Deborah** reviewed a paper on 1st March 2023 for the International Conference on Wireless Communications Signal Processing and Networking 2023.
9. **Dr. S. Angel Deborah** reviewed two papers on 3rd March 2023 for the Ninth International Conference on Biosignals, Images, and Instrumentation (ICBSII- 2023).
10. **Dr.S.Saraswathi** reviewed two paper for the conference ICBSII 2023
11. **Dr. S. Rajalakshmi** re-reviewed one paper for KSII Transactions on Internet and Information Systems on March 3, 2023.
12. **Dr. S. Rajalakshmi** reviewed two papers for the 17th International Workshop on Semantic Evaluation (SemEval 2023) for the task AfriSenti-SemEval: Sentiment Analysis for Low-resource African Languages using Twitter Dataset on March 30, 2023 which is conducted as a part of 61st Annual Meeting of the Association for Computational Linguistics (ACL'23) in Toronto, Canada from July 9th to July 14th, 2023.
13. **Dr. A. Beulah** reviewed a paper for Journal of Information Hiding and Privacy Protection.
14. **Dr. D. Thenmozhi** reviewed a paper for the Expert Systems With Applications journal
15. **Dr. D. Thenmozhi** reviewed a paper for the Knowledge-based Systems journal
16. **Dr. R. Priyadharsini** reviewed 2 papers for ICBSII 2023
17. **Dr. B. Bharathi** reviewed a paper for the international conference on WISPNET 2023 organized by Department of ECE, SSNCE on 07.03.2023
18. **Dr. S. Angel Deborah** reviewed a paper for the 17th International workshop on Semantic Evaluation- SemEval 2023.
19. **Dr. A. Beulah** Reviewed a paper research paper for Circuits, Systems, and Signal Processing on 27/4/2023.
20. **Dr. R. Kanchana** was invited to be a reviewer of the International Conference on RECENT ADVANCES IN ELECTRICAL, ELECTRONICS, UBIQUITOUS COMMUNICATION AND COMPUTATIONAL INTELLIGENCE (RAEEUCCI - 2023), TECHNICALLY CO-SPONSORED BY THE IEEE, held from 19 - 21 April 2023, organized by the Department of Electronics and Communication Engineering, SRMIST, Kattankulathur, Tamil Nadu, India. She reviewed 5 research papers on 8th April 2023.
21. **Dr. K. R. Sarath Chandran** has reviewed the paper for Journal of Multidisciplinary Healthcare on 19/04/2023.
22. **Dr. B. Prabavathy** reviewed a Journal Paper for CMES Journal.
23. **Dr. S. Angel Deborah** reviewed a journal paper for Environmental Science and Pollution Research, Springer.

EVENTS ORGANIZED

Dr. Chitra Babu, along with Dr. N. Sujaudeen organized a special talk by Prof. Madhavan Mukund, Director, Chennai Mathematical Institute(CMI) on the 12th April 2023 to celebrate the 10th year anniversary of the SSN-ACM Student Chapter. The topic of the talk was "The Future of Machine Learning". To mark this occasion, a hackathon was also conducted in the previous two weeks and the winning two teams were given cash prizes and certificates.

Hands-on Workshop on LaTeX

The Department of CSE organized a hands-on workshop on Latex on March 23rd,2023. This workshop is conducted exclusively for SSN PG students and Research Scholars. The objective of the workshop is to provide exposure on writing journal articles, thesis and to make presentations using Latex. Dr. S. V. Jansi Rani & Dr. H. Shahul Hamead organized this workshop.



The resource person, Dr.R.S.Milton gave live demo on creation of various entities such as table, creation of sub sections in a document, inserting images and equations in LaTeX. And also various components in creating a presentation using Latex. All the participants have worked on the same and created document and presentations on their own with live experience in this hands-on workshop. They have ensured that they will be using this tool in their near future.

Workshop on Web Application Development using ReactJS Framework

Hands-on Training and Workshop on Web Application Development using ReactJS Framework was conducted during 30.01.2023 – 03.02.2023. The motivation of this workshop was to help and encourage disadvantaged student members of the local community and provide them with good exposure to the latest industry frameworks and developments. The workshop was offered to participants free of charge, with volunteers providing their services. The workshop was conducted and coordinated by members of SSNCE for all of its sessions. This team includes Dr. B. Prabavathy, Associate Professor, Dr. M. Saritha Assistant Professor and UG Final Year students Sushaanth Srinivasan, Sharvesh S, Samyukta Ganeshkumar and Chalini P of Batch 2019-2023. The total number of participants were 26 which encompasses 5 UG students, 21 Diploma students from PSB Polytechnic College located near SSN College of Engineering. The workshop consisted of both lectures and hands-on activities, with the exception of the introductory sessions which were theoretical.



The first day of the workshop started with an inaugural address by our beloved Head of the Department, Dr. T.T. Mirnalinee, followed by the introduction to web application development by Dr. Prabavathy. The main objective of this workshop was to teach students the fundamental concepts of the frontend framework ReactJS, through practical demonstrations and hands-on experience. By the end of the workshop, the participants had developed a Car Sales Webapp, a toy web application.

During the first two days, Samyukta and Chalini conducted sessions on the concepts of HTML, CSS, and Javascript, and guided students in creating the necessary components for the toy project. On the



third day, the students were made to solve few more exercises on Javascript so that they could fine tune the creation of components by Sushaanth and Sharvesh.

The fourth day was handled by Dr. Prabavathy and covered every core concept of ReactJS such as components, props, state (to name a few) along with a demonstration by Sushaanth and Sharvesh. On the final day, the students implemented the Car Sales Webapp individually, and the session was supervised by Sushaanth, Sharvesh and Dr. Prabavathy. Finally, the workshop ended with a vote of thanks, followed by certificate distribution and feedback from the participants.

The workshop was a complete success and most of the participants expressed their desire to continue this kind of workshop on emerging technologies in future. We thank our HoD and SSN Management for their support in conducting such workshops for the benefit of the students.

Guest Lectures

Role of AI in Healthcare

On 6th February 2023, Mr. Lakshmi Gudapakkam was invited to the institution in order to deliver a lecture on “Role of AI in Healthcare”. Mr. Lakshmi Gudapakkam is the Chief Executive Officer at Annalise.ai. Annalise.ai is an Australian Company and are a prominent name in the healthcare sector. The speaker addressed the students of 3rd Year UG CSE. The session started off with a welcome address followed by the speaker’s address to students. The speaker



explained to the students about the company's work environment and history. The entire session highlighted the functioning of healthcare technologies. The speaker elaborated on how the healthcare industry is secure. He also highlighted the functioning of the industry amidst the recession trend going on in other sectors. The speaker gave insights into the company's nature of jobs and their corresponding hiring process. The session was then followed by a Q&A session where the speakers accepted questions from the students and answered them. The session then concluded with a vote of thanks.

Information Assurance and Cyber Security

A talk on "Information Assurance and Cyber Security" delivered by Mr. Sankaran and Mr. Sundarrajan from Standard Chartered Bank, Chennai to the II year UG students was held at the CSE Department's seminar hall on 2nd March 2023. Dr. R. Kanchana ASP/CSE and Dr. K. Lekshmi ASP/CSE organized the event. The talk emphasized the need for stringent cybersecurity measures in companies, especially in the banking sector. The speakers highlighted different kinds of attacks that systems could be subject to, the protocols in place, large-scale breaches, and a roadmap of courses and certifications for one to become an expert in cybersecurity. Further, the speakers emphasized that stringent cybersecurity measures are necessary in companies, especially in the banking sector, as it deals with sensitive and confidential customer data. Cybersecurity is critical because of the rapid advancements in technology, which brings about new challenges and threats. During the talk, Mr. Sankaran and Mr. Sundarrajan explained that computer systems face different kinds of cyber-attacks. They gave examples of attacks such as phishing, malware, ransomware, social engineering, and denial-of-service. They also talked about the different methods that hackers use to carry out these attacks. They spoke about the different protocols that are in place to safeguard computer systems, such as firewalls, intrusion detection systems, and intrusion prevention systems. During the talk, the speakers cited some large-scale breaches, such as the Yahoo and Aadhaar card breaches, to illustrate the importance of robust cybersecurity measures.



The talk was made lively with quizzes in the middle. Those who answered correctly, were rewarded with goodies like chocolates and stationery. This technique of quizzes and rewards was an effective way of engaging the audience and keeping their attention focused on the topic.

In conclusion, the talk on information assurance and cybersecurity delivered by Mr. Sankaran and Mr. Sundarrajan from Standard Chartered Bank, Chennai was informative and engaging. The speakers emphasized the need for stringent cybersecurity measures in companies, especially in the banking sector, and highlighted the different kinds of cyber-attacks that computer systems face.

A deep dive into the Metaverse - Its impact on the World and the Future of Technology

On 7th February 2023, Mr. Sunil David, Digital Technology Consultant gave a talk on A deep dive into the Metaverse - Its Impact on the World and the Future of Technology to the third-year UG students. The session started with Dr. Kanchana, Associate Professor, welcoming the guest speaker. The speaker then began addressing the students. He introduced himself to the students. He covered an umbrella of topics like what a metaverse is, why it is a booming area of interest in technology, how far its implemented and what is the future scope. He then proceeded to interact with the students on their opinions and clarifications about the metaverse.



Microservices Madness: Application and Infrastructure Automation

On 2nd February 2023, Mr. Mohan Muthukumar, Senior Software Engineer from Avalara gave a talk on Microservices Madness: Application and Infrastructure Automation followed by a talk on Guide to ML and building document processing models by Ms. Matild Reema, Senior Lead, Avalara for the third year students. The lecture began with the welcome address delivered by Subbulakshmi & Aravind, 3rd IT Students from SSN. The lecture was also assisted by Mr. Varaha, the Chief of Operations at Avalara. The speaker panel discussed their job profiles and the type of work they do. The panel also threw a spotlight on services provided by Avalara. Avalara is a microservices company based in India. Mr. Varaha explained the available positions in the organization. He also explained the hiring process to the students and the various pre-placement and full-time job roles they provide. Then doubts from students were answered by the panel members. The session concluded with a vote of thanks and felicitation of the speakers by Dr. Kanchana, Associate Professor at SSN College of Engineering.



Indian National Olympiad in Informatics (INOI 2023)

The department of Computer Science & Engineering hosted the Indian National Olympiad in Informatics (INOI 2023), a programming exam held at centres across the country on 5.02.2023 between 2.00 PM to 5.00 PM. It was conducted this year at our Operating System & Network Programming Lab in the CSE department Annexe building on the 5th February 2023 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 centre. A total of 10 students from Chennai and Pondicherry schools participated and they got qualified from ZCO 2023. The centre coordinator for the event is Dr. V. Balasubramanian, Associate Professor.



International Conference on Computational Intelligence in Data Science (ICCIDS 2023)

The department of Computer Science and Engineering has organized the sixth edition of International Conference on Computational Intelligence in Data Science ICCIDS 2023 during February 23- 25, 2023 in virtual mode. Dr. K. R. Sarath Chandran, Dr. N. Sujaudeen, Dr. A. Beulah, Dr. H. Shahul Hamead acted as the convenors and Dr. S. Rajalakshmi, Dr. M. Saritha, Ms. S. Lakshmi Priya and Dr. S. Angel Deborah acted as the co-convenors of the conference.



This conference provided an opportunity for the researchers, engineers, developers, and practitioners from academia and industry to discuss and address the problems related to Data Science, Artificial Intelligence, Internet of Things, Knowledge Management, Computer Networks, Systems and Security.

The conference received 136 papers from reputed universities around the globe. After the peer review process, 24 papers were selected for presentation.

Accepted papers that are presented at the conference will be published in the Springer IFIP Advances in Information and Communication Technology series.

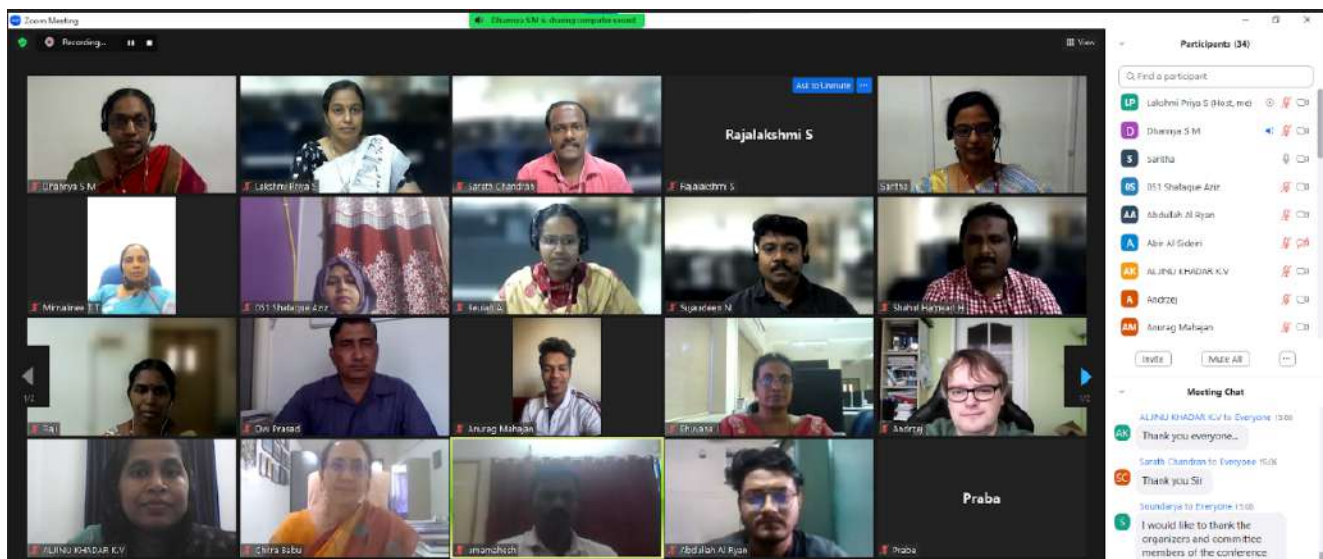
A pre-conference workshop on Image and video analysis was conducted successfully by Machine Learning Research Group (MLRG) on 23rd February 2023 with around 80 participants. Dr. S. Chitrakala, Professor, Dept. of Computer Science and Engineering, College of Engineering (CEG), Anna University and Dr. Masilamani V, Associate Professor and HOD, Department of Computer Science and Engineering, IITDM, Kancheepuram were the external resource persons for the workshop. Hands-on sessions also provided during the workshop by the research team of MLRG.

Dr. Gabriella Pasi, Professor, University of Milano-Bicocca, Italy acted as the chief guest of the inaugural programme of ICCIDS 2023 on 24th February 2023. As part of this conference, 5 keynote talks were arranged on the latest trends of current research areas. The following eminent professors delivered their keynote at the conference.



Five paper presentation tracks were scheduled according to the research topics. Based on the novelty and research contribution, 3 papers were honored with best paper awards. The technical extravaganza was well received by the participants. We thank the SSN Management, the Principal, the Head of the Department, faculty members and staff for their support extended for making this event happen.

Team- ICCIDS 2023



SSN- CSEDU Partnership Program for the Course in Hybrid Mode: Effective Teaching of Computer Networks

The CSEDU (Certificate Program for Faculty in Computer Science Education) was held to improve the quality of CS/IT teaching in line with modern developments. Improved quality of teaching will lead to better employability for students and better ranking/reputation of colleges/institutions. The program helps strengthen course design capability in faculty, thereby improving the strength of the institution for autonomy.

25 Participants from SSN, SNU Chennai, VIT University, SRM University, Sri Venkateswara College of Engineering, and Rajalakshmi Engineering College, attended this program.

Effective teaching of networks was conducted in hybrid mode and the physical classes were scheduled in SSN on March 2-4, 2023 (3 days) and March 30,31, April 1, 2023 (3 days).

Dr. Timothy A. Gonsalves, IIT Mandi (Former Director), Dr. Sreelakshmi IIT Mandi coordinated the course in Physical classes at SSN, and Prof. B.N. Jain, IIIT Delhi, Dr. Vinay Ribeiro, IIT Bombay Handled the online classes.



Workshop on “Blockchain Technology and its Applications”

Blockchain is an emerging technology platform expected to lead most of the data storage and information sharing for the upcoming IT industry. Blockchain is a platform for developing decentralized applications and data storage, over and beyond its role as a technology underlying cryptocurrencies. Blockchain technology has a broad spectrum of applications that includes Financial Transactions, Credential Management, Internet-of-Things, Supply Chain Management, and several others.

The objective of this workshop was to introduce the importance of Blockchain technology and its applications in different domains. This would help participants of all backgrounds to gain knowledge on Blockchain technology. The workshop comprised talks and demonstrations



by experts from IIT, CMI, and SSNCE, and was held on February 2nd and 3rd 2023.

The workshop was attended by 27 participants. It included Faculty, Research Scholars, and Students of SSN and neighboring colleges. The key resource persons included Dr. S.P. Suresh from CMI, Dr. N. Bhalaji of SSNCE, Dr. V. Balasubramanian of SSNCE, Mr. Pappu Kumar, IIT Madras, Ms. Divya Rathore, IIT Madras and Mr. Bhargavi Sriram, IIT Madras. The event was coordinated by Dr. Chitra Babu, Dr. S. Kavitha and Dr. V. Balasubramanian

ACM - Hack A Decade

The SSN ACM Student Chapter in association with the Department of Computer Science and Engineering organised a Hackathon 'Hack A Decade' to mark its 10th anniversary during the first two weeks of April 2023. Dr. Madhavan Mukund, Director of Chennai Mathematical Institute was invited as Chief guest to felicitate the Chapter.

The hackathon aimed to bring together people with different strengths in computing. Participants were encouraged to choose a topic of social relevance on their own and were provided with suggestions of domains such as FinTech and De-Fi, EdTech, Utility and LifeTech, Healthcare, Quantum Computing, Web 3.0, Agriculture and Cyber Security having in mind the huge positive impact it can have on the society.



Entry to the hackathon was free and was open to students of all colleges. Registrations, that began on 27th March saw the final submissions being submitted on the 10th April. There was enthusiastic participation by teams from SSN and several other colleges. The entries were judged by members of our distinguished alumni. Based on the rubrics such as 'Utility of Concept', 'Technical Merit' and 'Creativity', two prizes namely the "Challenge Winner Award" and the "Social Good Award" were announced. The winning teams of each category were rewarded with a cash prize of ₹5000.



The results were announced on the occasion of the 10th anniversary celebration event of the SSN ACM student Chapter on the 12th of April. Prof. Madhavan Mukund, Director of the Chennai Mathematical Institute graced the occasion as Chief Guest. He delivered an expert talk on "The Future of Machine Learning". An experienced professor in Computer Science, an IITB alumnus, Dr. Mukund truly enlightened the audience with his talk on "The Future of Machine Learning". It provided food for thought for all of us regarding the fact that although fascinating it is, one may also need to be careful with AI and ML to not yield negative effects on society. The impact of ML in fields like City safety and designing was mind blowing to learn about. He gave a lot of incentives to students to explore this field with a deep research interest in order to find out the unexplored gems it has to offer.

The faculty coordinators for this event were Dr. Chitra Babu, and Dr. N. Sujaudeen. Dr. Chitra Babu fondly recollected the memories of SSN ACM Student Chapter that was inaugurated by Prof. Madhavan himself 10 years back and also about several past office bearers of the chapter who actively contributed to the growth of the chapter. A video that provided a glimpse into the past activities of SSN ACM Student Chapter during the last 10 years had been nicely compiled by the members of the chapter. The chief guest handed over the certificates to the winners of the hackathon. The event concluded after the winning teams showcasing their solutions. Sarath Donepudi and Jeevesh Krishna of III year were the student coordinators of the event.



FDP / SEMINAR / WORKSHOPS ATTENDED

1. **Dr. R. Kanchana, Dr.D.Thenmozhi, Dr. A. Chamundeswari, Dr. V.S. Felix Enigo Dr. S. Angel Deborah, Dr.K.R.Sarath Chandran and Dr. Shahul Hamead** participated in the 4 days training program, initiate of GDC, Incubation centre, IIT Madras Research park organized by the SSN incubation centre I-Found during 21st-24th Feb 2023.
2. **Dr.S.Rajalakshmi** attended the two days workshop on "Blockchain Technology and its applications" during Feb 2-3, 2023 conducted by Department of CSE, SSN CE.
3. **Dr.S.Rajalakshmi** attended the "5 DAY FDP ON INDIAN TRADITIONAL KNOWLEDGE" conducted by Department of Electrical and Electronics Engineering, Nadimpalli Satyanarayana Raju Institute of Technology (Autonomous), Visakhapatnam from 13/2/2023 to 17/2/2023.
4. **Dr. Chitra Babu** attended the pre-conference workshop on "Image and Video Anaysis(IVA - Edition 3.0) that was organized with ICCIDS 2023 on the 23rd February.
5. **Dr. R. Kanchana**, attended the 6-day FDP on UHV-II: Universal Human Values – Understanding Harmony and Ethical Human Conduct during 20-25 Mar 2023. It is conducted by AICTE.
6. **Dr. S. V. Jansi Rani, and Dr. M. Saritha**, attended a Faculty Enrichment Programme on Digital Nurture Reverence in CTS, Sholinganallur, Chennai on 16th March 2023.
7. **Dr.V.S.Felix Enigo, Dr. J. Bhuvana, Dr. A. Beulah**, attended a 5 week CSEDU Certificate Program For Faculty in Computer Science Education on "Effective Teaching of Computer Networks" jointly organized by SSN and ACM during 2-3-2023 to 1-4-2023.
8. **Dr. D Thenmozhi**, attended a one day workshop on Business Model Canvas conducted by SSNiFound on 16th march 2023
9. **Dr. Chitra Babu**, as a member of the ACM India Learning Initiatives committee, gave an introduction to ACM India and ACM iSIGCSE in the beginning of the ACMI-TCS Research joint webinar on ""Energy Internet"" on March 21st 2023. It comprised a talk on "The Software- and AI-Driven Future of Renewables"" by Dr. Shivkumar Kalyanaraman, CTO, Energy & Mobility, Microsoft India, followed by a fireside chat on "How to wire the energy internet?".
10. **Dr. S. Saraswathi, Dr. A. Beulah, and Dr. S. Angel Deborah**, attended special seminar titled "Maathare (மாத்தரே)", for Women's Day on 8th March 2023.
11. **Dr. K.R. Sarath Chandran, and Dr. S. Angel Deborah**, attended a two day workshop on "AR & VR" to be held on the 14th and 15th of March, 2023.

was introduced and the participants went around the facilities. On the second day, 12 teams presented their business ideas and got feedback. The talks on “Why is your innovation important?” and “What is Commercialisation of Idea / Technology?” were eye-openers.

On the third day, the talk on entrepreneurial mindset was impressive. There were talks on “Business Landscape and Ecosystem for Your Innovation” and “Lifecycle of a Science-based Startup”. The sessions were highly interactive. On day 4, the teams revised their presentations based on the feedback and re-presented. Further feedback on customer identification was provided. The details of I-NCUBATE program by GDC were given. The workshop was very informative, interesting, and inspiring.



Cognizant Digital Nurture Reverence Program



Dr. S. V. Jansi Rani and Dr. M. Saritha attended the faculty enrichment program in CTS, Sholinganallur on 16-3-2023. The program gave good exposure on the Metaverse and as well as writing good and secure code. There were also demonstrations of various quality-checking open-source platforms such as SonarQube, and Checkmarx. The CTS research team demonstrated their various projects

on Robotics, Augmented & Virtual Reality, and RFID-based projects as use cases of Metaverse. The program imparted excellent exposure to real-time projects. It was a wonderful opportunity to get impactful industry insights and would impart this real-time knowledge further to fellow academicians and students.

Discovery Workshop

On 17th and 18th March 2023, Dr. R Kanchana and Dr. B Prabhavathy participated in a two-day Discovery workshop on developing technology-enabled course material to actively engage the students in the class to ensure the achievement of program outcomes. The workshop, organized by Dr. S V Albal from SACE, was conducted by Prof. Praveen Garimella of the Indian School of Business.

On the first day, the workshop started with an overview of learning engineering and its role in course enhancement. In the second session, Active Learning and Logistics were presented and logistics and technical requirements for using smartphones in the classroom were discussed. The learning engineers had a break-out session with the teams of faculty members to perform opportunity analysis to get to know the courses and logistics and brainstorm ideas for active learning elements that can be incorporated in the courses.

On the second day of the break-out sessions, Learning engineers worked with faculty to create materials for active learning elements. Faculty members discussed implementation strategies and logistics for their courses Prof. Praveen Garimella gave an overview of big-picture diagramming and its importance in course design.- There was a breakout session to create big-picture diagrams for individual courses. In the last session, the roadmap for the course design was explained. Thirteen teams were asked to develop thirteen courses with two disruptive activities in each class. The teams will be regularly discussing with the learning engineers.

Based on their experience at the workshop, Dr. Kanchana and Dr. Prabavathy are actively developing technology-enabled learning activities for courses.

INVITED LECTURES - INSIDE SSN

1. **Dr. B. Bharathi** delivered a talk on “Recent advances in speech recognition” on 06th Feb 2023 at Faculty Development Programme (FDP) on “Exploring Next Generation Smart Solutions (ENGSS 2023)”, Department of IT, SSN College of Engineering
2. **Dr. R. Kanchana** was invited to provide an overview of Technology enabled Learning in the IQAC meeting held on 22nd Mar 2023. The meeting was convened by the IQAC coordinator Prof. N. Ventateswaran, BME.



OTHER ACTIVITIES

1. **Dr.S.Rajalakshmi** served as session coordinator for Paper Presentation Track 3 and evaluated the presented papers in 6th International Conference on Computational Intelligence in Data Science - ICCIDS 2023 on February 25, 2023
2. **Dr. Chitra Babu** joined the Head of the Department, **Dr. T. T. Mirnalinee**, for scrutinizing the faculty projects that were presented for possible internal funding on the 8th February 2023.
3. **Dr. Chitra Babu, Dr. A. Chamundeswari, Dr. R. Kanchana, Dr. B. Prabavathy** served as a Session Chair for the paper presentation session that was part of the 6th edition of the International conference on Computational Intelligence in Data Science(ICCIDS) held during 23-25 February 2023.
4. **Dr. V. Balasubramanian** acted as a Session Chair in the Ninth International Conference on Biosignals, Images, and Instrumentation held on March 16 & 17, 2023 at SSN College of Engineering
5. **Dr. S. Kavitha** prepared End Semester Examinations question papers for EASWARI ENGINEERING COLLEGE (An Autonomous Institution), RAMAPURAM, CHENNAI - 600089.
6. **Dr. Dhannya SM** conducted project viva-voce for Modern Application Development Courses at the IITM BS Degree Program on the 10th, 11th and 24th April 2023.
7. **Dr. Chitra Babu** along with Dr. Neeraj Goel, IIT Ropar(PC Chair and Co-chair of ACM COMPUTE 2023) attended a meeting with PC Chairs of the conference CompEd 2023, Andrew Luxton-Reilly, University of Auckland, New zealand and Dr. Michelle Craig, University of Toronto on the 5th April 2023 regarding the logistics related to the day of overlap between the two conferences(9th Dec)during December 2023.



STUDENT ACHIEVEMENTS

Placement

Total Number of Students Placed so far: 114

Highest Pay package: Rs. 1,17,00,000 (Motorq)

Updates (Feb 23-April 23)

Company	Salary	Count	Students Name
M2P Fintech	1200000	2	Naveen M R Chalini Pasupathy
Extreme Networks	910000	1	Tushar Nair

Internship Details

Internship batch 2019-2023				
S.No	Student Name	Company	Starting date	End date
1	Chalini	DLF Cybercity	20-Feb-23	19-Jun-23
2	Dhivya Lakshmi.RM	Fidelity Investments	6-Feb-23	6-Jul-23
3	Kirthanna Rajan	Fidelity Investments	6-Feb-23	6-Jul-23
4	Meena Muthukumar	Equinix India	6-Feb-23	25-Jun-23
5	Moniesh R	CodeUnity	15-Feb-23	30-Jun-23
6	Namshika.S.N	J.P.Morgan	6-Feb-23	31-May-23
7	M Pooja	Verizon	27-Feb-23	30-Jun-23
8	Priyadharshini.M	Equinix India	6-Feb-23	31-May-23
9	Samyuktha Ganeshkumar	Equinix India	6-Feb-23	31-May-23
10	Sandeep sekhar	Fidelity Investments	6-Feb-23	6-Jul-23
11	Shashank Panda	Fidelity Investments	6-Feb-23	6-Jul-23
12	Varsha .S	Sify Technologies	6-Feb-23	6-May-23
13	Varsini.S	Fidelity Investments	7-Feb-23	7-Jul-23
14	Varun Vinod	Verizon	27-Feb-23	30-Jun-23

15	Venkat Narayan T R	Togai	23-Jan-23	30-Jun-23
16	Vignesh M.R	TEKION	5-Jan-23	5-Jul-23
17	V Vishaul	Verizon	27-Feb-23	30-Jun-23
18	Yaswanth Udayakumar	NielsenIQ	8-Feb-23	31-May-23
19	Rishikesh B	Peninsular Research Operation	1-Feb-23	7-Jul-23
20	Samir Ray	Rocketlane	1-Feb-23	31-May-23

Professional Readiness for Innovation, Employability and Entrepreneurship

Nalaiya Thiran is an Initiative organized by ICT Academy in association with The Department of Information Technology & Digital Services, NASSCOM, IBM, TNSDC and Anna University.

It is a 3-credit course on experiential based learning. Our 145 Final Year were grouped into 37 teams and participated in this initiative and successfully completed their projects.

With the aim to identify and showcase the best projects of Nalaiya Thiran to the world, ICT Academy organizes Tech Showcase exclusively for the students who participated under the Naan Mudhalvan initiative.

Tech Showcase is a project presentation contest from this experiential learning projects and it is conducted in six regions across Tamil Nadu.

The Grand Finale of the contest will be held at Umanage Chennai 2023, a Global Technology, Entrepreneurship and Skills Summit organized by Government of Tamil Nadu from 23rd to 25th March 2023 at Trade Centre, Chennai.

The best projects will also get showcased at Umanage Chennai 2023 and the best teams will get special recognition, award of cash prize [1st. Prize - Rs. 50,000.00 2nd. Prize – Rs. 30,000.00 3rd. Prize - Rs. 20,000.00], and certification.

The Tech Showcase received around 7000 applications. From the applications received, we have shortlisted the top 25 teams for the Regional Finale.

Two CSE teams have reached the regional Finals Scheduled on March 4,2023 at St. Joseph's Institute of Technology, Chennai.

S.	Team ID	Team Leader	Team	Project	Faculty Mentor /
----	---------	-------------	------	---------	------------------

No		Name	Members	Problem Statement	Evaluator
1	PNT2022TMID53138	Venkat Narayan T R	Hariprasad Madhava Prashath Sanyog Kave P	Nutrition Assistant Application	Mentor - Dr. V. Balasubramanian Evaluator- Dr. T.T. Mirnalinee
2	PNT2022TMID53079	Namshika S N	Aadithya Hariharan Keerthipriya M S Manickam L	IOT based safety gadget for child safety monitoring and notification	Mentor - Dr. J. Bhuvana Evaluator- Dr. D. Venkata Vara Prasad

The team **PNT2022TMID53079** (**Namshika S N, Aadithya Hariharan, Keerthipriya M S, Manickam L of IV year CSE**) headed by **Namshika S N** won **third place** for the project title “IOT based safety gadget for child safety monitoring and notification”

CO CURRICULAR ACTIVITIES

Internally Funded Student Projects

S.No	Name and Year of the Student(s)	Project Guide(s)	Title of the Project	Budget
1	R. Abhinav R.Aravind Bhuvnesh Magotra III Year	Dr. B. Bharathi Dr. T.T. Mirnalinee Dr. J. Bhuvana	Project Sanjaya – Live visual assistant in physics lab	Rs.25000
2	Alamelu Kannan Gayathri Venkatesan Hemasree Senthil II Year	Dr. S. Angel Deborah Dr.K.R.Sarath Chandran Dr. T.T. Mirnalinee	AI based automatic trash scooper	Rs.28000
3	S.P. Harshida V. Keerthan A. Mohith II Year	Dr. T.T. Mirnalinee Dr. J. Bhuvana	Vehicle sound sensing and classification system for Auditorily – Impaired drivers	Rs.24000
4	K. G. Sanjai Balajee V. S. Pranav S. Sanjjit II Year CSE	Dr. S. Angel Deborah Dr. A. Beulah Dr. S. Rajalakshmi	Voice enabled braille interpretation pad	Rs.16000

5	B. Varsha Sivanesan III Year	Dr. R. Priyadharshini Dr. A. Beulah	Design of a Robotic arm for a multi- terrain navigating hexapod	Rs.15000
6	Swetha J Rahul III Year L. Ricson Jawahar T. Subramanian II Year	Dr. A. Beulah Dr. R. Priyadharshini	Smart glass with audio for assisting visually impaired	Rs.21000
7	C. Padma Pooja Shruti Sriram R. Nitheesh Raaja III Year CSE Prahalad Rajagopal II Year CSE	Dr. S.V. Jansi Rani	Automatic estimation of fish count in Aquarium	Rs.20000
8	K. Raghul Yadhav Priyadharshinini Ramesh II Year CSE R. B. Akash II Year EEE J. Sanjeev II Year Chemical	Dr.S. Angel Deborah Dr. S. Rajalakshmi	Smart grocery and vegetable ordering system	Rs.27000
9	N. Shalini B. Preethi III Year CSE S. Deepshika III Year EEE	Dr. S. Saraswathi	Floating water waste collecting robot	Rs.17000
10	Loganathan Sri Shalini M. Harshini II Year CSE G. Ramyalakshmi II Year EEE	Dr. B. Prabavathy Dr. K. R. Sarath Chandran Dr. K.Lekshmi Dr. M. Saritha	Smart Suit : A suit for frontline mine workers	Rs.20000
11	D. Medha J. Thenmozhi II Year ECE Karthik Vijayakumar K.H. Gopalakrishnan II Year CSE	Dr. S. Chitra Babu	Prediction of Maternal health risk and architecture for remote monitoring of pregnant women using ML and IoT	Rs.21000
12	B. Ayshwarya M.V. Harish Kumar S. Shreyas V.S. Sathvika II Year CSE	Dr. S.V. Jansi Rani	IoT based real time lane guiding system using image processing	Rs.19000
13	R. Sai Shashaank Shivcharan Thirunavukkarasu III Year CSE R. Thirusurya P. L. Sankalp V. J. Sathyananth III Year Mechanical	Dr. S.V. Jansi Rani CSE Dr. Satheesh Kumar Gopal Mechanical	Intelligent fish feeder for Aquarium	Rs.27000

14	M. V. Harish Kumar Heera Ethirajan II Year	Dr. B. Prabavathy Dr. K. R. Sarath Chandran Dr. K.Lekshmi Dr. M. Saritha	BAFO : Bus assist for ophthalmologic individuals	Rs.21000
15	N. Nitheesh Kumar M.N. Mohamed Uvais R.J. Praveen III Year	Dr. P. Mirunalini Dr. R. Priyadarshini	IoT driven smart automated teller machines (ATM) security	Rs.18000
16	J. Swetha D. Swathika II Year CSE R. Mathangi II Year IT	Dr. V. Balasubramanian	Smart food ordering system using IoT	Rs.27000
17	M. S. Mukil Aadhithian R.R. Nandhini Sree II Year CSE S.P. Raghul Prasanth II Year IT	Dr. S. Rajalakshmi Dr. S. Angel Deborah	Smart chaperone for visually impaired	Rs.24000
18	Adithi Shankar S. Gomathy Dhanya R. Dhivyaharshini	Dr.K.R.Sarath Chandran Dr. S. Angel Deborah	Remote power usage monitoring and conservation system for hostels in educational institutions	Rs.25000
19	B. Aishwarya K. Aishwarya K. Akaash III Year	Dr. S. Kavitha Dr. G. Raghuraman	Classification of diabetes and non- diabetes patients through plantar pressure measurement using image analysis	Rs.21000
20	S. Subhankar II Year CSE R. Shreyas Sai P. Sudhmithaa V. Pavan II Year ECE	Dr. V. Balasubramanian	Cold chain monitoring system	Rs.27000
21	M. Priya II Year CSE S. Anisha II Year Chemical R. Saran II Year Mechanical V.R. Anuprapaa II Year ECE	Ms. S. Lakshmi Priya Dr. N. Sujaudeen	IoT enabled solar distillation system	Rs.22000
22	N. Gayathri B. Ishwarya N. Nishanth Mony	Dr. V. S. Felix Enigo	Plant disease detection in agricultural field using drones and image processing	Rs.28000
23	V. Harshavardhan M. Madav Naveen Kumar V. Balaji K. Thanis Annal Jenifer	Dr. R. Kanchana	Intrusion detection in agricultural field using drones and image processing	Rs.28000

24	V.C. Prathiyangira Devi Sai Sandeep Sangeetham CSE V. Adhithya P. Dhivagar ECE	Dr. K. R. Sarath Chandran	Assistive glasses for visually impaired people	Rs.25000
25	Janani Hariharakrishnan Diya Seshan R. Rohan Tharun Senthuravel	Dr. B. Bharathi	Augmented reality assisted wearable device for travel guidance	Rs.25000
26	V. Srikrishnan Suresh Velusamy CSE U. Pranaav J. Srihari IT	Dr. R. Priyadharshini	Foreign object debris detection for airways	Rs.15000
27	P. Ananth Narayanan CSE P.S. Sudharshan S. Suraj IT	Dr. V. S. Felix Enigo	Weight identification in gas cylinders using Image Processing	Rs.15000
28	T. Kavin V.K. Srihari V. Yuktha CSE Hari Hara Sudhan IT	Dr. S. V. Jansi Rani	Forensic gait analysis and recognition using deep learning	Rs.25000
29	N.G. Blesslin Thanusha K. Archana EEE S. Nithyasri CSE	Dr. B. Prabavathy	IoT-BBMS: Internet of thing – Based baby monitoring system for smart cradle	Rs.15000
30	K.M. Pradeep CSE Ranjeev Ram Prasad IT J. Johann Sylvester ECE	Dr. A. Beulah	Automatic digital attendance management system	Rs.10000
31	P. Ram Prasath M. Naresh Nanda CSE R. Ramanujaa P. N. Vijayraj EEE	Dr. R. Kanchana	An image processing based object counting approach for detecting amount of cargo carried by a truck	Rs.21000
32	E. Abhinav Karthikeyan S. Oviaree CSE V. Keerthick IT	Dr. P. Mirunalini	IoT driven non invasive diabetes detection system	Rs.14000
33	N.Pavaneshwar Mechanical D. Clarence Samuel IT	Dr. N. Sujaudeen	Portable Health Assistant	Rs.16000
34	K. Hishitha P. Praneetha	Dr. G. Raghuraman	IoT supported foot pressure sensor in-sole for posture recognition	Rs.33000
35	S. Manishkumar CSE M. Barath Raj Chemical S. Hari Prasath EEE Thrishanthi Rameswaram ECE	Dr. S. Yugesh Mathematics	Fitting analysis of COVID-19 epidemiological data – A differential equations model	Rs.10000



The President handed over the sanction order for Internally funded student Project to the Head of the Department

Research Scholars' Colloquium 2023

Me(Olirva M) and my team were awarded the "BEST POSTER PRESENTATION AWARD" in the Research Scholar's Colloquium 2023 held in association with ACM Chennai, CSI Chennai, and IEEE CS Madras on March 14, 2023, at Department of Information Technology. Our poster spoke about the process of information retrieval being a cumbersome process when it comes to dealing with a larger database if the natural techniques are followed. We proposed an approach to ease this process by making it speech-enabled with the help of ASR and mapping of the necessary keywords with their corresponding named entity using machine learning.

Olirva M (CSE IV A), Mythreya Kesavan (IT IV A), Arunasree R J(IT IV A) (left to right)



ACM Codher 2023 Challenge - online hackathon

Charumathi, Sadhana A and Bhavana A of II year CSE students won the first prize of **Rs.12,000/- and MotorQ internship** for developing Women Safety system using AR.

Alamelu Kannan, Jhanvi and Hema of II year CSE students won the second prize of **Rs.9,000/- and MotorQ internship** for developing Disable friendly App.

ICPC Amritapuri 2022 Regional Round



Deepak Sriram, Harshavardhan Suresh and Kiran Raj participated in the ICPC Amritapuri 2022 Regional Round on 2nd April 2023, held at Amrita Vishwapeedam, Bangalore. They were ranked 10 in this round, among the 130+ teams that participated. Their team, the “Chennai Sharks” qualified for the Asia West Continent Finals in Mathura, to be held on May 19th and 20th at GLA University, Mathura.

Workshop on “AR and VR”

Sanjai Balajee and I, Raghul Yadhav are really fascinated to share our experience about the “Pre-Conference workshop on AR and VR development”, organized by Department of Biomedical Engineering, SSN College of Engineering held on 14th and 15th of March, 2023.



AR and VR have already begun to change the way we experience the world around us, and it's only going to continue to grow in the coming years. From entertainment and gaming to education and healthcare, AR and VR technology is transforming how we interact with our environment, opening up new possibilities and opportunities for innovation.

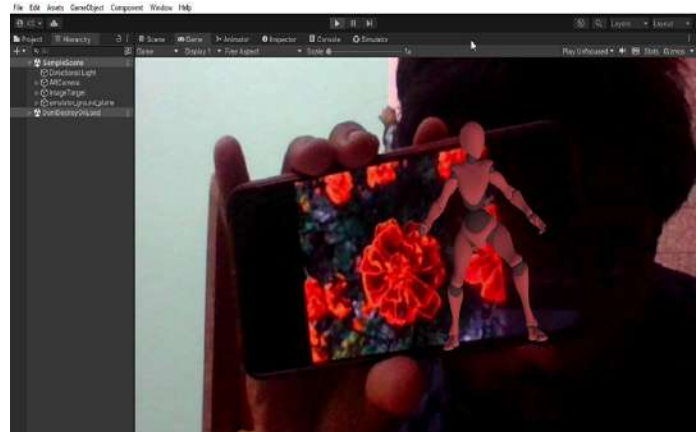
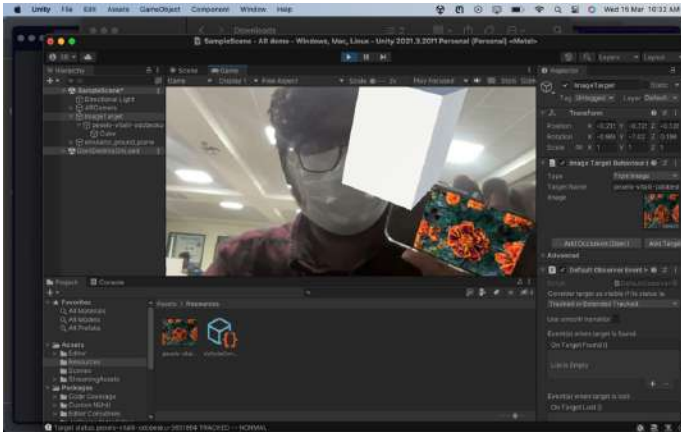
It was a good experience to play with some 3D models and make them act accordingly to the real world. During the workshop, Mr. Vishnu T U and Mr. R M Eswar from Machenn, had guided us exceptionally well and made us indulge in AR and VR development.

We were accompanying each other and created our VR art gallery, "Galeria de Arte" using XR tools in Unity. We also worked on some basic AR tools and tried augmenting 3D models using the Vuforia Engine. It was an incredible learning experience.

After being indulged in the workshop, We started to explore more about AR and VR development. We developed an AR application which involves IOT domain that will control the LED bulb using Virtual Augmented Buttons. Added to this Sanjai Balajee created an AR application “AR MED” which will

demonstrate basic First-Aid measures which got the first place in ACM 10th Anniversary Hackathon and I created an AR application “Bio Fun” which will help the kindergartens to know about the body parts.

I would like to extend my gratitude to Pravin Kumar S and the student coordinators for making this event so insightful. I would also like to extend my gratitude to Dr. Angel Deborah S ma'am and Dr. K. R. Sarath Chandran sir for accompanying and motivating us.



Sanjai Balajee , Raghul Yadhav

II Year CSE

Workshop Attended

1. Achyuth, Anunita, Aravind, Buvan, Dejah, Dhanya Krishnan, Dilli Kumar, Divya Srinivasan, Jayanthan, Laxman, Mohamed Uvais of 3rd year CSE A and Ramdhanush.V of 3rd year CSE-B have participated in a 2 day workshop on Blockchain organized by CSE Department of SSN College of Engineering during 2/2/2023 to 3/2/2023 at state level.

ACM student chapter's 10 Year Anniversary Hackathon

Sanjai Balajee, Sadhana, and Shravan, of 2nd year CSE, participated in the ACM student chapter's 10 Year Anniversary Hackathon on April 12th 2023 at national level and secured challenge winner title.

Technical aspects of creating and managing virtual educational environments in the METAVERSE

Introduction:

The metaverse has the potential to transform education by creating immersive virtual environments that can enhance the learning experience for students. To fully leverage the potential of the metaverse in education, certain technical aspects must be considered. In this article, we will explore the technical aspects of creating and managing virtual educational environments in the metaverse, such as creating and customizing virtual avatars, designing virtual classrooms, and integrating virtual learning tools.

Creating and Customizing Virtual Avatars:

One of the critical technical aspects of the metaverse is creating and customizing virtual avatars. Virtual avatars are representations of individuals in the virtual environment and can be customized to reflect the user's personality or preferences. To create a virtual avatar, the user must choose an avatar creation tool that is compatible with the metaverse platform. The creation tool provides a range of customization options, such as changing the avatar's appearance, clothing, and accessories. Once the avatar is created, it can be imported into the metaverse platform and used to navigate the virtual environment. Avatars can be controlled using a keyboard, mouse, or a virtual reality headset, depending on the user's preference.



Designing Virtual Classrooms:

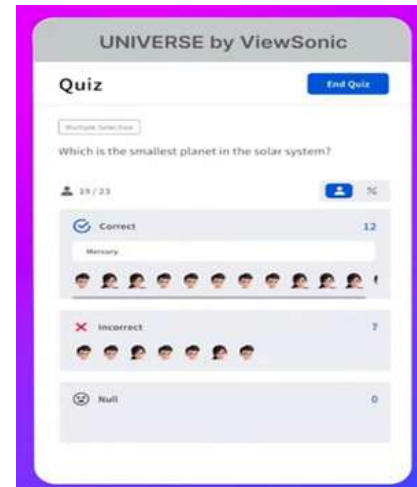
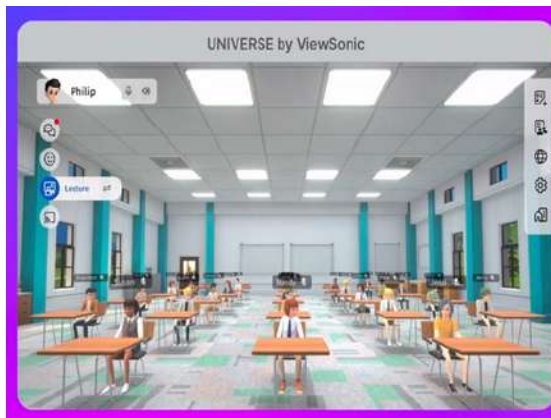
Another critical technical aspect of the metaverse is designing virtual classrooms. Virtual classrooms provide an immersive and interactive environment where students and teachers can engage in real-time. To design a virtual classroom, the educational institution must choose a metaverse platform that is compatible with their needs. The platform should provide tools for creating and customizing virtual classroom layouts, including seating arrangements, presentation areas, and whiteboards. In addition, the virtual classroom should be



designed to promote collaboration and engagement among students. This can be achieved by incorporating interactive elements, such as polls, quizzes, and group activities.

Integrating Virtual Learning Tools:

The metaverse provides a range of virtual learning tools that can be integrated into virtual classrooms to enhance the learning experience. These tools include virtual simulations, virtual laboratories, and virtual field trips.

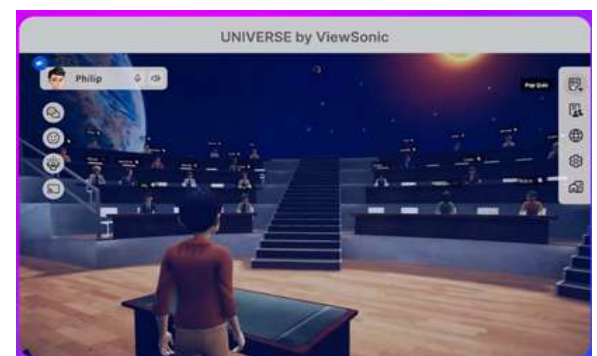


Virtual simulations provide an immersive and interactive environment where students can experience real-world scenarios and practice critical thinking skills. Virtual laboratories provide a safe and controlled environment where students can conduct experiments without the need for physical equipment. Virtual field trips provide a virtual tour of a specific location, allowing students to explore and learn about different cultures, environments, and ecosystems.

These virtual learning tools can be integrated into the virtual classroom to provide a more engaging and interactive learning experience for students.

Accessibility:

When designing virtual classrooms in the metaverse, accessibility should be a top priority. This includes ensuring that the virtual environment is accessible to students with disabilities, such as those who are visually or hearing



impaired. Features such as closed captioning, audio descriptions, and text-to-speech functionality can help make virtual classrooms more inclusive.

Security:

As with any online environment, security is an important consideration when creating virtual educational environments in the metaverse. Educational institutions should implement appropriate security measures, such as data encryption, firewalls, and two-factor authentication, to protect students' personal information and prevent unauthorized access.



Collaboration:

The metaverse provides a unique opportunity for students to collaborate with each other, regardless of their physical location. Educational institutions should encourage collaboration by incorporating features such as group discussions, peer reviews, and collaborative projects into virtual classrooms.

Teacher Training:

Educational institutions should provide training and support for teachers to effectively use the metaverse in education. This can include training on how to create and manage virtual classrooms, how to use virtual learning tools, and how to engage students in the virtual environment.

Conclusion:

The metaverse has the potential to transform education by creating immersive virtual environments that can enhance the learning experience for students. Creating and customizing virtual avatars, designing virtual classrooms, and integrating virtual learning tools are critical technical aspects of the metaverse that must be considered when developing virtual educational environments. While the technical aspects can be a barrier to entry for some educational institutions, the benefits of the metaverse in education, such as increased engagement and interactivity, make it a worthwhile investment for institutions looking to enhance the learning experience for students. With the right tools and strategies in place, virtual educational environments in the metaverse can provide a rich and immersive learning experience that engages and motivates students to succeed.



Shankari S R, I year CSE

IITM Build Club

On March 30th, the IITM Build Club extended an invitation to student participants of the SSN Build Club to attend their workshop at IITM Research park. The members chosen were selected by the committee members of the SSN Build Club. On the 3rd and 4th of April, the following students from the CSE Department attended the workshop: Aathish Sivasubramanian, Gayathri Venkatesan, Parthiban M, Yashasvee. There were six other members from other departments.

The 3rd of March began with an orientation of the event. The coordinators took us through the itinerary of the events and began to allocate projects to each team. There were ten different products, each from different fields, such as web development using flutter, Image processing using OpenCV, and others. Our college members were split into two teams of five members each. On the first day, we got the project gesture controlled mouse for pc and a gesture controlled micromouse. The former is a subset of the second project. The Build Club provided the participants with the components and the instruction manual. The end product of the first project was a mouse that could be used to control the PC. The second project's end product was a robot car that could be controlled by the above mouse.

On the next day, the coordinators assigned us with the project 'Fun with Image Processing'. This was done by setting up OpenCV, VSC and Python. We had multiple exercises to get a hold of the concepts and OpenCV syntax such as creating a grayscale of a picture, concatenating multiple pictures, creating videos and saving them with audio, etc. The project was the posterization of an image, which was done after much practice. After the two days, we came out of the workshop with more knowledge about hardware systems and image processing, and thoroughly enjoyed it overall.

EXTRA - CURRICULAR ACTIVITIES

1. Sowmya. G of III year CSE has participated as part of SSN Music Club in SYCON 2023, organized by SSN Lakshya - Entrepreneurship Development Cell held at SSN College of Engineering on 19.04.2023 at state, inter college level.
2. Matthew Jonathan G III year CSE has participated as part of SSN Music Club in SYCON 2023, organized by SSN Lakshya - Entrepreneurship Development Cell held at SSN College of Engineering on 19.04.2023 at state, inter college level.

Teach-a-School

The Teach-a-School event was organized by SSN ACM Student Chapter on Saturday, 25th March, 2023, in collaboration with Institution's Innovation Council (IIC) and Mr. Rithwin Siva, from Take a Step Foundation. The event was held at PJ Gupta School and it aimed to provide extra educational support to primary school students in grades 6 to 8. Jeevesh Krishna A, Sarath D, Gayathri G L, Maheshwari M, Jayanthan P T, Sarika M, Nandakishor V, Nila Sureshkumar, and Sushanth, a team of dedicated individuals under the guidance of Prof. Sujaudeen, from the CSE department of SSN across second and third year volunteered to engage these young minds with some engaging and interactive activities.

The event kicked off with a small introductory session, where the volunteers introduced themselves to the students and teachers, after which they were split into groups of four, assigned to three classrooms each. In each classroom, the volunteers once again had an interactive introduction round, this time with the students talking about themselves and demonstrating their interests with full enthusiasm. Following this, to energize and hold the students' concentration, a few rounds of the game "Big Fish, Small Fish" were conducted.



The main activities, which included some engaging games with an educational objective, like Hangman and Jumbled Words, were then organized in each classroom. These games primarily helped foster language development, by enhancing the students' vocabulary, spelling and word recognition abilities. The students also made use of their cognitive skills such as critical thinking, problem-solving and pattern recognition in the process of analyzing clues and making informed guesses. Moreover, both games promote social interaction and motivate the players to participate actively in the gameplay, where they may compete against each other or collaborate with their teams to solve the puzzles.

One of the highlights of the event was the one-on-one doubt-solving sessions with the volunteers assigned to different classrooms and the students. The children had the opportunity to approach them with their doubts in school subjects like Mathematics, Social Studies, English, Tamil, and Science. The volunteers patiently listened to the students' queries, explained concepts in simple terms, and provided clarifications, ensuring that the students understood the concepts thoroughly. The volunteers also shared tips and tricks to tackle challenging problems and encouraged students to approach learning with curiosity and confidence.



The event concluded with the final interactive session, where the young minds talked to the volunteering engineering undergraduates about their field of interest and gained insight about the various career paths available to them. The students were inspired by the real-world experiences shared by the volunteers, and eagerly asked questions and sought advice on their own career aspirations.

Through this event, the volunteers utilized their expertise and teaching skills to create a positive and inclusive learning environment, where the students felt comfortable to ask questions, share their thoughts, and learn from each other. It was evident that the Teach-a-School event was a resounding success, having a significant impact on the students, as they left with newfound knowledge, inspiration, and a sense of empowerment.

Sports Achievement

1. **Soorya Thevar.K** of 2nd year Cse has participated in Football tournament organized by Sri Venkateshwara college of engineering at state level during 5th April 2023 and 6th April 2023 held at the campus of Sri Ventakateshwara college and secured 3rd place.
2. **Soorya Thevar.K** of 2nd year Cse has participated in inter year intra college Football tournament organized by SSN college of engineering at state level during 12th April 2023 and 13th April 2023 held at the campus of SSN college of engineering and secured 2nd place.

ALUMNI CORNER

1. **Ms. Pooja S**, Senior Associate, Mockat, CSE Alumni 2022, visited our campus on 2.2.23 and interacted with our faculty.
2. **Mr. Rithwin Siva**, Founder, Vittae, CSE Alumni 2018, visited our campus on 9.2.23 and interacted with our faculty on Financial Wellbeing
3. **Ms. Preethi V**, Associate Professional Product Test, Dedalus, PG CSE Alumni 2020, visited our campus on 25.2.23 and interacted with our faculty.
4. **Mr. Sricharan PP**, SDE-1, Amazon Bangalore, CSE Alumni 2022, visited our campus on 6.3.23 and interacted with our faculty.
5. **Mr. Santhosh J**, TCS Digital, CSE Alumni 2021, visited our campus on 11.3.23 and interacted with our faculty.
6. **Mr. J. Srikanth**, Congruent Solutions, CSE Alumni 2020, visited our campus on 14.3.23 and interacted with our faculty.
7. **Mr. G. Harisankar**, Lead - NLP Research @ Zoho Corporation, CSE Alumni 2014, visited our campus on 25.3.23 for B.E CSE Project Review.
8. **Mr. Thiageswaran D**, Hippo Video, CSE Alumni 2014, visited our campus on 25.3.23 for B.E CSE Project Review.
9. **Ms. Shriya Baskaran**, M.S Student @Cornell University, CSE Alumni 2022, visited our campus on 31.3.23 and interacted with our faculty.

ART CORNER



Gayathri E, IV year CSE

EDITORIAL TEAM

FACULTY EDITORS

Dr. T. T. Mirnalinee

Professor & Head/CSE

Dr. A. Beulah

AP/CSE

Dr. S. Angel Deborah

AP/CSE

STUDENT EDITORS

Adithya Muthukumar

Pooja Premnath

II Year