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# SMRITI

DEPARTMENT OF COMPUTER  
SCIENCE AND ENGINEERING



**ssn**



# Sneak Peek

Research Initiative.....	4
External Interactions and Recognitions.....	7
Colloboration with University of Cyprus.....	7
ACM India Annual Symposium, Compute 2022.....	7
ACL Task 2022.....	8
LateRAISSE at LREC'22.....	8
FIRE 2021.....	9
Invited Lectures- Outside SSN.....	9
Workshop on OBE & Accreditation Process – IIIT.....	10
Session Chair/ Evaluator.....	9
Ph.D Viva Voce Examiner/ DC Member.....	13
Internal and External Projects.....	14
Patent Filed.....	15
Publications.....	17
Scholar Info.....	19
Paper Reviews.....	20
Events Organized.....	21
Invited Lectures.....	34
Workshops/ FDPs/ Webinar Attended.....	35
Other Activities.....	39
Student Achievements.....	41
Grandmaster Avinash @ Codeforces.....	41
Pretty LMS App.....	43
Music Competition.....	44
Placement Updates.....	45
NPTEL Toppers.....	46
Alumni Corner.....	48
Budding Entrepreneur.....	48
Engineer to a Scientist in Biology.....	52
Art Corner.....	55

## EDITOR'S DESK

Our hearty new year wishes to all the readers of SMRITI. Although we have begun yet another year with a lockdown, it gives us immense pleasure that it has hardly had any impact on our progress and accomplishments.

This issue outlines our faculty achievements during the last three months. The Computer Science Department has started a research initiative to bring research in various fields of Computer Science under one roof by developing a website that displays the potential research areas, accolades, projects and faculty expertise. Our faculty Dr.D. Thenmozhi, Dr.B.Bharathi and Mr.B.Senthil Kumar are part of the organising International workshops in collaboration with many academicians abroad. Dr.S.V.Jansi Rani has initiated collaborative research with Prof. Andreas Pitsillides, Professor, University of Cyprus, Cyprus and Director, Networks Research Laboratory (NetRL). Dr. K. Vallidevi has obtained new consultancy with Whitechilly Trading and Services Pvt. Ltd. Dr. R. Kanchana has completed the phase 1 of BIRAC project. Our faculty members have organized and attended various FDPs, workshops and seminars. We join the department in congratulating Mr. H. Shahul Hamead for completing his PhD.

This issue also records the achievement of students in various dimensions. Joseph of CSE 3rd year and Avinash of CSE 4th year were awarded the title of *Grandmaster* on an online competitive programming platform called *Codeforces* for their proficiency in problem solving. Avinash, Sakthi Sairaj and Vrishin of CSE 4th year bagged the first three positions in the NPTEL MOOC on Competitive Programming. We appreciate our students Pradeep G and Shasank Panda for winning in various music competitions. This issue ends highlighting the achievements of our alumni. We are delighted to see Varshitha, our alumna as a budding entrepreneur. Also, we congratulate Dr.Ashraya, our alumna who has joined University of California as Postdoctoral fellow.

The recurring lockdowns have inevitably had their toll on our routines. The pandemic has had and continues to have highly uncertain ramifications all around the world that we still experience, almost two years since its encounter. However, we seem to have adjusted quite well to the new normal. Our faculty and students have gone above and beyond with their achievements and have managed to remain consistent in their efforts and hardwork throughout. We look forward to the next semester with utmost confidence and promise.

The Editorial Team, SMRITI

## RESEARCH INITIATIVE

To Promote research, we organized a meeting with the NLP and Image Analysis research group. Based on the discussion we initially identified the various shared task activity and organised an online session titled "Building your Skill-set" to the second year and third year students

### I-Cell Talk on “Building your Skill-set”

On 21st Jan, on behalf of i-Cell activity, the department had arranged a talk to 2nd and 3rd students to give awareness and initiate on participation in shared tasks organized by various international research communities in upcoming areas like text and image processing. To spread the awareness and recent trends in the industry recruitment process, B.Senthil Kumar explained the demand in the Industry and the need to equip themselves by participating in the shared task which builds the students' profiles in terms of google scholar, github repositories, linkedIn profile rather the traditional CV or resumes. Dr. T.T.Mirnalinee, Professor and Head stressed the objective of the CSE department research activity, benefit to the students as a part of shared task participant, and also briefed on the shared tasks in Image processing. Followed by Dr.B.Bharathi, explained various shared tasks currently active in Text processing ACL Community.



After the presentation, students had interactions with the faculty to clarify on the shared tasks and its other requirements. Subsequently students were informed that by participating in the shared tasks would guarantee them the conference proceedings and would be useful to get the Letter of Recommendation (LoR) for the higher studies in abroad universities.

### Feedback:

This was my first i-Cell talk and I found it to be very informative and gave me a kick-start to research in cse. Various non-curriculum vitae aspects were covered and the introduction to text and image processing was quite interesting. The opportunities and first steps in this learning journey were explained and I now know when and where to look out for them. Overall it was an interactive session and the faculty members clarified all our doubts, and urged us to participate in the shared tasks of our preference domain. I look forward to the rest of this series eagerly.

**By: Mrithula KL, CSE A, II year**

The website that displays the potential research areas, accolades, projects and faculty expertise can be viewed by clicking the link below:

<https://sites.google.com/ssn.edu.in/cse-research/home>





## INTERACTION WITH II YEAR CSE STUDENTS ON “HOW TO IMPROVE YOUR SKILL SET”

A meeting was conducted with II year CSE students on 24th January 2022 from 10.30 to 11.15 am by Dr. B. Prabavathy, Associate Professor and Dr. T.T. Mirnalinee, Professor and Head of CSE Department to discuss about various opportunities available for them to improve their skill set. 76 students attended the meeting. They were introduced to various opportunities that can help them enhance their CVs. It includes the following:

1. Can apply for internally funded student project in a team to research department of SSN to carry out a project with a maximum fund of Rs. 20,000.
2. Can be part of student chapters to reap the benefits of the workshops, webinars, coding events and placement related talks.
3. Can attend i-Cell to interact with their seniors for a talk or placement related ideas.
4. Can participate in various events of symposiums conducted by top colleges, hackathons and online coding competitions. As these events are hosted online nowadays, students can even participate in the events which are conducted internationally.
5. Can be part of coding club of CSE to develop the coding skills which will be useful for them during their campus interviews.
6. Can participate in shared tasks at conferences conducted by reputed international research community which may lead to the publication of paper.

By making use of these opportunities, the students can enhance their CVs by the following ways

- Performance in academics
- Potential knowledge in the identified area of interest
- Mini projects carried out with proofs of paper and patent publications
- Winning events in symposiums, coding competitions, hackathons and shared task etc.

Further, students were motivated to identify the area of interest, register in the group and associate with a faculty member for their entire course period to grow their interest under his/her guidance.

## EXTERNAL INTERACTIONS AND RECOGNITIONS

### COLLABORATION WITH UNIVERSITY OF CYPRUS



**Dr. S. V. Jansi Rani**

Dr. S. V. Jansi Rani has collaborated with Prof. Andreas Pitsillides, Professor, University of Cyprus, Cyprus & Director, Networks Research Laboratory (NetRL) and Visiting Professor, Department of Electrical & Electronic Engineering Science, University of Johannesburg, South Africa. She is currently working on the two state of the art projects:



**Prof. Andreas Pitsillides**

A Two-Stage Machine Learning Approach for 5G Mobile Network Augmentation through Dynamic Selection and Activation of UE-VBSs

Detection of DDoS attacks in D2D Communications  
Using Machine Learning and Cloud Computing

### ACM INDIA ANNUAL SYMPOSIUM , COMPUTE 2022

**Dr. Chitra Babu**, as Chair of the ACM iSIGCSE Chapter, delivered an address during the inauguration of the ACM India Annual symposium, COMPUTE 2022.



**Dr. Chitra Babu**

### PROJECT PROPOSAL REVIEW

**Dr. Chitra Babu** had a discussion with Dr. Neeldhara Misra of IIT Gandhinagar and Dr. Virajkumar regarding the ACM India- sanctioned project on "Multi-Institutional Investigation of Gender disparities on the programming competence in India" on the 30th November 2021.

## ACL TASK 2022



**Dr. B. Bharathi**

**Dr. B. Bharathi** is one of the organizer of Second Workshop on Language Technology for Equality, Diversity, Inclusion (LT-EDI-2022). She is also, one of the organizer of the shared task "Speech Recognition for Vulnerable Individuals in Tamil" conducted as part of LT-EDI-2022.

**Dr. B. Bharathi** is one of the **organizer of the shared task** "Multimodal Sentiment Analysis in Dravidian Languages" conducted as part of **Second Workshop on Speech and Language Technologies for Dravidian Languages (DravidianLangTech-2022)**.

**Dr. D. Thenmozhi** is one of the **Programme Committee member** of **Second Workshop on Language Technology for Equality, Diversity, Inclusion (LT-EDI-2022)**. She is also, one of the **organizer of shared tasks** "Detecting Signs of Depression from Social Media Text" and "Homophobia/Transphobia Detection in social media comments" conducted as part of **LT-EDI-2022**.



**Dr. D. Thenmozhi**

**Dr. D. Thenmozhi** is one of the **organizer of the shared task** "Emotion Analysis in Tamil" and "Abusive Comment Detection in Tamil" of **Second Workshop on Speech and Language Technologies for Dravidian Languages (DravidianLangTech-2022)**.



**Mr. B. Senthil Kumar**

**Mr. B. Senthil Kumar** is one of the **Programme Committee member** of **Second Workshop on Language Technology for Equality, Diversity, Inclusion (LT-EDI-2022)** and **Second Workshop on Speech and Language Technologies for Dravidian Languages (DravidianLangTech-2022)**.

## LateRAISSE at LREC'22

**Mr. B. Senthil Kumar** is one of the **Programme Committee member** of Language Technology and Resources for a fAir, Inclusive, and Safe SociEty (**LateRAISSE**) at Language Resources and Evaluation Conference (**LREC 2022**)



## FIRE 2021

1. **Dr. D. Thenmozhi** organized a shared task on "Sentiment Analysis for Dravidian Code-Mixed Text" co-located with Forum for Information Retrieval Evaluation (FIRE'21), 13-17 December 2021.
2. **Mr. B. Senthil Kumar**, AP/CSE served as Program Committee (PC) member in DravidianCodeMix-Dravidian language shared task at the 13th meeting of Forum for Information Retrieval Evaluation 2021, India during 13th-17th December 2021.

## INVITED LECTURES - OUTSIDE SSN

1. **Dr. R. Kanchana** was invited to be the resource person and she delivered talks on several topics in the workshop on "Outcome Based Education and Accreditation Process" conducted by IIIT Una during 6th-11th Jan 2022.
2. **Dr. Betina Antony J** delivered a Lecture on "Biomedical Text Processing" at SRM Institute of Science and Technology, Vadapalani. She also handled 2 sessions in the Anna University sponsored FDTP on CS8691 Artificial Intelligence.

## SESSION CHAIR/ EVALUATOR

1. **Dr. Chitra Babu** served as a session chair for the Teaching partnership program session on the 18th November 2021.
2. **Dr. Chitra Babu**, Prof & Head/CSE served as a moderator for the panel discussion titled "How can the students build their skills and profile to land dream jobs?" during the ACM India Student Chapter Summit organized by the Chitkara University, Punjab in virtual mode on the 13th November 2021.
3. **Dr. R. Priyadarshini**, ASP/CSE served as Jury panel member for HCL Jigsaw 2.0 finale on December 19, 2021 for Grade 7 students.
4. **Dr. S. Kavitha**, ASP/CSE Participated in HCL Jigsaw Version 2.0 as Jury member in Finale round on 19th December 2021.
5. **Dr. J. Bhuvana**, ASP/CSE served as an external expert member for the oral examination for NPTEL course on 27-12-2021 (Monday) at Department of Electronics and Communication Engineering, Sri Venkateswara College of Engineering, Chennai.
6. **Dr. B. Bharathi** conducted NPTEL course oral examination for third and final year students of Department of ECE, Sri Venkateswara College of Engineering, Sriperumpadur on 27.12.2021.
7. **Dr. Chitra Babu** was invited to chair a session in the International Conference on Theoretical Computer science and Discrete Mathematics( ICTCSDM) that was organized by the Department of Mathematics(December 2-4) on the 4th December 2021.

## OUTCOME BASED EDUCATION AND ACCREDITATION PROCESS - WORKSHOP AT IIIT UNA

IIIT Una, Himachal Pradesh is an Institute of National Importance under MoE. They have three undergraduate programmes – CSE, IT, and ECE and intend to apply for accreditation of the three programmes. IIITU arranged a workshop on “Outcome Based Education and Accreditation Process” from 6th-11th Jan 2022, to sensitize its faculty members about the accreditation process. Dr. R. Kanchana was invited to be the resource person and she delivered talks on the following topics:

1. Outcome Based Education - Process flow
2. How to write measurable outcomes?
3. Formulation of Mission, Vision, PEOs, PSOs, and COs, Mapping of PEOs to Mission, POs/PSOs to PEOs for IIITU programs
4. Core Competency and Performance Indicators
5. Mapping of COs to POs
6. Formulation of CC and PI, Identifying PIs for COs, Mapping of COs to PO/PSOs for IIITU programs
7. CO, PO/PSO attainment calculation
8. Gap analysis in CO/ PO/PSO attainments
9. Preparing CO / PO/PSO attainment calculation worksheets and attainment calculation for a course at IIITU
10. Indirect attainment calculation, Batch attainment calculation
11. Different surveys and questionnaire preparation
12. SAR preparation and documents to be prepared
13. Project work assessment
14. Formulation of rubrics for processes and assessments for IIITU programs

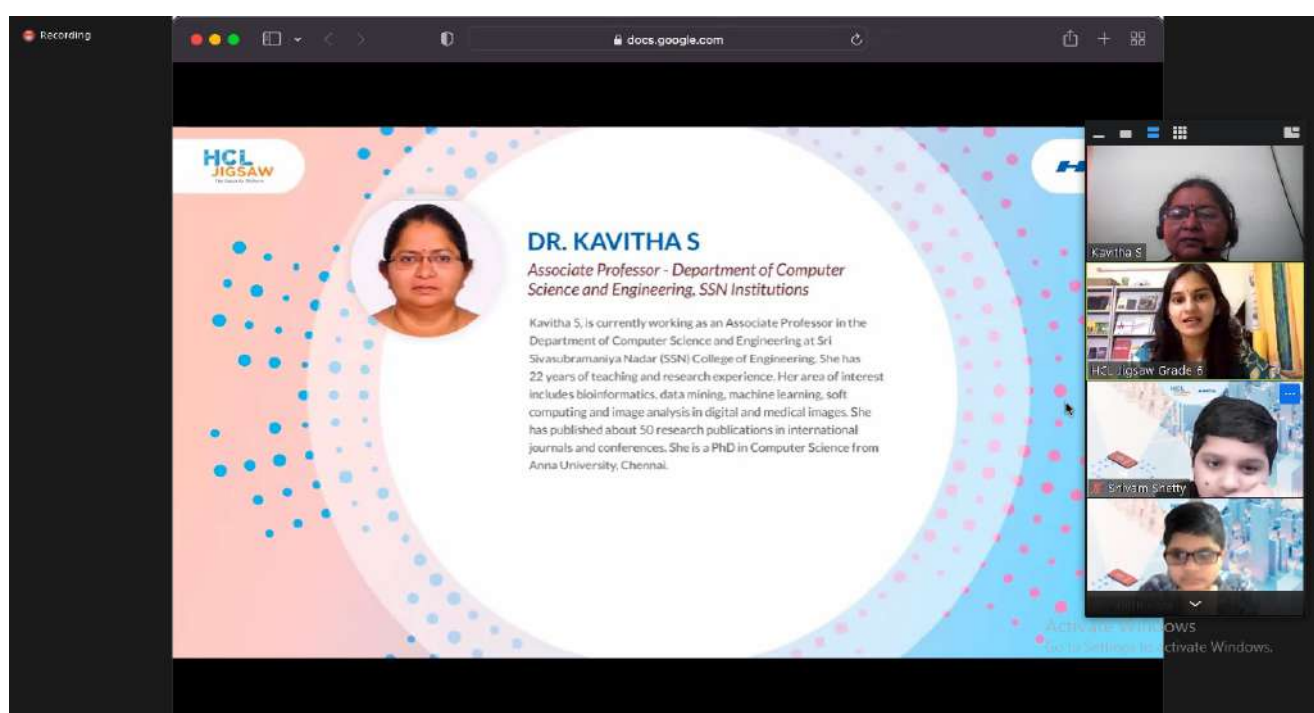
Further, the faculty members were encouraged to write the COs, map to the POs, develop rubrics for various processes involved. The talks were well received and appreciated.



**Dr. R. Kanchana**  
**Associate Professor**

## HCL JIGSAW 2021 - VERSION 2.0 (THE UNPUZZLE PLATFORM)

Dr. S. Kavitha and Dr. R. Priyadarshini acted as Jury member in Finale round of HCL Jigsaw Version 2.0 on 19th December 2021. HCL Jigsaw is a pioneering program initiated to build a culture of problem solving in the country starting at the school level. This is India's Premier Critical Reasoning Platform for students in Grades 6 to 9. The second season of HCL Jigsaw received the registrations from ~4300 students from 1655 unique schools across India, out of which 463 students are from Tamilnadu. The qualifier round was conducted during December 3 - 10, 2021.



From the qualifier round, the top 30 percentile from each grade are selected and moved to the Challenge 1 round with a team size of 3 members. At the end of the Challenge 1 round, three winning teams per grade (Total 36 students) are moved to Challenge 2. In Challenge 2 each student is asked to identify problems and solutions, and are presented in the finale. The theme of each grade is unique for competition : Grade 6 - Smart Cities, Grade 7 - Future of Shopping, Grade 8 - Electrical vehicles and Grade 9 - Healthcare. We are glad that, we are part of the finale Jury Evaluation team for the final presentation on 19th December 2021 for grade 6 and grade 7 respectively.

**Dr. S.Kavitha, Dr. R.Priyadharsini**  
ASP / CSE

## PH.D VIVA VOCE EXAMINER/ DC MEMBER



**Dr. T. T. Mirnalinee**

1. **Dr. T. T. Mirnalinee** was nominated by University of Madras, Chennai to **serve as the External Examiner** for the **award of PhD degree** for the Thesis titled

"Beacon Clinical Decision Support System to fortify Pathological Decision", at Presidency College, Chennai on 4th November 2021.

"Application of Segmentation, Classification and Watermarking to detect Red and White Cells in Blood Smear Images", at Madras Christian College, Chennai on 17th December

2. Attended the Synopsis meeting as DC member Anna university Chennai

3. Attended the synopsis meeting as Doctoral Committee member on 26th October RMK

**Dr. D.Venkatavara Prasad**, Prof/CSE attended a DC meeting for the Ph.D. Scholar Ms. Maithili Devi Reddy in the Department of Computer Science & Engineering, Bharath Institute of Higher Education and Research, Chennai on 23-11-2021.



**Dr. D.Venkatavara Prasad**



**Dr. V. Balasubramanian**

**Dr. V. Balasubramanian** attended DC Meeting for Ms. Vinodhini M, VIT Research scholar on 16.12.21 at 3.00 PM.

**Dr. S. Kavitha** attended a DC meeting on 12.01.2022 in virtual mode for a part time scholar at SRM Institute of Science and Technology.



**Dr. S. Kavitha**



## INTERNAL AND EXTERNAL PROJECTS

### NRP-UNISICMA – BIRAC SPONSORED RESEARCH PROJECT – COMPLETION OF PHASE – I



**Dr. R. Kanchana** was the PI of the Research Project on “Nagarik Rog Pratirakshak : Unified Smart Immunization Coverage Monitoring and Analysis (NRP-UniSICMA)” sponsored by BIRAC, DBT, Government of India. It is a collaborative project with Prof. S. Selvakumar, Director, IIIT Una. This project is of 31 months duration and the total budget was 106 Lakh.

The first phase of the project has been successfully completed in Sep 2021.

In this project, the following societal outcomes have been achieved:

- Triangulation of heterogeneous immunization data systems such as HMIS, MCTS, PICME, etc., across all the states in India.
- Improved data quality of the unified data lake for vaccination
- Enabling immunization coverage monitoring of migrant population
- Providing nation-wide dynamic visualizations and intelligent analytics for data in different granularities by minimizing the potential of misreporting, allowing comparisons over time, and with simultaneous lateral comparisons between target groups to enable effective policy development and programme management.

NRP-UniSICMA paves way to integrate services such as COVID-19 vaccination, vitamin A supplementation, deworming tablet distribution, etc., and effective planning for future immunization programmes. The technical outcomes include a patent (under process), 3 journal publications (2 under review) and 3 international conference publications.

### ACM INDIA PROJECT



**Dr. Chitra Babu**

**Dr. Chitra Babu** had a discussion with Dr. Neeldhara Misra of IIT Gandhinagar and Dr. Virajkumar regarding the ACM Indiasanctioned project on "MultiInstitutional Investigation of Gender disparities on the programming competence in India" on the 30th November 2021.

## BIRAC – STARTUP PROJECT



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

To kick start the project for clinical data collection, a meeting was conducted with **Dr.S.Radha,Vice-principal, Dr.N. Bhalaji, Chief Coordinator - SSN Incubation Foundation and Dr.V.S.Felix Enigo, Associate Professor**, on January 12, 2022 at SSN. The purpose of the meeting was, based on the MoU signed between SSN and V.S.Felix Enigo, to check the feasibility of utilizing a room space for in-housing the medical equipment at SSN for nominal rent.

## PROJECT PROPOSAL SUBMITTED

**Dr. D. Thenmozhi** applied for funding to DST under TDP scheme for the proposal titled "BARF-Blind Abled Reading Frame" (Budget: Rs.53.342 Lakhs. Duration: 3 years) on 30.12.2021



**Dr. D. Thenmozhi**

## INTERNALLY FUNDED FACULTY PROJECT 2021-2022

**Dr. T. T. Mirnalinee, Dr. J. Bhuvana and Dr. B. Bharathi** have got the Internally funded faculty project (IFFP) titled, 'Edge computing based real time smart surveillance system' for 3 Years and sanctioned with the fund of Rs 3 Lakhs. Received the sanction letter from the President on 22-12-2021.



**Dr. T. T. Mirnalinee**



**Dr. J. Bhuvana**



**Dr. B. Bharathi**

## PATENT FILED

**Kshitij Sharma, Raghu R, Kiruthika J, Thenmozhi D** filed a patent titled "Blind Abled Reading Frame - BARF" in Indian Patent Office with file number: 202241003724 on 22nd January 2022

## INDUSTRY COLLABORATION

### Caterpillar India Engineering Solutions Pvt. Ltd

1. **Dr. Chitra Babu along with Ms. S. Rajalakshmi**, Ms. S. Angel Deborah and students had a meeting with the Caterpillar technical team on 17th November 2021 regarding a collaborative project on "A Scalable Full Text Search in Mobile SQLite" to discuss about the progress and the updated scope.
2. **Dr. Chitra Babu**, along with **Dr. K. Vallidevi** and the students attended a meeting to discuss the Azure DevOps project with Caterpillar team on the 12th November 2021.
3. **Dr. Chitra Babu along with Dr. K. Vallidevi** and the students attended a meeting to discuss the progress of the Azure DevOps project with the Caterpillar technical team on the 26th November 2021. **The Consultancy project** titled "Automated Tool for the Extraction of Custom Metrics from Azure DevOps and Generation of Reports" has been approved and they have agreed to sanction the **consultancy amount of Rs. 1,50,100/-** on 27th January 2022 for the execution of the project.
4. **Dr. Chitra Babu** interfaced with Caterpillar technical team and legal team and realized the renewal of the MoU with the changed legal entity "Caterpillar India Engineering Solutions Private Limited(CIESPL)" for 3 years through DocuSign from 10th December 2021.
5. **Dr. Chitra Babu** along with along with Dr. Felix Enigo and 3 final year students had a meeting with the Caterpillar technical team to discuss the progress made on the project related to large scale file downloading and storing in databases within mobile devices without any crash in the middle, on 25th January 2022.
6. **Consultancy project** titled "WebApp Creation using WYSIWIG Edition (Builder.io)" has been approved and they have agreed to sanction the **consultancy amount of Rs. 1,56,100/-** on 13th January 2022 for the execution of the project.

**Principal Investigator: Dr. Chitra Babu, Dr. B. Prabavathy**

### Whitechilly Trading and Services Pvt. Ltd

**Consultancy project** titled "Building a Credible Supplier Database" has been approved and they have agreed to sanction the **consultancy amount of Rs. 1,60,000/-** on 4th January 2022 for the execution of the project.

**Principal Investigator: Dr. T. Thiruvengadam**, Associate Professor, Department of MBA, SSN-SoM and **Dr. K. Vallidevi**, Associate Professor, Department of CSE, SSNCE.

**Advisor: Dr. Hariharanath K**, Director, Department of MBA, SSN-SoM.

## JOURNAL PUBLICATIONS

1. **Dr. R. Priyadharsini, Dr. T. Sree Sharmila** ASP/IT published a paper titled "Underwater Acoustic Image Denoising using Stationary Wavelet Transform and Various Shrinkage Functions" in Electronic Letters on Computer Vision and Image Analysis , Vol 20 (2) Page Number: 38-50, 2021 , Scopus, <https://doi.org/10.5565/rev/elcvia.1360>.
2. **Dr. D. Thenmozhi, Arunima Sundar, Akshay Ramakrishnan, Avantika Balaji**, " Hope Speech Detection for Dravidian Languages Using CrossLingual Embeddings with Stacked Encoder Architecture" in SN Computer Science 3:67(1-15).
3. **Suvidha Rupesh kumar, Dr. B. Bharathi**, "Generative and Discriminative Modelling of Linear Energy Sub-bands for Spoof Detection in Speaker Verification Systems" in Circuits Systems and Signal Processing, Available online first , January 2022.
4. **Ms. S Angel Deborah, Dr. R S Milton, Dr. T T Mirnalinee, Ms. S Rajalakshmi**, "Contextual emotion detection on text using gaussian process and tree based classifiers " in Intelligent Data Analysis, Vol. 26, no.1, pp. 119-132, January 2022.
5. **Dr. Saraswathi Shunmuganathan**, "A Reliable Lightweight Two Factor Mutual Authenticated Session Key Agreement Protocol for Multi-Server Environment" in Wireless Personal Communications, Vol. 121, no. 4, pp. 2789- 2822, 2021.
6. **Sheerin Sitara Noor Mohamed, Dr. Kavitha Srinivasan**, "A Hybrid Image Enhancement Algorithm for Effective Concrete Surface Crack Classification" in Journal of University of Shanghai for Science and Technology, Vol. 23, no. 9, pp. 1282-1297, 2021.

## CONFERENCE PRESENTATION / PUBLICATIONS

1. **Prasannakumaran D, Sideswar J B and Dr. D. Thenmozhi** presented the paper titled "ECMAG - Ensemble of CNN and Multi-Head Attention with Bi-GRU for Sentiment Analysis in Code-Mixed Data" in FIRE'21 conducted during 13-17, December 2021.
2. **Kalaivani A and Dr. D. Thenmozhi** presented the paper titled "Multilingual Sentiment Analysis in Tamil, Malayalam, and Kannada code-mixed social media posts using MBERT " in FIRE'21 conducted during 13-17 December 2021.
3. **C Jerin Mahibha, S. Kayalvizhi and Dr. D. Thenmozhi** presented the paper titled "Sentiment Analysis using Cross Lingual Word Embedding Model" in FIRE'21 conducted during 13-17 December 2021.
4. **Kalaivani A, Dr. D. Thenmozhi and Dr. Aravindan Chandrabose** presented the paper titled "TOLD: Tamil Offensive Language Detection in Code-Mixed Social Media Comments using MBERT with Features based Selection" in FIRE'21 conducted during 13-17 December 2021.

5. **Kalaivani A and Dr. D. Thenmozhi** presented the paper titled "Multilingual Hate speech and Offensive language detection in English, Hindi, and Marathi languages" in FIRE'21 conducted during 13-17 December 2021.
6. **C Jerin Mahibha, S Kayalvizhi, Dr. D. Thenmozhi and S Arunima** presented the paper titled "Offensive Language Identification using Machine Learning and Deep Learning Techniques" in FIRE'21 conducted during 13-17 December 2021.
7. **Mr. B.Senthil Kumar** attended and presented the paper titled "Transliterate or translate? Sentiment analysis of code-mixed text in Dravidian languages" in the track "Sentiment Analysis for Dravidian Languages in Code-Mixed Text", co-located with FIRE'21, 13-17 December 2021.
8. **Dr. S. Kavitha**, presented a paper titled "Generating the Base Map of Regions using an Efficient Object Segmentation Technique in Satellite Images" in Springer icSoftComp2021 Conference on 11th December 2021. Authors: Kavitha Srinivasan, Sudhamsu Gurijala, Sai Chitti Subrahmanyam V and Swetha B.
9. **Dr. S. Kavitha, Priyadarshini JR, Varun Suresh and Nithya Rathna A**, published a paper titled as "Pixel based Adversarial Attacks on Convolutional Neural Network Models" , Vol 611. Springer, Cham, First Online: 12 December 2021.
10. **Dr. A.Chamundeswari**, participated and presented the paper titled, "State Based IoT Security for Tamper Prevention" along with Arunesh Kumar, Christina Eunice John, Joshua A, Baskaran Kaliamourthy, in the Springer ICIIA 2021, Covenant University, Ota, Nigeria.
11. **Dr. R. Kanchana** presented a paper on "DLoader: Migration of data from SQL to NoSQL databases" in the International Conference on Cognitive & Intelligent Computing (ICCIC 2021) conducted by CMR college of Engineering and Technology, Hyderabad on 12th Dec 2021.
12. **Dr. R. Kanchana** presented a paper on "NRP – APP: Robust Seamless Data capturing and Visualization System for Routine Immunization Sessions" in 5th International Conference on Intelligent Data Communication Technologies and Internet of Things (ICICI 2021) organized by JCT College of Engineering and Technology, Coimbatore during 27-28 Aug 2021.
13. **Dr. R. Kanchana** presented a research paper on "PalmNet: A CNN transfer learning approach for recognition of young children using contactless palmprints" in the International Conference on Machine Learning and Autonomous Systems (ICMLAS 2021) organized by Rohini College of Engineering and Technology, Tamil Nadu during 24-25 Sep 2021.



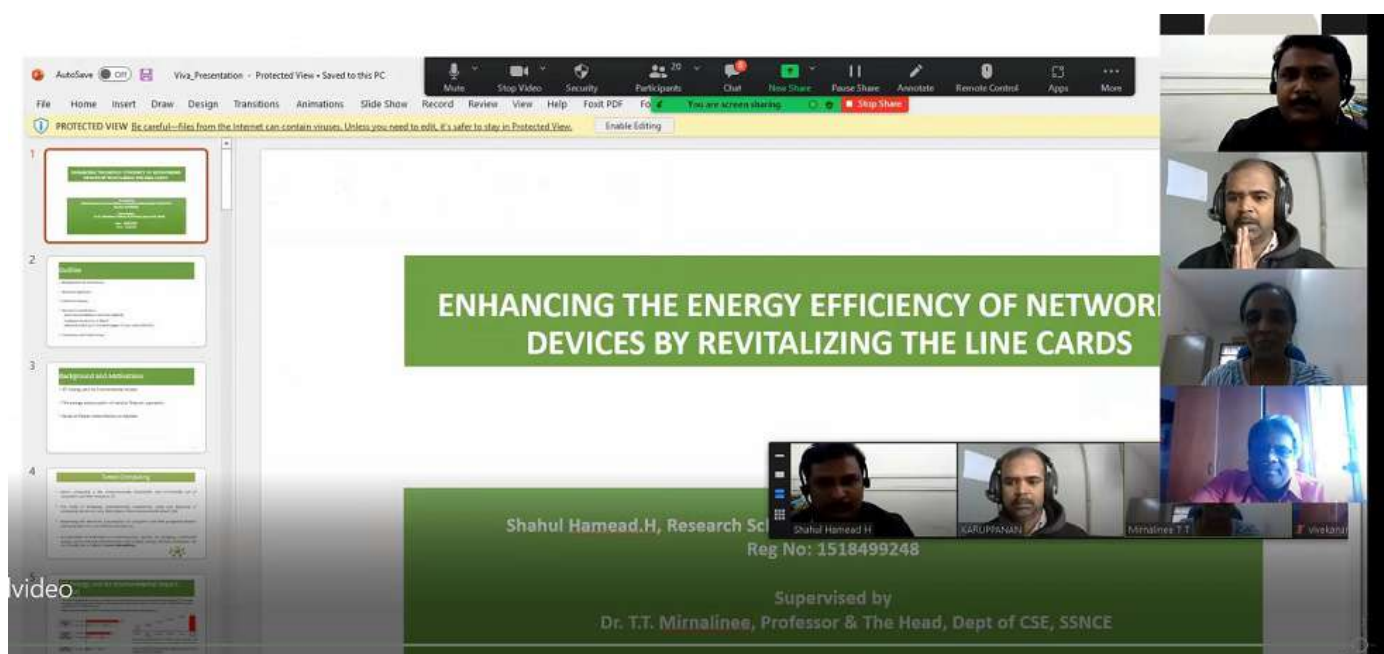
14. **Dr. R. Kanchana** presented a research paper on “PalmNet: A CNN transfer learning approach for recognition of young children using contactless palmprints” in the International Conference on Machine Learning and Autonomous Systems (ICMLAS 2021) organized by Rohini College of Engineering and Technology, Tamil Nadu during 24-25 Sep 2021.

## SCHOLAR INFO

1. **Dr. T. T. Mirnalinee** convened Synopsis meeting for **Mrs. Angel Deborah S**, part time research scholar on 19th November 2021
2. **Dr. T. T. Mirnalinee** convened Doctoral committee meeting for **Mr. Shahul Hamead H**, part time research scholar on 25/11/21 to review the reports of the thesis.
3. **Dr. T. T. Mirnalinee** convened Ph.D Viva voce Examination for **Mr. Shahul Hamead**, part time research scholar on 19/01/22.
4. **Dr. S. Kavitha** convened confirmation DC meeting for part time research scholar, **Mr. Sivakumar** on 27.12.2021 in online mode.

## REACHING A MILESTONE

I have successfully defended my viva this January and acquired Ph.D. degree for my research titled “Enhancing the energy efficiency of networking devices by revitalizing the line cards”.



I would like to thank my research supervisor and the Head of the Department, Dr.T.T.Mirnalinee, the doctoral committee members, Dr.N.Sadagoppan and Dr.Saswati Mukherjee, and the examiners Dr. Xiaolei Wang, Dr, P. Karuppannan, and Dr.K.Vivekanandan for shaping my research by providing valuable inputs and necessary improvements. I would like to thank Dr. V.E.Annamalai, the Head of the Institution, and Dr.Chitra Babu, the Former Head of the department for their significant support in pursuing my research. I would like to thank SSN Management and my colleagues for their constant motivations. I would like to thank my family members for their tremendous support for allowing me to engage in my research peacefully. All praise is due to God!

**Dr. H. Shahul Hamead, AP/CSE**

## PAPER REVIEWS

1. **Dr. A. Beulah** reviewed a paper for the journal Circuits, Systems and signal processing (CSSP).
2. **Mr. B. Senthil Kumar** reviewed manuscript in LRE Journal: LREV-D-21-00295, "LAIBRE: Leveraging Artificial Intelligence for Bias-free Recruiting".
3. **Ms. S. Rajalakshmi** reviewed three papers for 2022 International Conference on Electrical, Electronics, Information and Communication Technologies (ICEEICT 2022) to be held at K. Ramakrishnan College of Engineering, Tiruchirappalli, Tamil Nadu, India during 16 - 18, February 2022.
4. **Dr. J. Bhuvana** has reviewed a paper titled, "Efficient Few-shot Classification via Contrastive Pre-training on Web Data" for IEEE Transactions on Artificial Intelligence.
5. **Dr. K. R. Sarath Chandran**, AP/CSE reviewed the paper "Improving the efficiency of block matching algorithm using optimization techniques" for the Imaging Science Journal (Taylor & Francis) on 03/01/2022.
6. **Dr. K. R. Sarath Chandran**, AP/CSE reviewed the paper "Parallel FPGA implementation of the SAD algorithm used in the stereoscopic system" for Telecommunication Computing Electronics and Control Journal on 24/01/2022.
7. **Dr. K. R. Sarath Chandran**, AP/CSE reviewed two papers on 18/01/2022 for ICCSP 2022, organized by the Department of Information Technology, Sri Siva Subramaniya Nadar College of Engineering.
8. **Dr.K.Madheswari** reviewed two papers for ICCSP 2021 organised by Department of IT, Sri Sivasubramaniya Nadar college of Engineering.

## FDP/ SEMINAR/WORKSHOP ORGANIZED

1. **Dr.A.Chamundeswari** Completed SSN-CSI student chapter workshop on "Full stack web application development". This workshop started in Sep 2021, with a total of 10 sessions every week Saturday.
2. **SSN-ACM, IIC & IEI chapters** organized a webinar titled "A Motivational session by Successful Innovators : "MetaCareer - The 1% mindset towards your career and building the future of the internet", on 30th December 2021.
3. **Dr. D. Thenmozhi** organized a shared task on "Sentiment Analysis for Dravidian Code-Mixed Text" co-located with Forum for Information Retrieval Evaluation (FIRE'21 International Conference), 13-17 December 2021.
4. **Dr.R.S.Milton, Ms.S.Rajalakshmi, Dr.A.Beulah and Ms.S.Angel Deborah** organized an Online National Seminar titled "Amazon Web Services" on 25th January 2022.
5. **Dr. Kanchana, Dr. K. Lekshmi and Dr. K.R. Sarath Chandran** organized a webinar on "Career Opportunities in VLSI and Embedded Systems industry" for the II year and III year students of our department. The speakers were Mr. Arun Mathias, Manager - Sandeepani, Sandeepani School of Embedded System Design, Training Division of CoreEL Technologies, Bangalore and Mr. Pronadeep Bora, CoreEL Technologies, Bangalore.
6. **Dr.S.V.Jansi Rani/CSE & Dr.R.Sundareswaran/Maths** organized two day national level virtual workshop on "An Insight into Mathematical Modelling in Information and Communication Engineering (MMICE)- Version 2" during January 27-28, 2022.
7. **Dr. Chitra Babu, Dr. D. Thenmozhi, Dr. B. Bharathi and Dr. S. Kavitha** organized a six days Faculty Development Programme (FDP) on "Data Analytics in Healthcare" during 17-22 January, 2022.
8. **SSN ACM-W Student Chapter along with the SVCE ACM-W Student Chapter** collaboratively organized an interesting webinar titled "My Journey with Tech Communities & Industry as a Developer" on 11th of January 2022.
9. **SSN-ACM chapter** organized a an online team event, "The Labyrinth Breaker" on 19th December 2021.
10. **SSN-ACM chapter** organized a beginner level CTF contest ,"CyberParadox" on 27th December2021.
11. **SSN-ACM chapter** event in association with U&I organized "Back-To-School DIY : A CSR Effort".

## FACULTY DEVELOPMENT PROGRAMME (FDP) ON “DATA ANALYTICS IN HEALTHCARE”

A six days Faculty Development Programme (FDP) on “Data Analytics in Healthcare” has been organized online by Dr. Chitra Babu, Dr. D. Thenmozhi, Dr. B. Bharathi and Dr. S. Kavitha during 17-22 January, 2022. This event was partially sponsored by the Department of Science and Technology (DST) - SERB with an amount of Rs.25,000/-. About 123 faculty members and 15 research scholars, in total of 138 participants participated in the Faculty Development Programme. Eminent speakers from academic institutions, research centers and industry gave talks in the FDP.

Dr. Madhavan Mukund from Chennai Mathematical Institute gave an introductory talk titled ‘Data Analytics on Healthcare’. Dr. R. S. Milton and Mr. B. Senthilkumar of SSN College of Engineering delivered the ‘Python Introduction to Data Analytics’ and its hands-on session respectively on the first day. ‘Traditional Learning Algorithms for Healthcare’ was introduced by Dr. S. Kavitha of SSN College of Engineering and ‘Deep Learning for Healthcare Applications’ was explained by Dr. Asadi Srinivasulu of Bluecrest University on 18th January. Dr. J. Bhuvana and Dr. B. Bharathi from SSN College of Engineering handled a hands-on session on ‘Learning Algorithms’ on the same day.

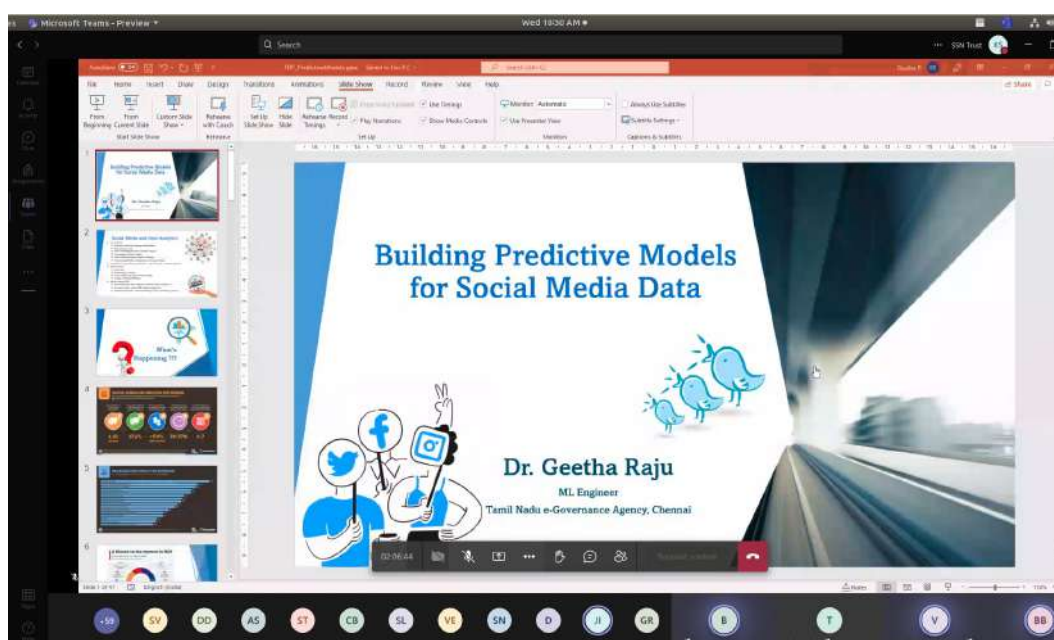
‘Social Media Data Analysis for Healthcare Applications’ was delivered by Dr. R. Rajalakshmi of Vellore Institute of Technology, Chennai on the 3rd day of the FDP. Dr. Geetha Raju from NLP TamilNadu e-Governance Agency and Dr. S. Chitra from SSN College of Engineering gave talks on ‘Building Predictive Models for Social Media Data’ and ‘Data Analytics using IoT Devices in Healthcare’ respectively on the 3rd day. Dr. C. V. Jawahar of IIIT Hyderabad explained about ‘Machine Learning Formulations for Histopathology Images’ on 20th January. Mr. Gopinath and Mr. Venkatesh from Saama Technologies gave a talk on ‘Text Analytics using Learning Algorithms for Healthcare’. A hands-on session for ‘Data Collection from Social Media, Annotation and Inter-rater Agreement’ was conducted by Dr. Atul Kumar Ojha, NUI, Ireland in the afternoon session.

Dr. Liphika Dey of TCS Research and Innovations explained about ‘Deciphering Clinical Narratives – key to automated Decision Making in Health Care’ and Dr. M. Anandkumar from NIT, Surathkal gave a talk on ‘Analysis of Mental Health using Social Media Data for Suicidal Identification’ on the 5th day of the FDP. Dr. D. Thenmozhi and S. Kayalvizhi of



SSNCE conducted a hands-on training on 'Detecting depression from Social Media'. 'Impact of Social Media in Mental Health' was discussed by Dr.V. Sunilkumar, Clinical psychologist and founder of Mind Zone on the last day of the FDP. Dr. A. Beulah of SSN College of Engineering explained about 'Medical Images Analysis using learning algorithms'. The FDP was concluded with hands-on training on 'Disease Diagnosis from Medical Images' by Dr. P. Mirunalini of SSNCE. The FDP benefited the faculty members and research scholars across various states of India and abroad by exploring different research problems and its solutions in healthcare.

### FDP Organizers





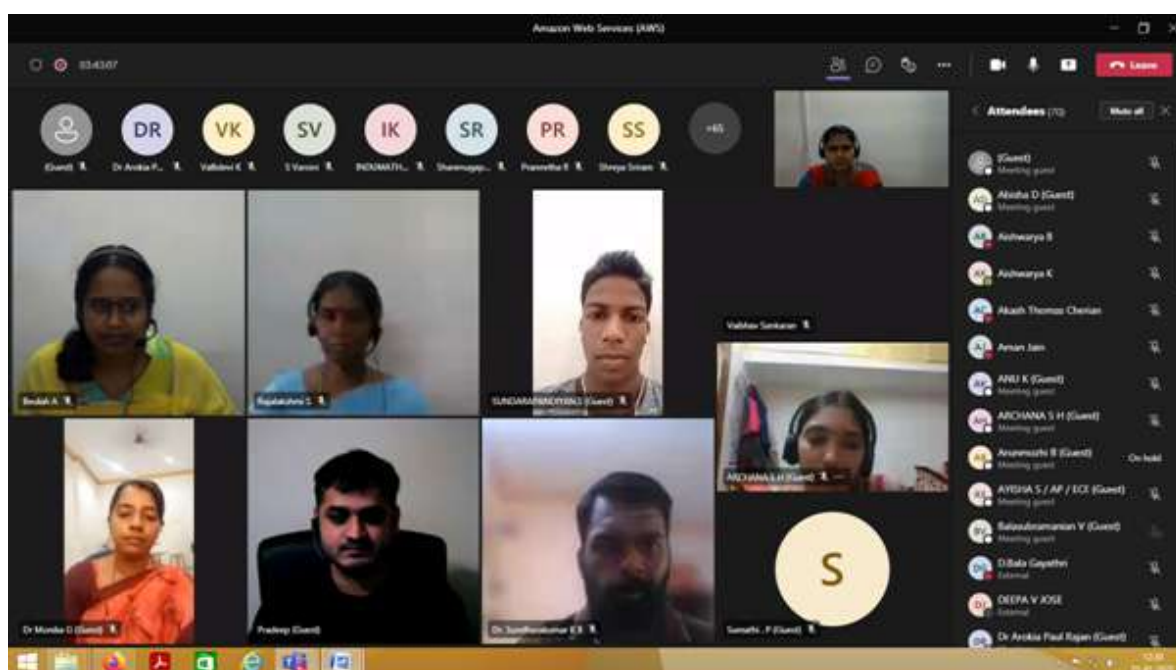
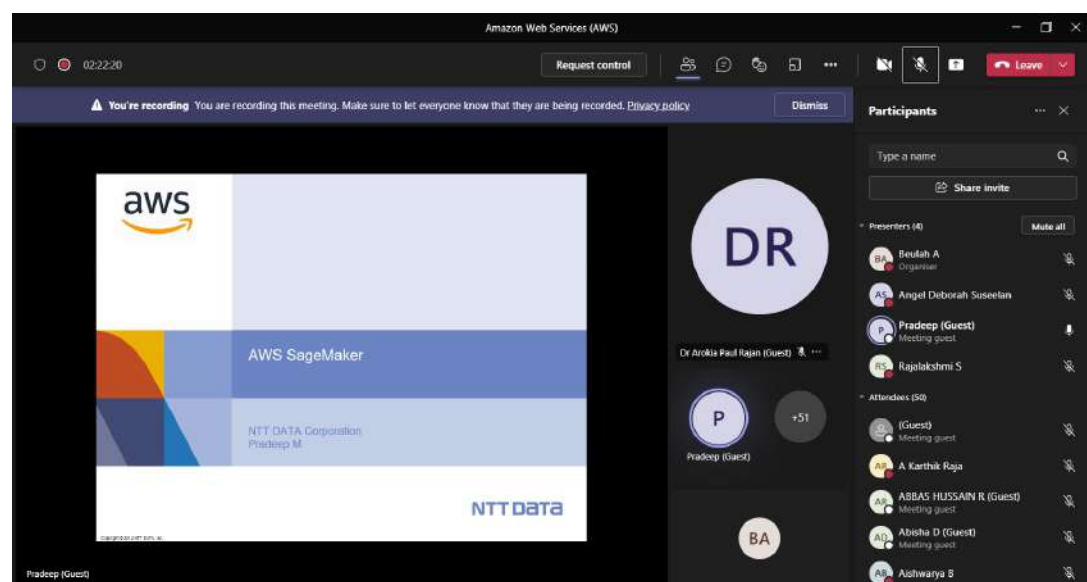
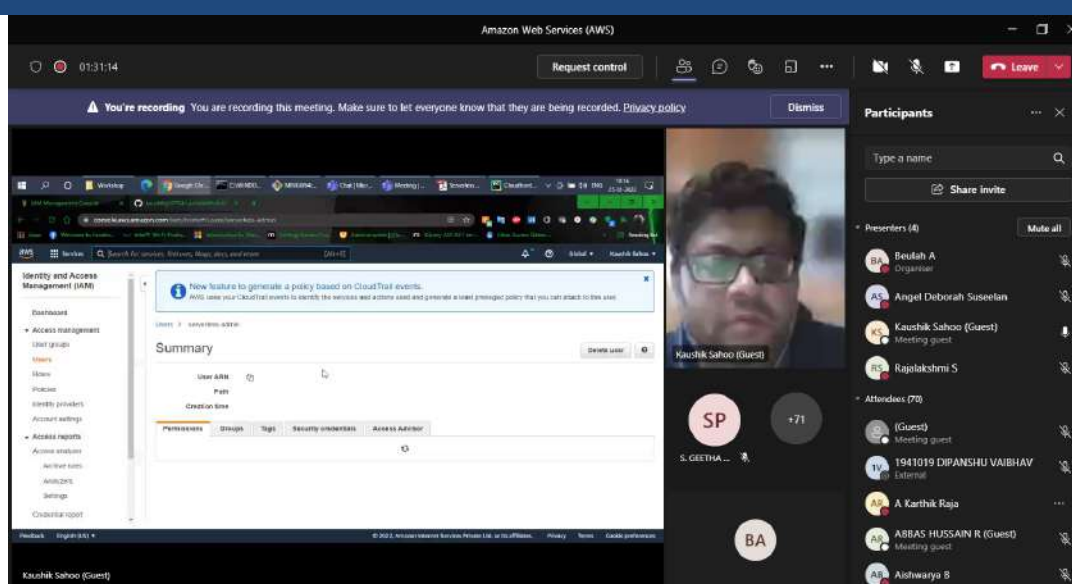
## NATIONAL SEMINAR ON "AMAZON WEB SERVICES"

The one day National Seminar on “Amazon Web Services” was organized by Dr R. S. Milton, Ms S Rajalakshmi, Dr A. Beulah and Ms S. Angel Deborah on 25 January 2022. Mr. Kaushik Sahoo, Project manager, CTS Pvt Limited, Kolkata, and Mr Pradeep M, AWS Tech Lead, LPL Financial, Fort Mill, South Carolina, USA walked through the special features available in Amazon Web Services.

This National Seminar is intended to provide an opportunity for students, faculty and researchers in various technical institutions for upgrading their knowledge in the area of Amazon Web Services (AWS). The seminar started with an introduction to the department by Prof. R. S. Milton, following it Ms. S. Rajalakshmi introduced the speaker for the first session Mr. Kaushik Shoo. Mr. Kaushik began his talk by describing serverless computing. Then he quickly took us through AWS Lambda, which is a serverless, event-driven compute service that lets you run code for virtually any type of application or backend service without provisioning or managing servers. His talk sheds light on the important concepts of Lambda such as functions, event, trigger, layer, destination and concurrency. He ended the session by demonstrating Lambda in AWS.

During the next session, Dr. A. Beulah introduced Mr. Pradeep to the participants. Mr. Pradeep gave a short introduction to machine learning. Then he proceeded to the fundamentals of Amazon SageMaker, a fully managed machine learning service. He elaborated the complete workflow of machine learning in SageMaker starting from ground-truth labelling to model prediction along with a demo. He continued the last session on Amazon Textract, a machine learning service that automatically extracts text, handwriting, and data from scanned documents. He demonstrated Amazon Textract with hand written document and text document. All three sessions were interactive and informative to provide insight into Amazon Web Services. The seminar received good feedback from the participants.

**Seminar Organizers**



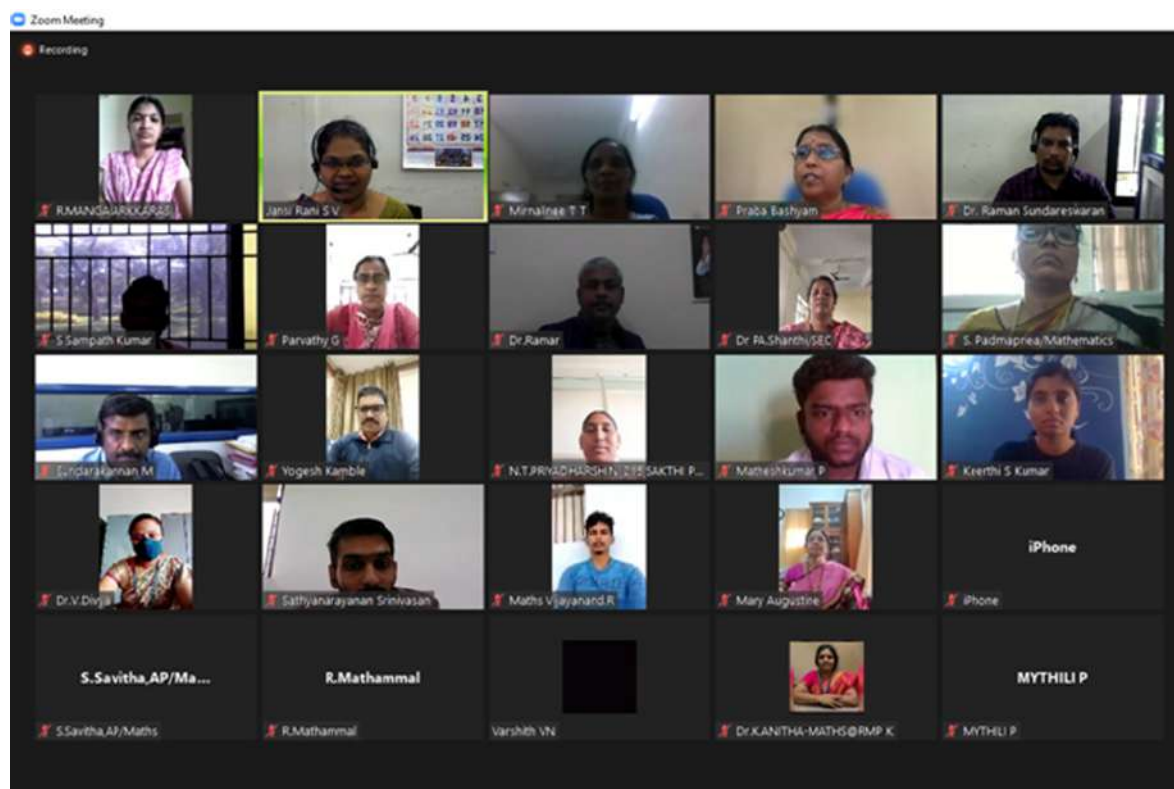
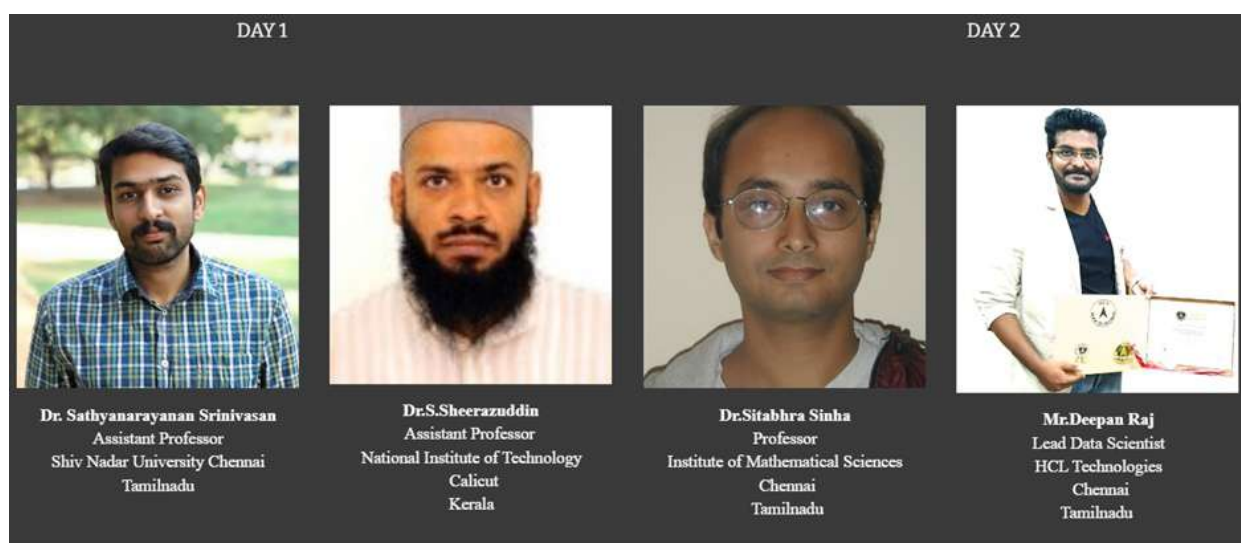
## WORKSHOP ON "AN INSIGHT INTO MATHEMATICAL MODELLING IN INFORMATION AND COMMUNICATION ENGINEERING (MMICE) VERSION 2 "

It gives me immense pleasure to share with you about the two day National level online workshop on "An Insight into Mathematical Modelling in Information and Communication Engineering (MMICE) Version 2 " jointly organized by the Department of Computer Science and Engineering & Department of Mathematics, Sri Sivasubramaniya Nadar College of Engineering during January 27-28, 2022.

The second version of the workshop had lectures by eminent speakers from NIT, IMSc, SNU and HCL. There are 85 participants out of 270 registrations from both academia and industry. The participants had given good feedback about the workshop. The first session is on the topic " Mathematical Modeling for Computer Science" delivered by Dr. Sathyanarayanan Srinivasan, Shiv Nadar University, Chennai. Professor gave a good presentation about the single variable and multi variable optimization modeling using real world examples. The second session is on the topic "Reachability & SAT Solvers " by Dr. Sheerazuddin, NIT Calicut. He explained the reachability problem in a very easy way so that participants from different domains understood very well which is evident from the feedback.

The next session is on the topic "What the brain can teach us about learning machines, and vice versa" by Senior Prof. Dr.Sitabhra Sinha from IMSc, Chennai. Professor explained about mathematical modeling in his domain of neuroscience. The last session is a hands-on demo session on the topic "Bayes Theorem and distribution" by Mr.Deepan Raj, Lead Data Scientists from HCL Technology, Chennai. It is a very interesting session and the speaker gave demo on the implementation of Bayes theorem and the also on the exploratory data analysis.

On the whole, the workshop had triggered interest to the participants and gave on insight on mathematical modeling.



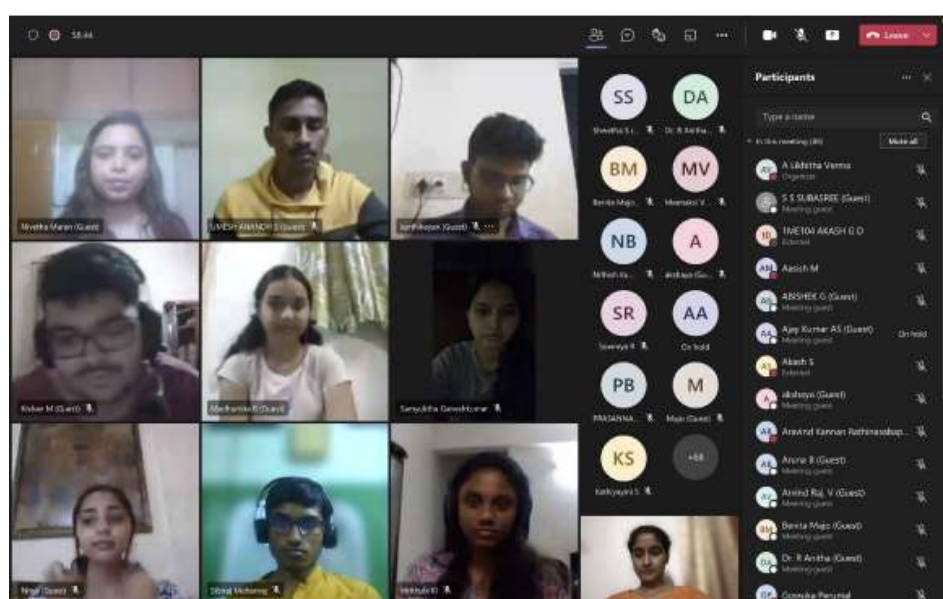
## Workshop Organizers



## WEBINAR ON “MY JOURNEY WITH TECH COMMUNITIES & INDUSTRY AS A DEVELOPER”

The SSN ACM-W Student Chapter along with the SVCE ACM-W Student Chapter collaboratively organized an interesting webinar titled “My Journey with Tech Communities & Industry as a Developer”. The webinar was held on 11th of January 2022 and was open to all students across all departments of both the colleges. The event was a grand success with over 90plus enthusiastic participants.

Nivetha Maran, currently working as a Senior Software Engineer in UI Development at Four Kites Inc, is an alumna of SSN College of Engineering who was the speaker for this event.



The speaker started off the talk by explaining what it takes to be a developer along with the opportunities available and the difficulties faced by developers. Nivetha split the talk into two parts, the first one explaining the basic concepts of web development

followed by talking about a developers journey in the second part. Under the basics of web development, the speaker explained various divisions such as but not limited to HTML, CSS, Javascript and so on which encouraged students to learn more about web dev. HTML or the hypertext markup language is the standard language for documents designed to be displayed in a browser. This is assisted with the help of css or cascading style sheets which is used for describing the looks of a website. Along with html and css, javascript, a programming language plays a major role. It helps in building both the front as well as the back end of a website. JS helps in making the website dynamic, and takes care of all the interactions with the user. It also helps in the connectivity with the database.

Furthermore, the speaker told the audience about frameworks, which is a conceptual structure intended to serve as a backbone or support for the building of a website. Some examples mentioned were bootstrap, angular, react etc. The next phase explained was the

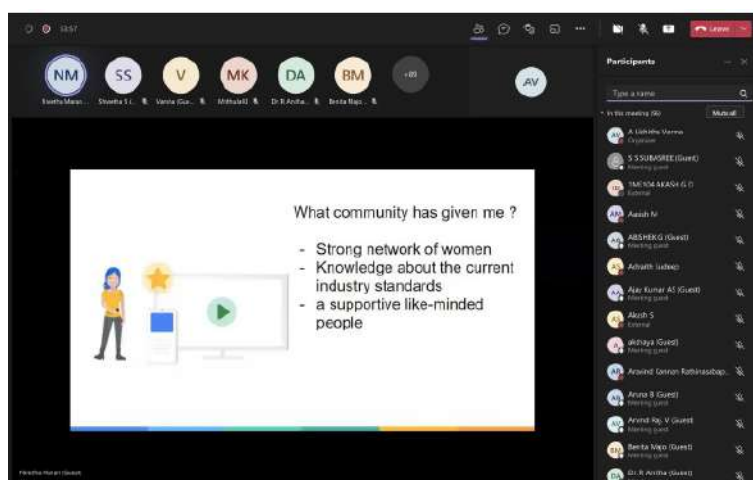


automation testing of the product made; this is basically the process to double-check whether the software made meets its requirements or not. Nivetha Maran also gave us an insight on PWA and AMP, which are technologies made for mobile phones which help the website load faster and provide the look and feel of native apps. To conclude with the first part, the overall frontend development cycle was explained to the students along with the team structure in an organization for the same. The team structure consists of the Product manager who comes up with the features for the product, the UX designer who tells how this feature will be presented to the users and finally the UI dev team who will implement the design and take care of the requirements as well.

In the second part of the talk, Nivetha Maran gave us an overview of how a developer journey looks and how to move up the ladder. She explained that coding alone is not the only requirement to be successful, and stressed on the importance of other soft skills like networking and communication which will help us in the long run. Being an SSN alumni, she was able to give examples of how she developed communication skills from her college time. Nivetha not only spoke about important skills, but also encouraged students to be a part of clubs in college that in itself provides good exposure to the students.

The webinar came to an end with the Question and answer session. A wide range of questions from asking about SQL and backend to the importance of cyber security in development were posted for the speaker.

The SSN ACM-W worked along with the SVCE ACM -W student chapter to make this event a grand success and ensured the smooth happening of the event! The webinar was indeed an insightful and encouraging one for the students!




**SSN ACM-W**

## THE LABYRINTH BREAKER

On the morning of 19th December 2021, the 3rd year students of the ACM Student Chapter at SSN conducted an online team event, The Labyrinth Breaker via Microsoft Teams. Participating Teams had to navigate through a maze, while solving a variety of logical and aptitude questions as fast as they could. The event saw a turnout of 70 participants spread across 30 teams.

The event was conducted over 1 hour with the aim of helping students hone their puzzle solving and aptitude skills and stimulate their placement preparation. The maze consisted of a total of 40 MCQ questions based on the various kinds of problems generally encountered in the screening rounds of placements.



SSN COLLEGE OF ENGINEERING  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING  
SSN ACM STUDENT CHAPTER PRESENTS

# THE LABYRINTH BREAKER

Brush up your aptitude for placements  
and entrance exams.  
Open to all Depts

**PRIZES:**  
1st Place : Rs 3000  
2nd Place : Rs 2000  
3rd Place : Rs 1000

Online | ZOOM  
Dec 12 | 6pm - 7pm  
Team Size : 1-3

**Faculty Coordinators:**  
Dr. N. Sujaadeen | Dr. K. Madheswari  
Dr. K. R. Sarath Chandran

**For Queries, Contact:**  
Karun (8248883291)  
Karthik D (9481228526)

Starting off, the participants were briefed on the rules of the event, and any doubts were cleared. Then, the teams got to work, solving puzzles and exploring the maze. Teams were scored based on the time taken to complete the maze and the number of questions they had gotten wrong. At the end of the 1 hour period, 9 teams had completed the maze. The top 3 teams were announced on the ACM Student Chapter Instagram page and were commemorated with prizes worth Rs.6000/-.

SSN ACM Student Chapter

## CYBER PARADOX

'CyberParadox', a beginner level CTF contest was conducted on December 27th, 2021. The event was aimed at helping people interested in Cybersecurity, to hone their creativity and hacking skills. The contest was conducted on a platform called 'Traboda'.

Participants who registered were sent an email to join a WhatsApp group for further communication. The contestants were given 5 hours to solve the questions and “capture” the Flag. Eight challenges were set by the team out of which four were easy, three were medium and one was of hard difficulty level. Clues for the problems were released to the participants at time intervals in the WhatsApp group as well as on the noticeboard on the Traboda platform. Doubts from the participants were resolved immediately by the team during the 5-hour contest.

The contest was designed for beginners in CTF so that they could expose themselves to easy concepts in cybersecurity. The participants had an opportunity to learn and solve challenges and basically have a goodtime.

SSN ACM Student Chapter

## CAREER OPPORTUNITIES IN VLSI AND EMBEDDED SYSTEMS INDUSTRY - GUEST LECTURE

The screenshot displays a Zoom meeting interface. The main window shows a presentation slide titled "About CoreEL" with the following content:

- About CoreEL**
- CoreEL is a Customer Application Specific Product & Solutions (CASPS) company
- We offer innovative solutions for a wide range of applications like:
  - IP Cores
  - Design & Development
  - System Design & Prototype Development
  - Next-Gen Digital Products
  - Integrated Solutions
  - Low Volume Manufacturing
  - EDA Tools
  - COTS Products
  - Semiconductor Solutions
  - Technology Training
- We are leaders in these three markets -
  - Aerospace & Defense
  - Universities & Institutions of Higher Learning
  - Digital Media Broadcasting

A small video window in the bottom right corner shows the speaker, Arun Mathias. On the right side, a list of participants is shown, including:

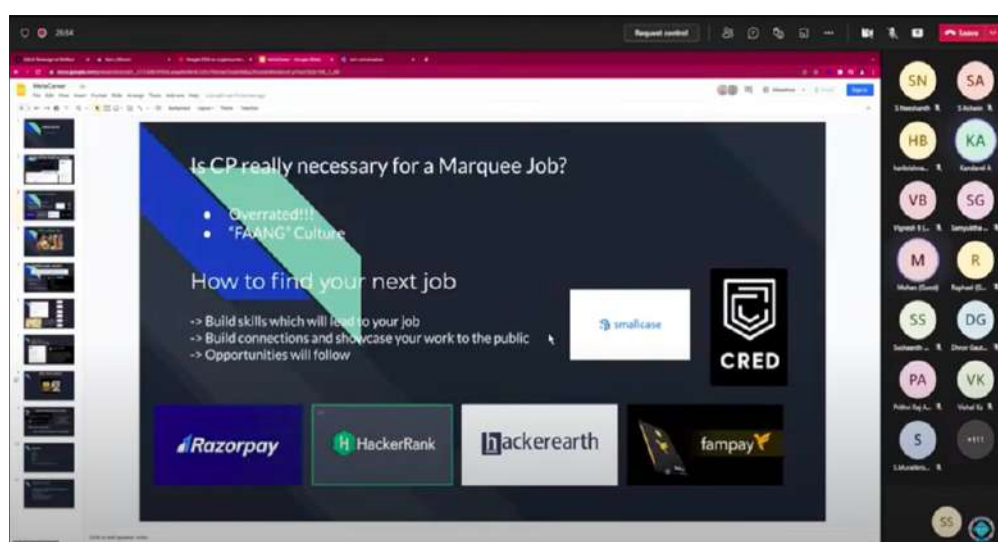
- N Aarthi
- Namshika
- Nandhini
- Nithish Bharathwaj
- Prasanth A
- R Abhinav
- Rahul
- Sarath Chandran
- varsha
- Vishnusree
- Adarsh S

The bottom toolbar includes controls for Unmute, Start Video, Participants (48), Chat, Share Screen, Record, Reactions, and a Leave button.

## METACAREER

The SSN ACM Student Chapter & SSN IIC successfully organised an interactive talk session “MetaCareer-The 1% mindset towards your career and building the future of the internet”, hosted by Mr. Mohan Sundar and Mr. Kandavel A, former students of SSN having multiple Hackathon titles under their belts, on the 30th of December, 2021.

The event gave the innovators, Mr. Mohan Sundar and Mr. Kandavel A, a platform to share their life experiences, starting from what they did during college, to how they landed their jobs as SDEs at HackerRank and Ramco Systems respectively. The session focused on the importance of understanding supply and demand of developers in the current times, while also emphasising on the importance of networking and building contacts. They aimed to break all the myths surrounding the job hunting process and give the participants an idea of what actually happens in the procedure.



The speakers also tried to provide an insight into the mindset of the top 1%. They provided the participants with knowledge of new avenues of opportunities which have only rarely been explored and explained how anyone can get a marquee job without having to do Competitive programming if they put their mind to it. The event was extremely conversational and communicative with the galvanised students actively asking questions and having conversations with the hosts.

**SSN ACM Student Chapter**

## BACK-TO-SCHOOL DIY : A CSR EFFORT

The ACM Student Chapter organized its first Corporate Social Responsibility (CSR) event in association with U&I, a volunteer-driven charitable organization based in Bangalore, India, in the last week of September 2021 to reach out to underprivileged and clinically challenged children.

U&I runs a successful after-school learning program called U&I Teach, impacting over 1600 children across 52 learning centers situated in 20 different Indian cities. In addition, their U&I Care program assists in the care and rehabilitation of 85 mentally challenged children at Bangalore-based residential facilities.

As a positive gesture to acknowledge the efforts of over 2000 volunteers dedicating their time, talent and energy to support this cause, the ACM committee brought together the students of SSN to contribute to U&I's Back-To-School DIY activity. In a 3-hour-long virtual workshop with the volunteers, participants followed a live demonstration to fashion drawstring bags and pen-pouches out of old t-shirts and clothes. Around 15 bags and 20 pencil-pouches were put-together by the students, collected by the committee and handed-over to U&I. These were in turn, redistributed to charities with children in need of school supplies.

Besides making an attempt at fulfilling its responsibility to the society as an educated scientific society, through this microscopic deed to make a difference, the committee hopes to inspire students and other student-bodies to engage in activities to promote social well-being and help those in need. A special mention to the committee's CSR team for its well-placed efforts to collaborate with U&I.

**SSN ACM Student Chapter**



## INVITED LECTURES - WITHIN SSN

1. Dr. R. S. Milton delivered a talk on 'Python Introduction to Data Analytics' in the FDP on "Data Analytics in Healthcare" organized by Department of CSE, SSNCE conducted during 17-22 January 2022.
2. Mr. B. Senthilkumar conducted a hands session on 'Python Introduction to Data Analytics' in the FDP on "Data Analytics in Healthcare" organized by Department of CSE, SSNCE conducted during 17-22 January 2022.
3. Dr. S. Kavitha delivered a talk on 'Traditional Learning Algorithms for Healthcare' in the FDP on "Data Analytics in Healthcare" organized by Department of CSE, SSNCE conducted during 17-22 January 2022.
4. Dr. J. Bhuvana and Dr. B. Bharathi handled a hands-on session on 'Learning Algorithms' in the FDP on "Data Analytics in Healthcare" organized by Department of CSE, SSNCE conducted during 17-22 January 2022.
5. Dr. D. Thenmozhi and S. Kayalvizhi/Research Scholar conducted a hands-on training on 'Detecting depression from Social Media' in the FDP on "Data Analytics in Healthcare" organized by Department of CSE, SSNCE conducted during 17-22 January 2022.
6. Dr. A. Beulah delivered a talk on 'Medical Images Analysis using learning algorithms' in the FDP on "Data Analytics in Healthcare" organized by Department of CSE, SSNCE conducted during 17-22 January 2022.
7. Dr. P. Mirunalini conducted hands-on training on 'Disease Diagnosis from Medical Images' in the FDP on "Data Analytics in Healthcare" organized by Department of CSE, SSNCE conducted during 17-22 January 2022.

## WORKSHOPS /FDPs ATTENDED

1. Dr. V. Balasubramanian attended ATAL FDP on "Advances of Cryptography in Quantum Computing" during 22.11.21 to 26.11.21 conducted by Department of Information Science and Technology, College of Engineering, Anna University.
2. Dr. T.T. Mirnalinee, Dr. J. Bhuvana, attended AICTE sponsored ATAL FDP in 'Blockchain and its security Perspectives' from 6th to 10th December 2021 conducted by Indian Institute of Information Technology Guwahati.
3. Dr. B. Bharthi, attended Five days online AICTE Training and Learning (ATAL) Academy, FDP on "Overview of Speech Processing" Conducted by IIT Dharwad from 20.12.2021-24.12.2021.
4. Ms. S.Rajalakshmi and Ms.S.Angel Deborah attended DST sponsored Faculty Development Programme (FDP) on "Data Analytics in Healthcare" during 17-22 January, 2022.

## WEBINAR/ SEMINARS ATTENDED

1. Dr. Chitra Babu attended the 3rd edition of Computational Thinking in Schools(CTiS) conference on 30th September, 1-2 October 2021.
2. Dr. V. Balasubramanian attended a webinar titled "Approaches to Patenting in the field of Computer Science" on 20.11.21.
3. Dr. V. Balasubramanian, attended a webinar titled "AICTE IDS initiative to create Bharat Blockchain Network on 17.12.21 @3-4.00 pm".
4. Dr. K. R. Sarath Chandran and Ms. S. Rajalakshmi attended a webinar session that was conducted by Virtusa Company for the reviewers of their "Jatayu" project competition on 17/12/2021.
5. Dr. V. Balasubramanian attended a webinar titled "Data-centric Computing: A Challenge and opportunity for CS Education" organised by ACM India on Saturday 22 January 2022 at 6:30 pm IST by Shriram Krishnamurthy, Professor of Computer Science, Brown University, USA.

## ONLINE KNOWLEDGE BASE....

1. Dr. S. Manisha has successfully completed a course " Prepare Data for Exploration " authorized by Google and offered through Coursera on 17th November 2021.

## FDP ON BLOCKCHAIN AND ITS SECURITY PERSPECTIVES

AICTE Training and Learning (ATAL) Faculty Development Programme on Blockchain and its Security Perspectives, 6 to 10 December 2021 by Indian Institute of Information Technology Guwahati (IIIT Guwahati).

On day 1 (06/12/2021) we had sessions on Introduction to Blockchain, Cryptography and other technical foundations with hands on session taken by experts from NIT Karnataka, Surathkal, MANIT Bhopal and IIT Patna. We learnt about block chain, its structure, smart contracts with basics of cryptographic techniques and practical session on smart contract deployment. On day 2 (07/12/2021) concepts covered hardware security perspectives of blockchain including security threats in IC fabrication outsourcing, logic locking, SAT attacks followed by consensus algorithms and related attacks covering the Byzantine Agreement along with Practical Byzantine Fault Tolerance topics and Blockchain Interoperability. These were taken by speakers from IIT Indore, IIIT Guwahati and IBM Indian Research Lab, Bengaluru.

On day 3 (08/12/2021) topics such as Ethereum virtual machine, Hyperledger fabric, cloud federations were introduced as part of Blockchain and its System level Implementation and a case study on Blockchain-Enabled Certificate-Based Authentication for Vehicle Accident Detection and Notification in Intelligent Transportation Systems was covered by experts from NIT Karnataka, Surathkal, IIIT Hyderabad along with a Hands-on Session on Hyperledger.

Privacy-preserving Smart Contracts included issues such as not keeping secret data as plaintext in smart contract, verifying the correctness and test libraries and limitations of Ethereum. Forking attacks, block-withholding attacks were covered as part of cryptocurrency and related attacks with a hands-on Session on bitcoin and miner to show bitcoin mining in blockchain, types of mining how to mine cryptocurrency on day 4 which are taken by speakers from IIIT Guwahati, IIT Patna and NIT Karnataka, Surathkal. On the last day of FDP, we are introduced to formal security analysis of blockchain-based decentralized applications timestamp and transaction order dependency by an expert from IIT Patna followed by a yoga session and test.

**Dr. T.T. Mirnalinee & Dr. J. Bhuvana**

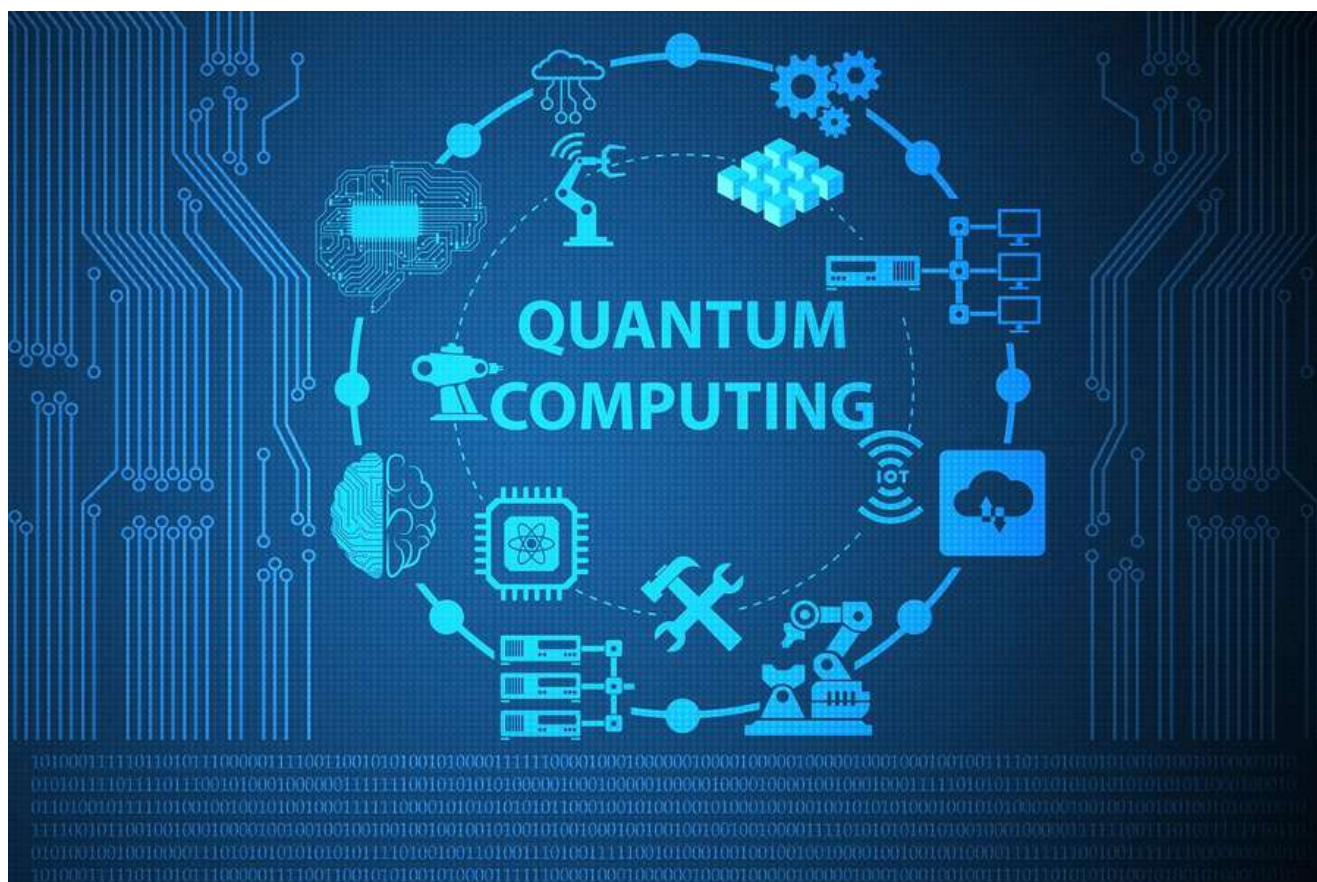
## FDP ON "RECENT TRENDS IN SPEECH PROCESSING"

The objective of this ATAL fdp is on recent trends in speech processing. On the first day of the fdp, first session was handled by Dr. S R M Prasanna, IIT Dharwad, he elaborated the overview of speech signal processing. During second session, spoofing Attacks for Automatic Speaker Verification (ASV) was handled by Prof. Hemant A. Patil, DA-IICT Gandhinagar. In this session he explained the new feature proposed for spoofing attacks. Third session was on Far-Field Automatic Speech Recognition and Computational Analysis of Sound Scenes and Events. This session was handled by Dr. Reinhold Häb-Umbach, Dept. of Communications Engineering Paderborn University D-33095 Paderborn Germany. On the second day of the fdp, the first session was handled by Dr. Deepu Vijayaseenan, NITK Surathkal. He explained about Detecting Physical Chrs of Persons from Speech. In the second session, Prasanta Kumar Ghosha, Dept of EE elaborated about Speech Signal Processing for Dysarthria. The third session was on Speech Quality Assessment. This session was handled by Dr.-Ing. Sebastian Möller, TU Berlin and DFKI Berlin, Germany.

On the third day of the fdp, the first session was handled by Gayadhar Pradhan, NIT Patna, he explained about Frontend signal processing to handle mismatch in ASR systems. During the second session, Signal processing for nasal and nasalized sounds was handled by Akhilesh Kumar Dubey, KL University, Vijayawada. Third session was on The Attacker's Perspective on Automatic Speaker Verification by Rohan Kumar Das, Fortemedia Singapore. On the fourth day of fdp, the first session was handled by Dr. Deepak, IIIT Dharwad., he delivered a talk on end to end speech recognition system. During the second session, Speech Technology for Language Education, was handled by Prof. Nobuaki MINEMATSU @ UTokyo. Third session was on Speech Synthesis using Deep Learning, handled by Nagaraj Adiga, ZAPR Media. The last day, on the first session, Sishir Kalita, Arms Tech.air, Chennai delivered a talk on Intent Classification in Conversational AI. During the second session, Generative Adversarial Networks for Speech Technology ISCA DL handled by Prof. Hemant A. Patil, DA-IICT Gandhinagar. The last session of the fdp is concluded with a wellness session by Prof. Tembe, IIT Dharwad.

**Dr. B. Bharathi**  
Associate Professor

**Dr. V. Balasubramanian**  
**ASP / CSE**





## OTHER ACTIVITIES

1. Dr. Chitra Babu along with Dr. R.S. Milton and Dr. V. Balasubramanian discussed with the Repl.it IDE software vendor team Brittany and Andy regarding the renewal of the subscription for another year on the 8th November 2021.
2. The team "SRH Agritech" comprises of three students from Final year EEE S.Sai Krishna, S.Rengarajan and V.Harini mentored by Ms.S.Rajalakshmi has participated in CII CONNECT 2021 HACKATHON - Connectathon (72 hrs Hackathon) conducted by CII CONNECT from Nov 19 to 22, 2021 and won 5th position in that.
3. Dr. V. Balasubramanian attended the 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
4. Dr. Chitra Babu, was invited to participate in the Department Advisory Board Meeting of the IT department of Kumaraguru College of Technology, Coimbatore that was organized virtually on the 4th December 2021.
5. Dr. V. Balasubramanian attended meeting for evaluating the Proposal for setting up Applied Blockchain Centre, powered by IDS Inc at SSN College of Engineering, Chennai on Dec24, 2021 at 11.00 AM.
6. Dr. D.Thenmozhi ASP/CSE interviewed candidates for the position of Junior Executive at Shiv Nadar University on 30.12.2021
7. Dr. Chitra Babu along with the department ISO coordinator Dr. D. Thenmozhi ASP/CSE and other faculty members presented information regarding the curriculum design for the undergraduate program, processes with risks and opportunities and the research related processes as part of the ISO external Surveillance audit that was scheduled on the 1st December 2021.
8. Dr. Chitra Babu attended a meeting with CodeChef along with Dr. C. Aravindan, Dr. S. V. Albal and Dr. N. Bhalaji regarding a proposition from CodeChef regarding making their platform available to students for practising competitive programming.
9. Dr. Chitra Babu attended the ACM-W Council Meeting on the 11th December 2021 from 5 Pm to 7 PM to discuss the upcoming ACM-W workshop that is going to be colocated with the ACM India Annual event.
10. Dr. Chitra Babu attended the meeting along with other HoDs and Prof. ganesh samudra regarding the common Framework for NBA on the 7th December 2021 from 6 PM to 8 PM.

## MEETING WITH PROF. GANESH SAMUDRA ON 25TH JAN 2022

The curriculum committee along with NBA committee of CSE had a meeting with Prof. Ganesh Samudra and Prof. Radha, Vice-Principal to discuss the Core Competencies and Performance Indicators (CC-PI) for BE(CSE) program, CO-PO mapping for 3 courses, and assessment plan for 6 courses under R2021 & 3 courses under R2018 on 25th Jan 2022 from 06.30 pm to 08.30 pm. Dr. R. Kanchana presented the CC-PI table, CO-PO mapping and assessment plans. Prof. Samudra offered various suggestions and the committee agreed to incorporate them suitably.

## ZONAL COMPUTING OLYMPIAD 2021

The department of Computer Science & Engineering hosted the Zonal Computing Olympiad (ZCO), a programming exam held at centres across the country on 19.12.2021 between 2.00 PM to 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 32 students from Chennai and Pondichery schools participated. The centre coordinators are Dr Chitra Babu, and Dr V. Balasubramanian.



## STUDENT ACHIEVEMENT

### GRANDMASTER AVINASH @ CODEFORCES

I'm Avinash Kartik, a final year CSE student. I would like to announce with immense pleasure that I've become a *Grandmaster* (GM) in Codeforces. GM is a title given to highly skilled competitive programmers on *Codeforces*. As few as 15 programmers in India hold this title.

I would like to express my gratitude to the department's coding club and my seniors at the club who introduced me to competitive programming. Over the years, they taught me data structures and algorithms that were crucial for my continual progress in this journey. The regular meetings and contests conducted by the club helped me develop a strong grasp over competitive programming and gave me a support system in going about it. I then started solving problems on websites like *Hackerrank*, *Codeforces*, *Codechef* and *Atcoder*. I was soon able to reach the *Candidate Master* level on *Codeforces*. Soon, with constant practice, I had achieved the *Master* title as well. Interestingly, I realized that as you reach higher rankings, it takes a lot more effort to improve your ranking further.

It took me about a year and a half to achieve the GM title from *Master*. It took a lot of hard work and perseverance to reach there. I am now proud to be one of India's top 10 coders on Codeforces. During this journey, I also participated in many external contests and won several of them. One of my most notable achievements is ranking 2nd in Asia in *Topcoder Regionals '21*. I would like to give a huge shoutout to my teammates Vrishin, who motivated me a lot, and Joseph, who not only motivated me but was also my rival that pushed me to reach greater heights during this journey. I'm grateful to the others who have helped and supported me during this journey as well.



**Avinash Kartik**  
**CSE Final Year**

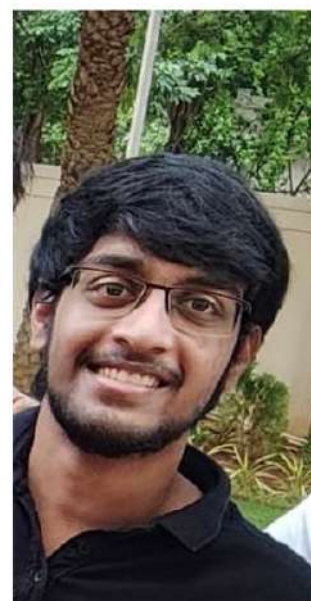
## GRANDMASTER JOSEPH @ CODEFORCES

I'm Joseph Amirtharaj, a third year CSE student, and I recently became a Grandmaster on a programming platform called Codeforces. If you don't know what that means, it is essentially a title granted to highly skilled competitive programmers. I would like take you through what I did to get there.

I started my journey on Hackerrank, a platform similar to Codeforces. After solving a few problems there, I moved to Codechef and Codeforces where I participated in contests regularly and practiced a lot of problems on a2oj's rated ladders. It took me three months to reach the title of 'Candidate Master' and another three months to get to 'Master'. In the time it took me to get from 'Candidate Master' to 'Master', I had dialled down a bit on practice and focused on contests and up-solving. It took me about a year to get from 'Master' to 'Grandmaster' and in this time, my practice routine was roughly the same as before (just solving contests and up solving).

It has been quite the journey, and I'm proud to say I'm **one of India's top ten coders** on Codeforces. Shout out to my rival Avinash Kartik for motivating me a lot in this journey and I'm grateful to the many other people that helped and supported me in doing competitive programming.

Joseph Amirtharaj  
CSE 3rd year



## PRETTY LMS APP



I developed "Pretty LMS" mobile app with the following features:

### --An easier way to access your courses--

Finding a course page on LMS to submit your assignment is often harder than doing the assignment! This app makes finding the right course page easy by simplifying the LMS homepage. Just go to the course page to view all your courses in one place!

### --LMS Assignments--

All your pending LMS assignments will be compiled on a single page which is also sorted according to the due dates.

### --Self Assignments--

With this feature, you can assign a task for yourself with a due date set. This will also be sorted and will be displayed along with the timer. Completed tasks can be deleted later.

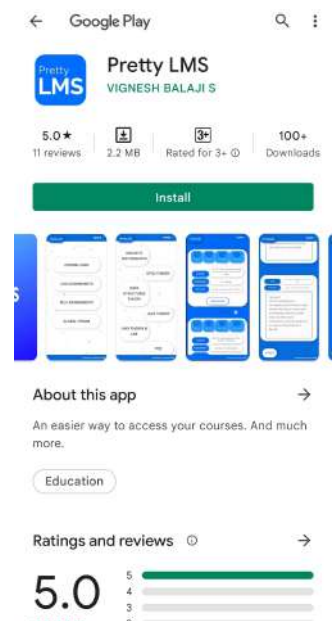
### --Global Forum--

This forum is exclusive for students currently in SSN. Club announcements, Event notifications, and other important details can be posted here.

The app is available in the Google Play Store:

<https://play.google.com/store/apps/details?id=com.vigbality.prettylms>

**Vignesh Balaji S**  
CSE - B 2nd Year





## MUSIC COMPETITION

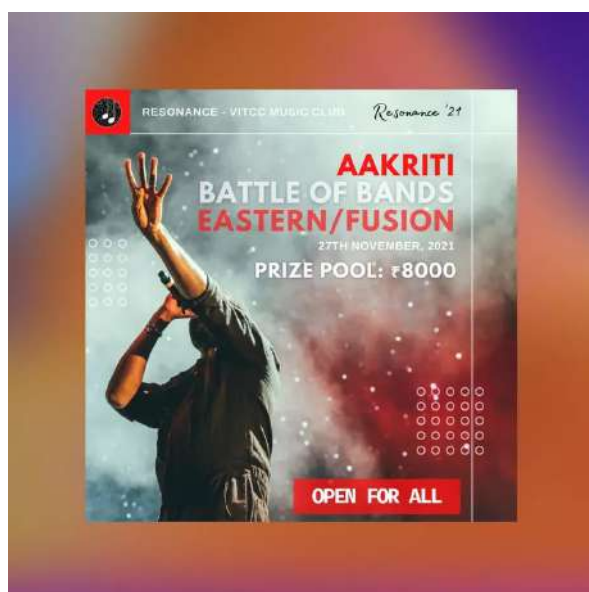
1. Pradeep G and Shashank Panda of 3rd Year CSE was placed Second in "Aakrithi - Battle of Bands Eastern/Fusion" hosted by VIT Chennai on 27 Nov 2021.
2. Pradeep G and Shashank Panda of 3rd year CSE was placed second in "Tarang" hosted by IIT Madras on 8th January 2022.
3. Shashank Panda of 3rd year CSE was placed first in "Decibels" hosted by IIT Madras on 7th January 2022.



Pradeep G



Shashank Panda



# PLACEMENT UPDATES NOV'21-JAN'22

## UG STUDENTS

### Super Dream

Crayan Data	1	Rs. 10.2 L
Cisco	2	Rs. 15 L
Walmart	1	Rs. 22.62 L
CredAvenue	1	Rs. 12.6 L
Microchip	1	Rs. 10.55 L
CommScope	1	Rs. 14 L
Groww	2	Rs. 11 L
Samsung R&D	1	Rs. 14.5 L

### Regular

Wipro	2
Quest Global	1
Sify	1
Aptean	1
Data-Aces	1
L1 Supply (SD)	1

### Dream

ICU Medical	2	Rs. 6 L
Facilio	1	Rs. 7 L
Accenture	3	Rs. 9 L
Mphasis	3	Rs. 6 L
Equitas Small Finance Bank	3	Rs. 6.96 L

## PG STUDENTS

HCL (Rs. 6 L CTC)

Angeline Hilda W

Kandikattu Divya

Manoj Kumar. S

**Total : 32**



## NPTEL TOPPERS

NPTEL offered "Competitive Programming" as a MOOC for the first time during July - October 2021 (taught by Dr. Neeldhara Misra of IIT Gandhinagar and Mr. Arjun Arul of CodeChef). Our students, Avinash Karthik, Sakthi Sairaj and Vrishin Vigneshwar have come in the top 3 positions.



**Elite**

# NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)





This certificate is awarded to

**AVINASH KARTIK**

for successfully completing the course



**Getting Started with Competitive Programming**

with a consolidated score of **98** %

Online Assignments	24.61/25	Proctored Exam	73.13/75
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Total number of candidates certified in this course: 219



**Prof. Amit Prashant**  
Dean, Research and Development  
IIT Gandhinagar

**Jul-Oct 2021**  
(12 week course)



**Prof. Andrew Thangaraj**  
NPTEL, Coordinator  
IIT Madras



Indian Institute of Technology Gandhinagar



Roll No: NPTEL21CS99S43351863

To validate and check scores: <https://npTEL.ac.in/noc>



**Vrishin Vigneshwar V**



**Sakthi Sairaj**



**Avinash Kartik**



# Elite

## NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)





This certificate is awarded to  
**SAKTHI SAIRAJ**  
 for successfully completing the course

### Getting Started with Competitive Programming

with a consolidated score of **98** %

Online Assignments	23.42/25	Proctored Exam	74.63/75
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Total number of candidates certified in this course: **219**



**Prof. Amit Prashant**  
Dean, Research and Development  
IIT Gandhinagar

**Jul-Oct 2021**  
(12 week course)



**Prof. Andrew Thangaraj**  
NPTEL, Coordinator  
IIT Madras



Indian Institute of Technology Gandhinagar



Roll No: NPTEL21CS99S43352556

To validate and check scores: <https://nptel.ac.in/noc>



# Elite

## NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)





This certificate is awarded to  
**V VRISHIN VIGNESHWAR**  
 for successfully completing the course

### Getting Started with Competitive Programming

with a consolidated score of **97** %

Online Assignments	24.22/25	Proctored Exam	73.13/75
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Total number of candidates certified in this course: **219**



**Prof. Amit Prashant**  
Dean, Research and Development  
IIT Gandhinagar

**Jul-Oct 2021**  
(12 week course)



**Prof. Andrew Thangaraj**  
NPTEL, Coordinator  
IIT Madras



Indian Institute of Technology Gandhinagar



Roll No: NPTEL21CS99S43352727

To validate and check scores: <https://nptel.ac.in/noc>



## ALUMNI CORNER

### BUDDING ENTREPRENEUR

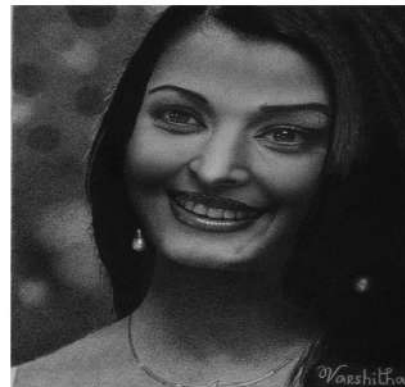
**Drawing was my hobby and now it has turned into my passion, job and my life!**

I am Varshitha Venkatesan, a freelance artist, calligrapher, and art tutor exploring hyper-realistic graphite and colour pencil sketches. I graduated from the Computer Science and Engineering Department of Sri Sivasubramaniya Nadar College of Engineering in the year 2019. Art made me realize that I cherish and excel at teaching.

I come from a society where girls are destined for household chores. Despite having secured a very high cutoff of 198.5, it was a herculean task for me to convince everyone at home to let me join SSN. From the moment I joined the college, I could sense the perseverance and dedication of my peers. A few of them were preparing for entrance exams and the others equipping themselves to work for reputed companies. They were my source of motivation but I wanted to take a path less trodden. I wanted to be an entrepreneur and be unique in what I did. Art was my true calling. So during weekends, I started attending art workshops and then it struck me: "My future is with art". I knew there would be hurdles along the way, persuading my family to be the first. I pushed myself towards my goal, determined to break the stereotype and prove that I am capable of achieving great things on my own.

My parents are extremely proud of me for what I have achieved. From opposing their daughter's wish to join SSN College to helping the same daughter choose her artworks for the SMRITI Magazine, I made my parents realize that I would never let them down in any situation and would work hard to make my dreams a reality.

Here are some of my pencil works.







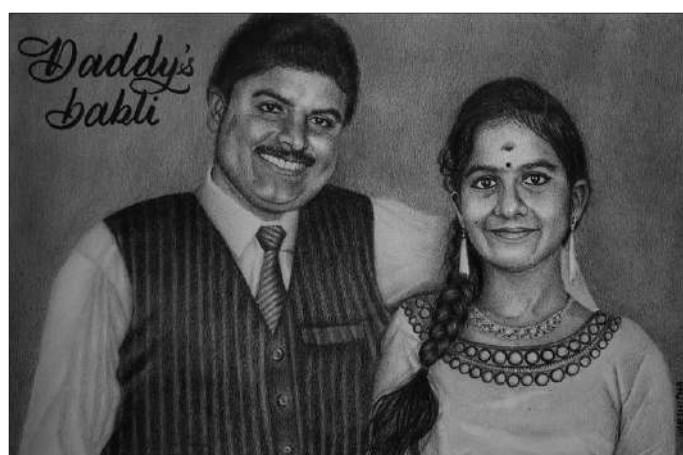
I have also done several one-off paintings for various clients. I have highlighted a few of them below.

1. I made a painting of one of my client's favourite photos with her dog Pinto.



2. There is no end to the love between a father and a daughter. One of my clients wanted to have an artwork to resemble a present-day photograph of her and her father whom she lost at a very young age. The most difficult part was drawing a person from a low-resolution group picture taken 30 years ago. I had to add a few realistic textures to the skin and enhance it to make it feel like a recent picture.

While unboxing the artwork, my client couldn't believe her eyes! What seemed unfathomable due to fate and time was materialized through art. She was with her dad and she could hold him with her own hands. Her teary eyes made me realize that I created something surreal, something that touched her soul, something that she would cherish for life.



3. In this project, I worked on recreating a family photo for one of my client's friends. I received a scanned copy of a 20-year-old damaged passport photo of the father. It was the only picture of him the family had. My client's friend (the daughter) had lost her father when she was 6 months old. She wanted to gift this artwork to her friend on her birthday.

My client was glad when she came across my artwork. I was initially hesitant to take up the project due to the lack of details in the picture. However, when I came to know about all the emotional aspects of it, I decided to take it up as a challenge and do my best. I was able to make the father smile through art, something his daughter hadn't seen in her lifetime. Even though the father, mother, and daughter, all look the same age, at the end of the day, I felt the emotions behind the picture is what truly matters!



Apart from teaching, I am personally overwhelmed in doing customized artworks just to see the million-dollar smile on my client's face. **"Beauty of life does not depend on how happy you are, but how happy others can be because of you"**. Feeling blessed!

Check out my artworks!

INSTAGRAM - @varshi\_art

[https://instagram.com/varshi\\_art?utm\\_medium=copy\\_link](https://instagram.com/varshi_art?utm_medium=copy_link)

FACEBOOK - @Varshi Art



**Varshitha Venkatesan,  
CSE batch of 2019**

## ENGINEER TO A SCIENTIST IN BIOLOGY

It must have been the first or second week of my 8th grade at school back in 2007. That was when I first fell in love with Biology. My biology teacher turned to the board and started drawing the digestive system, explaining how food gets digested and broken down by enzymes in each part of the system. Through the year, my teacher taught us every major organ system in the human body in great detail, and this left me in awe! The superficially unnoticeable complexity within us, left me amazed and wanting to learn more. The following year in school, another teacher taught us about the wonder that is cell division. The efficiency and intricacy of this fundamental phenomenon, embodied in every living organism, truly fascinated me and that was when I knew I wanted to study and work in Biology. But at that stage, I didn't know how I could make that happen. Take up medicine? Do a science degree in biology? Or choose an engineering course like Biotechnology?

I ended up doing something entirely different. I chose to do my bachelor's in engineering, majoring in Computer Science! During my high school years, I had the opportunity to speak to people from each of these fields. The common picture that emerged from these discussions was the immense scope for applying computation in solving biological problems. I was confident that I could learn relevant biological concepts by myself or through specialized courses later, but I realized that I needed formal training in computation and programming. So I pursued a B.E. in Computer Science and Engineering from SSN, planning to take up higher studies in computational biology later on.

Having taken up Biology in high school, I had little knowledge in programming and computer science when I joined SSN. When my father, a computer science engineer, typed out `printf("Hello, World");` on a C program file, I asked him: "What do you mean - print? Where is this going to be printed?". Such was my ignorance! From there to successfully earning a degree in computer science was an immense learning experience. Learning from some excellent teachers at the CSE department (a special shoutout to Thenmozhi ma'am), completing the rigorous lab programming exercises, and interacting with some talented classmates and friends helped me gain confidence and knowledge in these subjects. I am particularly thankful to the lab courses where teachers would give us interesting and challenging programming exercises to solve.

A two-month internship with Prof. Balaram, Director of Indian Institute of Science (IISc), Bengaluru at the time and an eminent professor of Molecular Biophysics, through the Indian Academy of Sciences' Summer Internship program was a turning point in my undergrad career. This was my first exposure to an intense research environment and I enjoyed it. Witnessing Prof. Balaram's enthusiasm and interest in the work of even a short-term intern like myself, despite an extremely busy work schedule, was absolutely encouraging and inspiring. This was also my first exposure to bioinformatics and computational biology. I spent my time there learning about bioinformatics in general and working on a structural bioinformatics project. I also got to interact with PhD students, and postdoctoral fellows in his lab, and some stalwart professors in the department. The following summer, I had the opportunity to work with Prof. Madhavan Mukund at Chennai Mathematical Institute, learning about systems biology in general and using the R language to model biochemical reactions.

By the end of my third year at SSN, I had decided that I wanted to pursue research in the computational biology domain. I started applying to Master's programs in bioinformatics and computational biology at US universities and received offers from a few. I also took the GATE exam to apply to prestigious Indian institutes like IISc and IITs. The Molecular Biophysics Unit (MBU) at IISc is a highly interdisciplinary department that accepts applications from students with any specialization. The department judges the student's capabilities by more than just their GATE scores. So despite securing only an average GATE score, I was eligible to apply for a PhD program there. I was called for two rounds of interviews with all the professors in the department. It was the most nervous I had ever felt – most of the professors and fellow applicants were biochemists and biophysicists and my knowledge in those domains was limited at best. In these interviews, I was asked questions that tested my aptitude for designing algorithms, and based on my summer internships. All the more, the professor with whom I wanted to work in the department showed interest in my summer project with Prof. Balaram. Eventually, I was offered to join MBU as a PhD student under Prof. N. Srinivasan, a seasoned computational biologist. I ultimately turned down admission offers from the US universities and decided to join IISc for a couple of reasons. First, I would have most likely done a PhD after completing my Master's. So a direct PhD was a better choice for me. Moreover, IISc had always been a dream institute for me. From a very young age, I would make it a point to visit this beautiful campus each time I was in Bangalore. So being a PhD student at IISc was far more appealing to me.

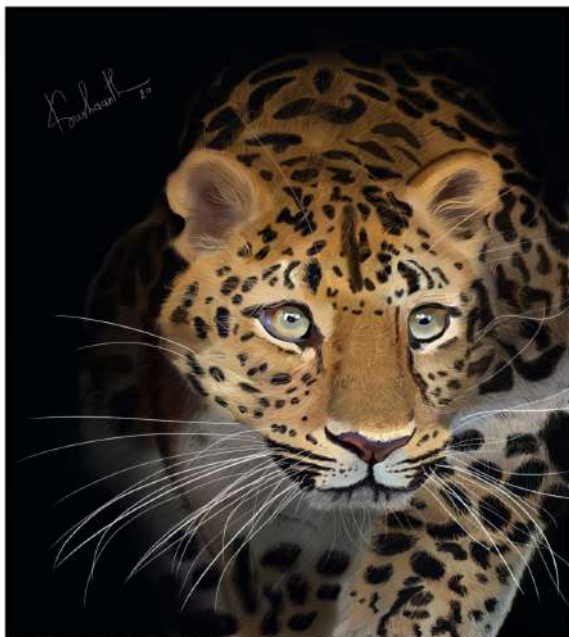


After successfully defending my thesis, I am now a postdoctoral fellow at the University of California, San Francisco, in Prof. James Fraser's lab. I work on developing and improving computational tools for protein structure determination. Although five years of PhD might seem like a long time, it is merely just a training phase for a career in research. It teaches us how research must be carried out, how to learn and unlearn, how to apply or translate our knowledge to our problems, how to communicate our findings, and where to "stop" in the quest for answers. Through my postdoctoral fellowship, I hope to apply the training from my PhD to make critical and fundamental scientific contributions, and continue to experience the pleasure of learning and discovery.



Ashraya Ravikumar  
CSE Batch of 2015  
SSN College of Engineering

## ART CORNER



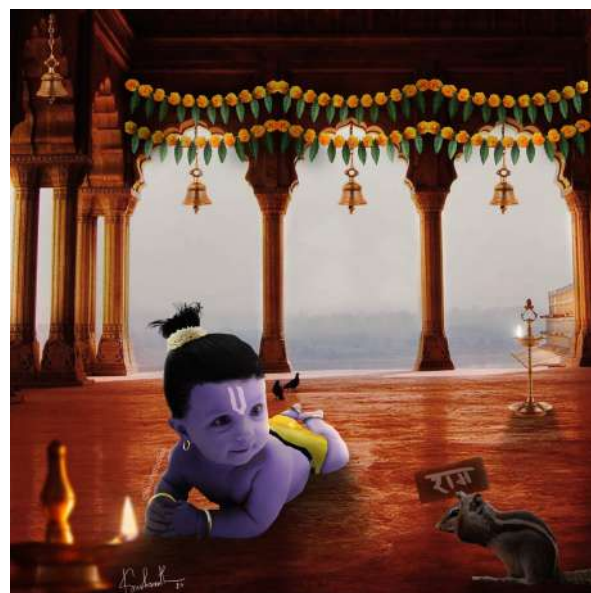
Digital Painting by Sushaanth, 3rd year



Impasto Digital Painting by Sushaanth, 3rd year



Photomanipulation by Sushaanth, 3rd year



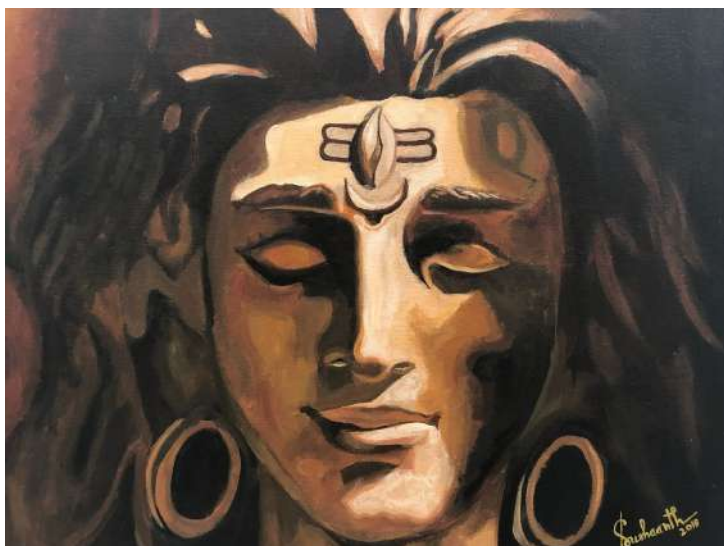
Photomanipulation by Sushaanth, 3rd year



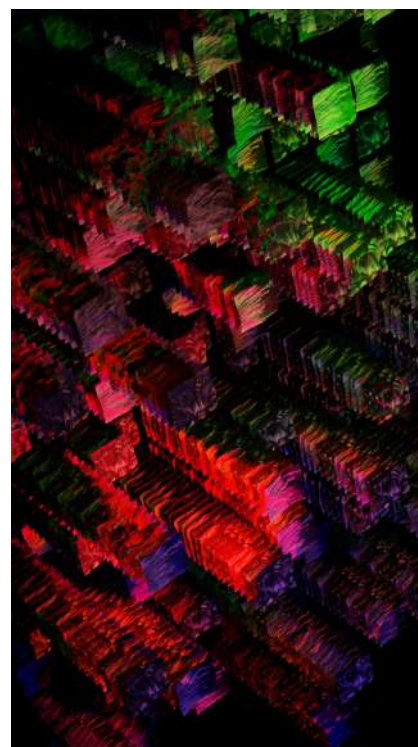
Pencil sketch by Sushaanth, 3rd year



Vector Art by Sushaanth, 3rd year



Acrylic on Canvas painting by Sushaanth,  
3rd year



Generative Art by Sushaanth, 3rd year





Pencil coloring, by Varsini 3rd year



Pencil coloring, by Varsini 3rd year



Pencil coloring, by Varsini 3rd year

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