The Department of
Electronics and Communication Engineering

PRESENTS

Impulse

Volume 11 Issue 1
Half-yearly Newsletter
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EDITOR'S NOTE

Greetings from Team Impulse!

We are elated to bring to you another edition of the Impulse Magazine!

This edition is, in essence, an amalgamation of the refreshing ideas and efforts of numerous competent writers and designers from the Electronics and Communication Engineering department of our college. The team covered a plethora of topics ranging from the latest advancements in technology to navigating higher studies after graduation. Also, the magazine was made complete by the aesthetic layouts created by our talented designers.

We would like to thank HOD Dr. P. Vijayalakshmi ma'am for her guidance. She pushed us to improve the content and the overall magazine. We are also highly grateful to have Dr. Gulam Nabi Alsath, as our faculty incharge. He is the best mentor an editorial board could ask for. He gave us complete liberty vis-à-vis the content and design and helped us whenever we faced any hiccups. We would also like to thank the college and our department to have given us such an opportunity.

We hope you enjoy this edition as much as we enjoyed creating it!

Rangashri V, III B
Samyuktha R, III B
Kirthivasan B, III A
Kruthi R, III A

MEET THE TEAM

FACULTY CO-ORDINATOR :

1. Dr. P. Vijayalakshmi
   Prof. & HOD, ECE

FACULTY INCHARGE :

1. Dr. M. Gulam Nabi Alsath
   Associate Professor, ECE

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11. Vanathi .S, II B
12. Varshini .G, IIIB
13. Vinu Abinayaa R, III B

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VISITS AND INTERACTIONS

1. Dr. R. Rajavel, ASP visited Philips Domestics Appliances India Ltd., Chennai to conduct a study on their Chimney to design a custom temperature measuring unit to avoid a fire accident on 13.12.2021.

2.The first half-year review meeting with LRDE, Bengaluru, in respect of the project “Design of metasurface-based shared aperture phased array antenna operating in S & X bands” was held on 10.01.2022. From SSN, the meeting was attended by PI K. T. Selvan, Prof, SRF Ms. M. Akila, RS, and Research Assistants Mr. R. Yashwanth and Mr. P. Baskaran (UG-ECE 2019-2023 Batch students). All the attendees, including the UG students, made presentations.

3. Dr. M. Gulam Nabi Alsath, ASP, and his research team along with the Vice Principal Dr. S. Radha presented the weekly research progress to BigCAT Wireless Private Ltd. on the recently funded industry project “Optimum Design of Reflectarray Antennas”. The SSN team visited BigCAT Wireless Pvt Ltd on 26.04.2022 to hold discussions on the progress of the ongoing research project. During the visit, the team explored the laboratory facilities and participated in the demonstration of the Gimbal over which the antenna must be loaded.

4. Mr. V Balaji, Mr. S. K. Murugan and Team, Electrical & Electronics, Innovation & Development, Philips DA, Chennai visited ECE Department and met Dr. P. Vijayalakshmi, Prof & Head & Dr. R. Rajavel, ASP to discuss the updates on the ongoing consultancy projects and possible extension for the year 2022.

5. Dr. R. Rajavel, ASP organized a virtual meeting with Ford Motor Pvt. Ltd. Faculty members from CSE & IT Department interacted with Ford Motor for possible collaboration in Cyber Security on 04.02.2022.

6. 2018-2022 Batch students had a meeting with Prof. Ognjen Kundacina to discuss the progress of the project.

7. Dr. N. Prabagarane, ASP, Dr. S. Radha, VP, Mr. S. S. Vishvambar Panth, Mr. M. Vignesh, Mr. V. Vignesh, UG-ECE Dr. S. Radha, VP, Dr. R. Hemalatha, ASP & Dr. S. Aasha Nandhini, AP/Amritha visited NRCB Trichy for testing the prototype developed under the DST-SSTP project and exploring the possibilities of network deployment for continuous monitoring on 24.02.2022.

8. Dr. P. Vijayalakshmi, Prof & Head attended a leadership conclave organized by Shiv Nadar Foundation, at SNU Noida, on 11.03.2022 & 12.03.2022. She also discussed possible collaboration between the Department of EE, SNU Noida, and Department of ECE, SSNCE with faculty members of the Department of EE, SNU on 11.03.2022 and visited their research facility.

9. Ms. A. Priya, ASP, B. S. Abdur Rehman Crescent University along with her full-time research scholar and students visited Underwater Acoustic Research Lab and discussed the feasibility study of testing of MIMO in underwater communication on 17.03.2022.

10. Dr. P. Vijayalakshmi, Prof & Head attended the HCL workshop on SSN-HCL collaboration. She also presented the highlights of work being carried out at the Speech lab. After this meeting, she had an interaction with the HCL team regarding speech-to-speech translation projects on 27.04.2022.

11. Dr. S. Radha, VP, Dr. R. Hemalatha, ASP and Dr. S. Aasha Nandhini, AP/Amritha along with HCL team had a meeting with Dr. R. Selvarajan, Principal Scientist, NRCB, Trichy to discuss collaboration in Precision Agriculture using Drone and Edge Computing on 21.04.2022.

12. Dr. P. Vijayalakshmi, Prof & Head had a discussion with the leadership team of Comcast and had a discussion with possible collaboration on placements, setting up labs, internships, conducting value added courses and curriculum formulation, etc. on 04.05.2022.

13. A discussion with HR Team of Silicon Lab (a marquee company) on possible collaboration for placement, internships, setting up labs, etc. was conducted on 12.05.2022. A team of ECE faculty members including Dr. P. Vijayalakshmi, HoD, Dr. Jawahar Prof, Dr. Premanand V. Chandramani, Prof , Dr. V. Vaithianathan, ASP and Dr. M. Anbuselvi, ASP attended the meeting.

14. Dr. P. Vijayalakshmi, Prof & Head, Ms. K. Mrinalini, RS, had a project discussion with HCL Team on 17.05.2022.

15. Dr. S. Radha, VP/SSNCE, Dr. P. Vijayalakshmi, Prof & Head, Dr. B. S. Sreeja, Dr. S. Esther Florence, Dr. S. Ramprabhu, Dr. S. Kirubaveni, ASPs, Ms. N. Kavitha, RS attended a meeting with the HCL RF group on 27.05.2022. The team also visited the labs established by these faculty members to understand the research capabilities and discussed the possible collaborations with them.

Meeting with the HCL RF group on 27.05.2022.

16. Dr. K. T. Selvan, Prof held an online meeting with Drs. Ivan Gratchev and Hugo Espinosa of the School of Engineering and Built Environment, Griffith University, Australia, on 30.05.2022 in connection with a possible MoU between their School and SSN.

17. Dr. P. Vijayalakshmi, Prof & Head attended the R & D meeting conducted by NIEPMD and presented the “NLTM project proposal on speech assistive technologies” for speech data collection on 13.05.2022.

GUEST SPEAKERS:

1. Dr. V. Jagadeesh Kumar, Professor of Electrical Engineering, IIT Madras, Chennai, India delivered a talk on “Variable Reluctance Pressure sensor - Design, Development and manufacture” on March 14th, 2022.

2. Dr. Nishal Ramadas, Chief Technology Officer (CTO), Azeriri Private Limited, IIT Madras Research Park delivered a talk on “Ultrasonic Sensors and their applications” on March 16th, 2022.

3. Dr. Sivaselvan B, Associate Professor, Dept. of CSE, IIITDM, Kancheepuram delivered a talk on “AI perspective of data science” on March 25th, 2022.

4. Dr. K. T. Selvan, Prof organized an invited online talk by Mr. Sam Karikalan, Senior R&D Manager, Broadcom, USA, on “Current status and future directions of communication systems industry” on 17.05.2022.

5. Dr. S. Ramprabhu, ASP along with Dr. C. Annadurai, ASP organized a webinar on “Career Opportunities in the VLSI Domain” by Dr. T. V. R. Anantharaj, Senior Technologist, Western Digital Corporation (WDC), San Jose, California on 26.05.2022. PG (CS, AE & VLSI Design) students of ECE department attended the same.

FACULTY AS GUEST SPEAKERS:

1. Dr. S. Sakthivel Murugan, ASP on “Underwater Communication” in the ATAL online FDP on “AI-enabled Sensors and Networks for 5G Wireless Communication” organized by Mahendra Engineering College on 06.12.2021.

2. Dr. S. Sakthivel Murugan, ASP on “Underwater Antennas” in the ATAL online FDP on “5G antenna design” organized by Mailam Engineering College on 11.12.2021.

3. Dr. S. Esther Florence, ASP on “RF textile antennas and Sensors” at the “Advanced Electromagnetics and Modern Antenna Design Principles” by the Department of ECE, SSNCE on 06.12.2021.

4. Dr. N. Venkateswaran, Prof presented an IEEE SPS lecture on “Digital Signal Processing and Applications” at the Department of ECE, Sri Sairam Engineering College on 17.12.2021.

5. Dr. Premanand V. Chandramani, Prof on “Why is CMOS technology still going strong?” as part of a 2-day workshop on “Trends in Semiconductor Technology”, organized by the Dept. of ECE, SSN College of Engineering on 17.12.2021.

6. Dr. S. Esther Florence, ASP on “On-body textile Antennas” at the 4-day workshop on “Antenna Design for military biomedical and wireless applications” organized by the Department of ECE, CARE College of Engineering, Trichy on 20.12.2021.

7. Dr. B. Ramani, ASP on “Voice Conversion and Multilingual Speech Synthesis for Indian Languages” at the Department of ECE, Hindustan Institute of Technology and Science, Chennai in the IET sponsored seminar on “Recent trends and applications of Text-to-Speech (TTS) systems using Deep learning Approach” on 21.12.2021.

8. Dr. R. Kishore, ASP on “Need for Security, Business Needs, Threats and Attacks” in the Anna University Sponsored Faculty Development Training Program - Winter 2021 for the course IT8703 - Information Security organized by Department of Information Technology, Rajalakshmi Engineering College, Chennai on 04.01.2022.

9. Dr. M. Gulam Nabi Alsath, ASP on “Optimum Design of Reflectarray Antennas” during the five-day short-term course on “Antenna Design for RF Energy Harvesting Circuits” organized by the Department of ECE, National Institute of Technology (NIT), Delhi on 06.01.2022.

10. Dr. V. Vaithianathan, ASP on “FPGA Building Block Architectures, FPGA Interconnect Routing Procedures” in the Anna University Sponsored Online – Six-Day Faculty Development Training Programme on VLSI Design (EC8095) organized by the Department of ECE, PSNA College of Engineering and Technology on 21.01.2022.

11. Dr. M. Gulam Nabi Alsath on “Preparing Undergraduate Research proposals” arranged by The Department of English, SSNCE for the benefit of first-year UG students on 18.01.2022.

12. Dr. M. Gulam Nabi Alsath, ASP on “Optimum Design of Reflectarray Antennas” during the one-week FDP on “Advancements on Antenna Technologies for future Applications” at the Department of ECE, V R Siddhartha Engineering College, Andra Pradesh on 16.02.2022.

13. Dr. P. Vijayalakshmi, Prof & Head delivered two lectures titled “Fourier transforms and its applications” and “Convolution and correlation in signal processing applications” in the 3-day FDP on “Integral transforms and its applications” organized by the Department of Mathematics, SSN CE on 03.03.2022 & 04.03.2022 respectively.

14. Dr. S. Sakthivel Murugan, ASP on “Underwater Sensors and its application” in the 2-days workshop on “Ocean Observation Systems and Underwater Marine Resources - Explore the unseen v5.0” during March 16-17, 2022.

15. Dr. N. Venkateswaran, Prof on “Introduction to Machine Learning and Computer Vision” at the Department of Electronics and Communication Engineering, KPR Institute of Engineering and Technology on 18.03.2022.

16. Dr. S. Ramprabhu, ASP on “EMI and EMC” for the Department of ECE, Jansons Institute of Technology, Coimbatore on 18.03.2022.

17. Dr. N. Venkateswaran, Prof on “Fundamentals of Wireless Communication” at the Department of Electronics and Communication Engineering, St. Joseph’s College of Engineering on 23.03.2022.

18. Dr. N. Venkateswaran, Prof on “Introduction to Medical Image Processing” in the virtual pre-conference Workshop on “Image and Video Analysis - (IVA 2022 - Version 2.0)”, at the Springer IFIP 5th International Conference on Computational Intelligence in Data Science, (IFIP ICCIDS 2022) held at SSN College of Engineering, Chennai during March 24-26, 2022.

19. Dr. W. Jino Hans, ASP on “Computer Vision and Digital Image Understanding” at the Department of ECE, Dr. N.G.P Institute of Technology, Coimbatore on 26.03.2022.

20. Dr. P. Kaythry, ASP on “Advancements in LLC protocols in Communication Networks” in the two-day FDP “Disruptive Technologies in Communication” organized by Sairam Institute of Technology, Chennai on 31.03.2022.

21. Dr. R. Hemalatha, ASP on “Software Defined Networks” at the Department of CSE, Amrita School of Engineering Chennai on 19.04.2022.

22. Dr. K. J. Jegadish Kumar, ASP on the “Signal Integrity is in your future” at SMK Fomra Institute of Technology on 23.04.2022.

23. Dr. B. S. Sreeja, ASP delivered a Tech talk on “RF MEMS Switches for 5G and IoT applications” in Sukshmabhilap Malika 2022 with theme “Recent Trends in MEMS Technology” conducted by Center for Nanomaterials and MEMS (CNM), NMIT, Bangalore in association with Institute of Smart Structures and Systems (ISSS) during May 05-06, 2022.

24. Dr. S. Ramprabhu, ASP delivered a guest lecture titled “Antennas and Microwave Engineering” in Vel Tech Multi Tech Dr. Rangarajan Dr. Sakunthala Engineering College, Avadi on 06.05.2022.

25. Dr. N. Venkateswaran, Prof was invited as a key note speaker in the International Conference on Recent Innovations in Science, Engineering and Technology- ICRISET’22 organized by Jeppiaar Institute of Technology, Chennai on 13.05.2022. He delivered a talk titled “Innovations for the benefit of Humanity”.

26. Dr. Premanand V. Chandramani, Prof was invited as a keynote speaker in the International conference on recent innovations in science engineering and technology ICRISET-2022, Jeppiaar Institute of Technology, on 13.05.2022.

27. Dr. P. Vijayalakshmi, Prof & Head as a keynote speaker to CHENCON 2022 conducted by IETE Madras chapter, delivered a talk on “Building speech-input speech output systems - the challenges” at Sri Venkateswara College of Engineering (SVCE), Sriperumpudur on 20.05.2022.

28. Dr. M. Gulam Nabi Alsath, ASP delivered a keynote address on “Optimum Design of Reflectarray Antennas” during the National Conference on Advanced Communications and New Energy Generation Technologies organized by Bharat Institute of Higher Education and Research on 28.05.2022.

EVENTS ORGANISED

Workshop on "CO-PO Mapping using PI-CC & Attainment Calculation"

Coordinator(s): Dr. S. Radha, VP, Dr. S. Esther Florence, Dr. K. Muthumeenakshi & Dr. C. Vinothkumar, ASPs
Date: 04.12.2021
Participants: SSN faculty members

Five-day online FDP on "Advanced Electromagnetics and Modern Antenna Design principles"

Coordinator(s): Dr. M. Gulam Nabi Alsath. Dr. S. Ramprabhu, Dr. S. Kirubaveni, ASPs
Date: December 06-10, 2021.
Speakers: Dr. Soumyabrata Chakrabarty, Scientist G-ISRO Ahmedabad & Visiting Professor, Electrical Engineering, IIT Gandhinagar; Dr. P.H. Rao, Programme Director – Centre for microwave and millimeter Wave, SAMEER, Kolkata; Dr. Yatendra Kumar Singh, Associate Professor, Electrical Engineering, IIT Patna; Dr. Swaroop Sahoo, Assistant Professor, Electrical Engineering, IIT Pallakad; Dr. Sukomal Dey, Assistant Professor, Electrical Engineering, IIT Pallakad; Dr. Saptarshi Ghosh, Assistant Professor, Electrical Engineering, IIT Indore; Dr. Soumava Mukherjee, Assistant Professor, Electrical Engineering, IIT Jodhpur; Dr. Arani Ali Khan, Assistant Professor, Electrical Engineering, IIT Jodhpur; Dr. Abhishek K. Jha, Assistant Professor, Electrical Engineering, IIT Tirupati; Dr. Khairunnisa Amreen, Young Scientist, DHR-ICMR, BITS-Pilani, Hyderabad, Dr. Esther Florence S, Associate Professor, ECE, SSNCE, Dr. K.P. Jayaram, Assistant Professor, ECE, Amrita Vishwa Vidyapeetham, Chennai; Dr. S. Sangeetha, Assistant Professor, ECE, VIT- Vellore; Dr. P. Devi Sowjanya, Assistant Professor, ECE, Amrita Vishwa Vidyapeetham, Chennai; Ms. N. Kavitha, Project Associate, SSNCE
Participants: 120 participants from all over India

Two-day Workshop on "Sensors, Robotics and Automation"

Coordinator(s): Dr. K. Muthumeenakshi, Dr. S. Esther Florence, Dr. R. Hemalatha, Dr. B. Ramani
Date: December 13-14, 2021.
Participants: SSN faculty members

Two-day workshop on "Trends in Semiconductor Technology"

Coordinator(s): Dr. A. Jawahar, Prof, Dr. R. Amutha, Prof, Dr. P. Kaythry, ASP, Dr. C. Vinothkumar, ASP
Date: December 17-18, 2021.
Participants: SSN faculty members

As part of the Learning & Teaching Webinar Series by Griffith University, Australia and SSN CE, Dr. K. T. Selvan, Prof organized the following talks:

(a) Prof. S. Karmalkar, IIT Madras, on **"Engineering problem solving"** on 10.12.2021.

(b) Prof. R. K. Shevgaonkar, IIT Bombay, on **"Engineering education: Envisioning the future and preparing for it"** on 24.02.2022.

(c) Mr. Ajay Kumar Vaidhiyanathan, Intel, India, on **"Multi-disciplinary competence needed for engineers to make competitive products in today's and future technology"** on 20.04.2022.

(d) Dr. Antonette Mendoza, University of Melbourne, Australia, on **"Writing circle: Scholarly writing skills for Masters'** coursework students" on 20.05.2022.

"Exploring and Establishing Career in Semiconductor Domain"

Coordinator(s): Dr. A. Jawahar, Prof & Dr. C. Vinothkumar, ASP
Date: 11.12.2021.
Speaker(s): Er. David Khanna, CEO & Founder, Semiconductor & Embedded Services
Participants: Faculty Members, Research Scholars, PG & UG students

IEEE Distinguished lecture on "6G: Current Research Trends and Open Challenges"

Coordinator: Dr. N. Venkateswaran, Prof
Date: 15.12.2021
Sponsor: IEEE Signal Processing Society
Speaker: Prof. Dr. Merouane Debbah Technology Innovation Institute, Abu Dhabi

SSN-Intel FDP on "Embedded System Design using Intel SoC FPGAs"

Coordinator(s): Dr. R. Rajavel, ASP, Dr. S. Karthie, ASP & Dr. K. K. Nagarajan, ASP
Date: February 1-5, 2022.
Industry partner: Intel Technologies Ltd., Bengaluru
Speakers: Mr. Israr Sheikh, FAE Manager, India, ASEAN and ANZ, Intel-PSG and Mr. Padmanaban K, Program Specialist-India, FPGA University Outreach,
Intel Programmable Solutions Group
Participants: 200 participants from academia and industry

Two-day Workshop on "Speech Assistive technologies"

Coordinator(s): Dr. P. Vijayalakshmi, Prof & Head, Dr. B. Bharathi, ASP/CSE, Dr. M. Anbuselvi, ASP
Date: February 17-18, 2022.
Speakers: Dr. Hemangi Sane, Founder of Asha Ek Hope Foundation, Hema A. Murthy, Professor, Department of Computer Science and Engineering, IIT Madras; P. Vijayalakshmi, Professor & Head, SSN; Nekram Upadhyay, Assistive Technology Specialist and Head, Department of Assistive Technology at Indian Spinal Injuries Centre, New Delhi; Hemant A. Patil , Professor, DA-IICT Gandhinagar, India; S. R. M. Prasanna, Dean (Faculty Welfare, Research and Development) and Professor, Dept of Electrical Engineering at IIT Dharwad; Heidi Christensen, Professor in Computer Science, University of Sheffield, United Kingdom.
Participants: 50

Workshop on "DSP Processor - TMS320C6713DSK Hands-on sessions"
Coordinator: Dr. R. Rajavel & Dr. R. Kishore ASPs
Date: 24.02.2022
Speakers: Dr. R. Rajavel & Dr. R. Kishore
Participants: I ME CS students

"Water Engineering and Management for Sustainable Development"
Coordinator(s): Dr. N. Venkateswaran, Prof & Dr. P. SenthilKumar, Prof/Chem.
Date: 02.02.2022.
Speaker: Dr. Pannirselvam, Deputy Chief Engineer (Retd), Tamil Nadu Water Supply and Drainage Board.

Webinar on "Nano-Photonics Based Antennas and Sensor Development"
Coordinators: Dr. S. Radha, VP, Dr. S. Kirubaveni, Dr. M. Gulam Nabi Alsath & Dr. S. Ramprabhu, ASPs.
Date: 26.02.2022.
Speakers: Dr. Naresh Kumar Emani, Asst. Prof., IIT-Hyderabad & Dr. Gaurav Varshney, Asst. Prof., NIT-Patna.
Participants: 110 participants from all over India

Seminar on "New trends in Wireless Sensor Networks and Machine Learning"
Coordinator: Dr. R. Jayaparvathy, Prof & Dr. G. Durga, ASP
Date: 08.02.2022.
Speakers: Dr. John Harrison Kurunathan and Mr. Abdulhakeem Abdulrahman, CISTER Research Center, Portugal
Participants: UG/PG Students and Faculty members

Two-day International Workshop on "Current trends and future direction in Underwater Communication: Explore the unseen v4.0"
Coordinator(s): Dr. S. Sakthivel Murugan & Dr. K. Muthumeenakshi, ASPs
Date: February 17-18, 2022.
Speakers: Dr.Ian F Akyildiz, Dr.M.Ashokan, Dr.Dario Pompili, Dr.S.Ramesh
Participants: 55

International Seminar for students titled "Research and education opportunities"
Coordinators: Dr. N. Prabagarane, Dr. R. Kishore, ASPs
Date: 22.02.2022.
Speaker: Dr. Giacomo Morabito, Professor, University of Catania
Participants:75 UG III Year ECE students

7th National Conference on Information and Communication Technologies NCICT 2022

Convenors: Dr. C. Annadurai, Dr. B. Partibane, Dr. I. Nelson, Dr. S. Hanis, ASPs
Date: 23.02.2022
Keynote Speakers: Dr. T. G. Subash Kumar, Technical Manager, Valeo, Chennai, Dr. G. Thavasi Raja, AP, NIT, Trichy and, Dr. Balaji Dhayabaran, Senior Member Technical Staff, Saankhya Labs, Bangalore.
Session Chairs: Dr. S. Esther Florence, Dr. S. Ramprabhu, Dr. M. Anbuselvi and Dr. B. Partibane, ASPs.
No. of papers presented: 26 papers from various Engineering Colleges in Tamil Nadu

One Day Workshop on "Rapid prototyping with Spartan 7"

Coordinators: Dr. K. J. Jegadish Kumar, Dr. M. Anbuselvi, Dr. S. Hanis, ASPs
Participants: UG/PG students and faculty members
Date: 25.02.2022

Two-day workshop on "Ocean Observation Systems and Underwater Marine Resources - Explore the unseen v5.0"

Coordinators: Dr. S. Sakthivel Murugan & Dr. K. Muthumeenakshi, ASPs, Dr. K. Murukesan, ASP/EEE, Dr. N. Padmapriya, ASP/Maths
Date: March 16-17, 2022.
Speakers: Dr.R.Senthil Kumar, Mr. Biren Pattanaik, Dr.D.Manikandavelu, Dr.S.Sakthivel Murugan
Participants: 42

One day webinar on "Frequency Selective Surfaces - A Researcher's Perspective"

Coordinators: Dr. S. Ramprabhu, Dr. M. Gulam Nabi Alsath and Dr. S. Kirubaveni, ASPs
Date: 12.03.2022.
Speakers: Dr. Shen Zhongxiang, Professor, School of Electrical and Electronics Engineering, Nanyang Technological University, Singapore; Dr. Yiannis C. Vardaxoglou, Professor, School of Mechanical, Electrical and Manufacturing Engineering, Loughborough University of Technology, United Kingdom; Dr. Filippo Costa, Professor, Department of Information Engineering, University of Pisa, Italy.
Participants: 110 participants across the country

As part of the Learning & Teaching Webinar Series by Griffith University, Australia and SSN CE, a talk by Dr. Vorasuang Duangchinda, Sripatum University, Thailand, on the topic **"Digital tools supporting teaching and learning process for student engagement"** was organized on 17.03.2022.

7th International Conference on Wireless Communications, Signal Processing and Networking (WiSPNET-2022)

Date: March 24-26, 2022.
Conference Chair: Dr. S. Radha, VP
Organizing Chair: Dr. R. Kishore, ASP and Dr. N Prabagarane, ASP
Keynote Address: A total of 9 keynote talks were delivered by eminent speakers. The eminent speakers include Dr. Ian F. Akyildiz, Visiting Distinguished Professor at Sri Sivasubramaniya Nadar College of Engineering, Founder and President of the Truva Inc., a consulting company based in Georgia, USA and Advisory Board member at the Technology Innovation Institute (TII) Abu Dhabi, United Arab Emirates, since June 2020, Prof. Michael Segal Professor, from Department of Communication Systems Engineering, Ben-Gurion University, Dr. Falko Dressler, Professor and Chair for Telecommunication Networks at the School of Electrical Engineering and Computer Science, TU Berlin, Dr. Santi Concetto Pavone, Assistant Professor of Electromagnetic Fields at the Department of Electrical, Electronics, and Computer Engineering (DIEEI), University of Catania, Italy, Dr. Eirini Eleni Tsiropoulou, Assistant Professor and Computer Engineering Chair at the Department of Electrical and Computer Engineering, University of New Mexico, Dr. Bige Deniz Unluturk, Assistant Professor in both Department of Electrical Engineering and Biomedical Engineering at Michigan State University, Dr. D. Nirmal Professor and Head of Electronics and communication Engineering, Karunya Institute of Technology and Sciences, Dr. Wenye Wang, Professor in the Department of Electrical and Computer Engineering, North Carolina State University, Dr. Jennifer Simonjan, Senior researcher at Lakeside Labs in Klagenfurt, Austria.
No. of submissions: A total of 220 submissions were received for WiSPNET 2022. Of these, 79 research papers of high publication standards were accepted to be presented in this event

Industry review for M.E. VLSI Design and CS students was conducted on 26.03.2022. The experts were Mr. M. Sathiyanarayanan, Director, Capgemini Engineering, Chennai and Mr. N. Rajiv, System Specification Engineer, Nokia, Bengaluru.

Industry review of final year curricular projects for B.E ECE was conducted on 25.03.2022 and 26.03.2022. The experts were Mr. N. Chinnathambi, ViaSAT, Chennai, Mr. Ananda Velavan, Microchip, Chennai, Mr. M. Sathiyanarayanan, Director, Capgemini Engineering, Chennai, Mr. N. Rajiv, System Specification Engineer, Nokia, Bengaluru, Ms. Bama M, Qualcomm, Mr. Srinivasan Jegadheesan, Sterlite Technologies Dr. Jackson Juliat Roy, Tata Elxsi, Mr. Lakshminarayanan, Turiyatree Technologies.

A webinar on "Current frontiers for engineering educators"

Coordinators: Dr. N. Venkateswaran and Dr. K.T. Selvan, Profs
Date: 09.04.2022.
Speaker: Prof. Sally Male, Director, Teaching and Learning Laboratory, University of Melbourne, Australia.
Participants: UG/PG students and faculty members

"Electrochemical Biosensors in Food and Agriculture"

Coordinator: Dr. B. S. Sreeja, ASP
Date: 27.04.2022.
Resource person: Dr. Martin Peacock Honorary Senior Lecturer at Swansea University, Wales, UK Director of Zimmer & Peacock, Norway and Technando Technologies, New Delhi
Participants: UG/PG students and faculty members

IEEE SPS Distinguished Lecturer's Talk (Virtual Event) on, "Spectral Methods for Data Science"

Coordinator: Dr. N. Venkateswaran, Prof.
Date: 06.05.2022
Resource person: Dr. Yuejie Chi, Professor, Department of Electrical and Computer Engineering, Carnegie Mellon University.

R2022 PG BoS meeting on 31.05.2022.

2nd Board of Studies (BoS) Meeting for PG Courses

Chairman: Dr. P. Vijayalakshmi, Prof & Head as Chairman, BoS
Date: 31.05.2022
Expert Members: Dr. D. Meganathan, ASP/MIT Campus, Dr. Deepa Venkitesh, Prof/IITM, Dr. Asuthosh Kar, AP/IITDM, Dr. K. Mourougayane, Scientist F & Head - DSP Division/SAMEER, Mr. G. Kannan, Managing Director/BigCAT Wireless Private Ltd, Mr. G. C. Karunadurai, Technical Architect/ Continental Automotive, Bangalore.
The BoS meeting covered the following agenda: (i) Discussion on ME CS, ME AE and ME VLSI R2022 curriculum and syllabi (ii) BE (Hons) courses (iii) Amendments in few BE ECE courses.

EVENTS ATTENDED

- Dr. G. Durga, ASP, ATAL Online FDP on “Nanoelectronics Devices: Materials to Applications” organized by IIIT Ranchi during December 06-10, 2021.

- Dr. S. Ramprabhu, ASP, ATAL Online FDP on “Electromagnetic Interference (EMI) and Electromagnetic Compatibility (EMC)” organized by TPCT’s Terna Engineering College, Mumbai during December 13-17, 2021. He also attended an online webinar titled “Incubation Centre - IGCAR: An Introduction” organized by SSN-IIC4.0 on 09.02.2022.

- Dr. P. Kaythry, ASP, online FDP on “Digital Twin” organized by TCS on 24.12.2021.

- Dr. R. Hemalatha, ASP, ATAL Online FDP on “Sensor Data Analytics” organized by Indian Institute of Information Technology, Kottayam from November 29 to December 03, 2021. She also attended a webinar on “Critical Thinking, Design Thinking and Innovation Design” organized by SSN-IIC4.0 on 12.01.2022.

- Dr. S. Karthie, ASP, international webinar on “Impact of Copper Properties on High Reliability, High-Performance PCB Designs” organized by Rogers Corporation on 08.12.2021. He also attended an international webinar on “The role of impact metrics in researchers’ literature selection processes” organized by Wiley on 25.01.2022 & “Radar Sensors: Attacks and Risk Mitigation” organized by IEEE MTT-S on 08.02.2022.

- Dr. C. Vinoth Kumar, ASP, DST-SERB sponsored six-day of FDP on “Data Analytics in Healthcare” organized by the Department of Computer Science and Engineering during 17-22 January 2022.

- Dr. R. Rajavel, ASP, “AI Master Class (30 Days)” at Pantech Prolabs India Pvt. Ltd., from 20.12.2021 to 23.01.2022.

- Dr. P. Kaythry, ASP, webinar on “AICTE Awards Awareness” organized by AICTE on 04.01.2022. She also attended an online FDP on “Optical Wireless Communication- An enabling Technology for Next Generation Networks” organized by E & ICT Academy, NIT, Warangal and Department of Electronics Engineering, Pondicherry University, Pondicherry from 24.01.2022 to 02.02.2022.

- Dr. K. Muthumeenakshi, ASP, International Seminar on “New Trends in Wireless Sensor Networks and Machine Learning” organized by the Department of ECE, Sri Sivasubramaniya Nadar College of Engineering on 08.02.2022.

- Dr. S. Hanis, ASP, webinar on “Incubation Centre-IGCAR: An Introduction” organized by IIC of Sri Sivasubramaniya Nadar College of Engineering on 09.02.2022.

- Dr. N. Edna Elizabeth, Prof., & Dr. R. Kishore, ASP, webinar on “Incubation Centre-IGCAR: An Introduction” organized by SSN-IIC on 09.02.2022.
- Dr. B. Ramani, ASP, two-day workshop on “Speech Assistive Technologies” organized by the Department of ECE, SSNCE during February 17-18, 2022.
- Dr. C. Vinothkumar, ASP, IEEE APS one week FDP on “Biomedical Antennas” from March 21-26, 2022.
- Dr. S. Karthie, ASP, an international webinar on “Centralizing AI for Maximum Impact” organized by IEEE India Operations on 02.03.2022.
- Dr. S. Karthie, ASP, an international webinar on “Antenna Intelligence Cloud: A Game-Changing Design Service ‘’ organized by Ignion on 16.03.2022.
- Dr. S. Karthie, ASP, international webinar on “Emerging Substrate Integrated Circuits and Systems” organized by IEEE MTT-S on 12.04.2022.
- Dr. S. Karthie, ASP, international webinar on “Conducting a literature review” organized by Clarivate on 19.04.2022.
- Dr. M. Gulam Nabi Alsath & Dr. W. Jino Hans, ASPs attended the two days seminar “TechKnow 2022” organized by All India Manufacturers Organization (AIMO) in collaboration with Anna University during April 22-23, 2022.
- Dr. S. Esther Florence, ASP participated and successfully completed the ATAL Student Learning Assessment - STTP PARAKH” organized by AICTE in collaboration with CIDC between 30th April to 14th May, 2022.
- Dr. S. Karthie, ASP attended an international webinar on “Silicon-Based mm-Wave Phased Arrays for 5G: Fundamentals to Future Trends” organized by IEEE MTT-S on 10.05.2022
- Dr. S. Ramprabhu & Dr. S. Kirubaveni, ASPs attended the seminar on “Keysight Reconnect Day 2022” organized by Keysight Technologies at ITC Grand Chola, Chennai on 24.05.2022.

ONLINE COURSES

- Dr. K. J. Jegadish Kumar, ASP, NPTEL 4 week online course cum AICTE FDP on “Introduction to Machine learning” during Jan-Feb 2022.

- Dr. R. Amutha, Prof., NPTEL 4 week online course cum FDP on “Introduction to Machine Learning” during Jan-Feb 2022.

- Dr. N. Edna Elizabeth, Prof., “AI For Everyone” an online non-credit course authorized by DeepLearning.AI and offered through Coursera.

PROFESSIONAL ROLES AND RECOGNITIONS

- Dr. K. T. Selvan, Prof at the 2021 IEEE International Symposium on Antennas and Propagation held during December 6-10, 2021 in Singapore, virtually co-chaired (1) with Alexandre Serres, Federal University of Campina Grande, Brazil, the session “Metasurface Applications - I” on 07.12.2021 and (2) with Cynthia Furse, University of Utah, USA, the Special Session “Transforming Electromagnetics Education after Covid” and the regular session “Electromagnetics Education” on 09.12.2021.
- Dr. N. Venkateswaran, Prof, was appointed as the chairperson for the Open Defence and Viva-Voce examination held on 09.12.2021 by a research scholar at the Univesity of Calicut.
- Dr. R. Jayaparvathy, Prof as an NBA expert team member evaluated the UG- Electronics and Telecommunication Engineering program of KS Institute of Technolgy, Bangalore during December 10-12, 2021.
- Dr. S. Radha, VP received IEEE MAS Best Researcher Award 2021 from IEEE Madras Section on 12.12.2021.
- Dr. A. Jawahar, Prof shared his views as a Margdarshak in a webinar on the Madashan Initiative” organized by AICTE on 17.12.2021.
- Dr. S. Radha, VP as an external examiner conducted a Ph.D. viva-voce for a research scholar registered at St. Peter’s Institute of Higher Education and Research on 18.12.2021.
- Dr. N. Venkateswaran, Prof chaired a session in the International Conference on Advances in Mathematics and Computational Engineering conducted by SSNCE on 06.01.2022.
- Dr. N. Venkateswaran, Prof has been elected as Chairman IEEE Signal Processing Society Madras Chapter for the year 2022-2023.
- Dr. N. Prabagarane, ASP as an Associate Editor of the IET Communications journal, handled the review process of three papers assigned to him by the EiC.

- Dr. N. Venkatreswaran attended the meeting of the Board of Studies for the UG and PG Engineering program at the Department of ECE, Sri Manakula Vinayagar Engineering College, Puducherry on 26.02.2022.
- Dr. P. Vijayalakshmi, Prof & Head is appointed as TPC member for IEEE - SPS flagship conference ICASSP 2022, INTERSPEECH 2022, IEEE SPCOM 2022, organized by IISc, Bengaluru. She has also been appointed as Area chair - Analysis of speech and audio signals, INTERSPEECH 2022
- Dr. P. Kaythry, ASP reviewed the curriculum and syllabus of M.E. (Cyber Security) to be offered by the Manipal School of Information Sciences (MSIS).
- Dr. R. Hemalatha, ASP, as a member of the selection committee, attended the interview for selecting a suitable candidate for the post of Young Professional Iunder the ICAR Network program on Precision Agriculture (NePPA) at NRCB Trichy on 03.03.2022.
- Dr. P. Vijayalakshmi, Prof. & Head and Dr. N. Venkateswaran, Prof acted as Session Chairs for “2022 International Conference on Communication, Computing & Internet of Things - IC3IoT-22” held at Sri Sairam Engineering College on March 10-11, 2022.
- Dr. C. Vinothkumar, ASP acted as Session chair for the International Virtual Conference on Biosignals, Images, and Instrumentation (ICBSII-2022), on 16.03.2022.
- Dr. N. Venkateswaran, Prof acted as session Chair for Eighth International Conference on Bio signals, Images, and Instrumentation (ICBSII 2022) held at Department of Biomedical Engineering, SSN College of Engineering on March 16-18, 2022.
- Dr. M. Gulam Nabi Alsath, ASP was invited and subsequently joined the Editorial Board of Microwave and Optical Technology Letters (Wiley) as Associate Editor.
- Dr. S. Ramprabhu & Dr. C. Annadurai, ASPs are recognized and elevated to Senior Member Grade in IEEE.

RESEARCH CORNER

RESEARCH GRANTS

▶ The Center for Speech Technology, SSN, received the following two MeiTY-funded projects as a consortium effort having IIT Madras as a lead institute.

1. Prosody modelling for TTS with a sanctioned amount of Rs. 99 Lakh with Dr. T. Nagarajan, Prof & Head/CSE/SNU as lead investigator.
2. Speech Assistive technologies with a sanctioned amount of Rs. 87 Lakh with Dr. P. Vijayalakshmi, Prof & Head as a lead investigator.

Subsequent to the grant, P. Vijayalakshmi, Prof & Head attended the preliminary meeting for the MeiTY funded NLTM project to discuss the way forward with all consortium partners, convened by Prof. Hema A Murthy, IITM on 18.03.2022.

PROJECT PROPOSALS

▶ Dr. S. Radha, VP as PI, Dr. R. Kishore, Dr. N. Prabagarane, ASPs, Dr. R. Nakkeeran, Pondicherry University, Dr. Pravati Swain, NIT Goa, Dr. Neelakandan Rajamohan, IIT Goa as Co-PIs submitted a proposal titled “THeBe: Channel Modeling and Analysis for Indoor, Outdoor, Single and Multi-Hop TeraHertz Band Communications in 6G Wireless Systems” to SERB Special Call CRG-Exponential Technologies for funding worth Rs. 7.17 Crore.

▶ Dr. K. Muthumeenakshi, ASP as PI, Dr. S. Radha, VP & Dr. S. Esther Florence, ASP as Co-PI, submitted a proposal titled “Design, Development and Investigations of RF Energy Harvesting System for Future Wireless Communications” to SERB CRG Exponential Technologies for funding worth Rs.18.596 Lakh.

▶ Dr. N. Edna Elizabeth, Prof as PI, Dr. R. Kishore, ASP, Dr. S. Hanis, ASP, Dr. N. Prabagarane, ASP as Co-PIs submitted a proposal titled “Development of Artificial Intelligence-based expert auto fit analyzer for women’s upper garment” to DST Technology Development Transfer Division under Technology Development Programme Scheme for funding worth Rs. 42.68 Lakh.

▶ Dr. R Rajavel, ASP as PI & Dr. W Jino Hans, ASP as Co-PI submitted a proposal titled “Artificial Intelligence-based Autonomous Drone for Agricultural Geo-fencing” to TNSCST under the “Science and Technology Project Scheme” for funding worth Rs. 3.9 Lakhs.

▶ Dr. S. Ramprabhu, ASP as PI, Dr. M. Gulam Nabi Alsath, ASP, Dr. S. Radha, VP as Co-PIs submitted a proposal titled “Experimental Investigations on the Development of Frequency Selective Surface Based Textile Radar Absorber for Military Personnel” to DST-SERB-CRG for funding worth Rs. 33.71 Lakh.

- Dr. B. S. Sreeja, ASP as PI, Dr. S. Radha, VP, Dr. M. Srinivasan, Research Scientist/SSNRC, Dr. P. Ramasamy, Dean/Research, as Co-PIs submitted a proposal titled “Development of Surface Functionalized Carbon-Based Nanosystems as Drug Delivery Platform for Cervical Cancer Screening” to DST-SERB for funding worth Rs. 80 Lakh.

- Dr. S. Esther Florence, ASP as PI, Dr. R. Vimal Samsingh, ASP/Mech as Co-PI submitted a proposal titled “Microwave Blood Pattern Analysis on Textile Surfaces to Aid Crime Investigation” to DST-SERB CRG for funding worth Rs. 36.85 Lakh.

- Dr. R. Hemalatha, ASP as PI, Dr. P. Sangeetha, ASP/Civil & Dr. S. Radha, VP as Co-PIs submitted a proposal titled “Localised Image-based Crack Severity level Classification using Machine Learning methods” to SERB-CRG for funding worth Rs. 33.78 Lakh.

- Dr. G. Durga, ASP as PI, Dr. S. Ramprabhu, ASP as Co-PI submitted a proposal titled “Design and Development of a System to Detect Object Behind Steel Wall for Disaster Rescue Applications” to SERB-CRG for funding worth Rs. 25.93 Lakh

- Dr. C. Vinoth Kumar, ASP as PI, Dr. A. Jawahar, ASP as Co-PI, Dr. K. Nirmala, ASP/BME as Co-PI submitted a proposal titled “Developing a Teleconsultation based Clinical Decision Support System for Chronic Respiratory Diseases” to SERB-CRG for funding worth Rs.20.62 Lakh.

- Dr. M.Srinivasan, Research Scientist as PI, Dr.S.Radha Vice Principal, Dr. B.S. Sreeja ASP, as Co-PIs submitted a proposal titled “ Nano Architectonics of Metal Combined with Magnetic Material-Based Polymer Nanocomposites for Treatment of Lung Cancer Cell Lines ”to DST SERB for funding worth Rs.46 Lakhs.

- Dr. S. Ramprabhu, ASP as PI, Dr. M. Gulam Nabi Alsath, ASP and Dr. N. Venkateswaran, Prof as Co-PIs submitted a proposal titled “Surface Acoustic Wave Filters for UHF and L-Band frequencies” under ISRO-RESPOND Scheme 2022 for funding worth Rs. 19.74 Lakh.

- Dr. N. Venkateswaran, Prof as PI and Dr. W. Jino Hans, ASP as Co-PI submitted a research project titled, “Data Driven Approaches for Dehazing of High-Resolution Multispectral Remote Sensing Images” under ISRO-RESPOND Scheme 2022 for funding worth Rs. 19.5 Lakh.

- Dr. W. Jino Hans, ASP as PI, Dr. B. Ramani, ASP and Dr. P. Vijayalakshmi, Prof & Head as Co-PIs submitted a proposal titled “An Assistive Aid for Visually Impaired People Using Image Captioning Technique in Tamil Language” under Tamil Computing Projects of Tamil Virtual Academy - 2022 Tamil Software Development Fund (TSDF) Scheme for funding worth Rs. 10.99 Lakh.

- Dr. P. Vijayalakshmi, Prof & Head attended the 21st Meeting of Programme Advisory & Monitoring Committee of Technology Interventions for Disabled & Elderly (PAMC-DST-TIDE) organized by KSCST, Bengaluru and presented the project proposal titled “Bidirectional sign-language to speech conversion system in Tamil” on 09.05.2022.

- Dr. G. Satheesh Kumar, ASP/Mech as Lead Investigator and eight other faculty members including Dr. P. Vijayalakshmi, Prof. & Head submitted the project titled “Smart agents for geriatric functional empowerment and dignified sustenance” to DST-SERB under SUPRA scheme worth Rs. 79.35 Lakh

- Dr. B. Bharathi, ASP/CSE as PI, Dr. P. Vijayalakshmi, Prof. & Head, Dr. T. Nagarajan, Prof. & Head/SNU as Co-PI submitted the project titled “Real-time multi-dialect automatic speech recognition system for Tamil” under Tamil Computing Projects of Tamil Virtual Academy - 2022 Tamil Software Development Fund (TSDF) Scheme for funding worth Rs. 13.77 Lakh.

- Dr. G. Satheesh Kumar, ASP/Mech as Lead Investigator and eight other faculty members including Dr. P. Vijayalakshmi, Prof. & Head submitted the project titled “Smart agents for geriatric functional empowerment and dignified sustenance” to DST-SERB under SUPRA scheme worth Rs. 79.35 Lakh

- Dr. B. Bharathi, ASP/CSE as PI, Dr. P. Vijayalakshmi, Prof. & Head, Dr. T. Nagarajan, Prof. & Head/SNU as Co-PI submitted the project titled “Real-time multi-dialect automatic speech recognition system for Tamil” under Tamil Computing Projects of Tamil Virtual Academy - 2022 Tamil Software Development Fund (TSDF) Scheme for funding worth Rs. 13.77 Lakh.

- Dr. R. Vimal Samsingh, ASP/Mech as PI and Dr. S. Esther Florence, ASP as Co-PI submitted the project titled “Non-destructive testing of the mechanical behaviour of bones using microwaves” to DST-SERB under CRG Scheme for funding worth Rs. 46.15 Lakh.

- Dr. K. S. Jayakumar, ASP/Mech as PI and Dr. V. Vaithianathan, ASP as Co-PI submitted the project titled “Shape analysis of 3D objects for robot grasping and objects recognition application” to DST-SERB under CRG Scheme for funding worth Rs. 41.73 Lakh.

- Dr. G. Satheesh Kumar, ASP/Mech, Dr. M. Dhanalakshmi, ASP/BME, Dr. P. Vijayalakshmi, Prof & Head, Dr. P. Rajini Kumar, “A powered EMG-based embedded system controlled transfemoral prosthesis” to DST-SERB under CRG Scheme for funding worth Rs. 40.45 Lakh.

- Dr. R. Rengaraj, Dr. G. R. Venkatakrishnan, ASPs/EEE, Dr. S. Karthie, ASP/ECE submitted the project titled “Design and development of electromagnetic interference compatible cables for mining application” to DST-SERB under CRG Scheme for funding worth Rs. 37.28 Lakh.

- Dr. P. Saravanan, ASP/EEE as PI and Dr. M. Anbuselvi, ASP/ECE as Co-PI submitted the project titled “Design and development of brush-less radial and axial motor for electric two-wheeler applications” to DST-SERB under CRG Scheme for funding worth Rs. 29.50 Lakh.

- Dr. R. Vimal Samsingh, ASP/Mech as PI and Dr. S. Esther Florence, ASP as Co-PI submitted the project titled “Augmented reality-based jellyfish inspired marine debris and sewage scavenging system” to TNSCST for funding worth Rs. 5.00 Lakh.

BOOKS AND BOOK CHAPTERS

- A review of the recent book “Teaching electromagnetics: Innovative approaches and pedagogical strategies” edited by Dr. K.T. Selvan, Prof and Prof. K. F. Warnick appeared in the February 2022 issue of the IEEE Antennas and Propagation Magazine.

- A preprint by Dr. K.T. Selvan, Prof and Prof. K. F. Warnick, entitled “Engineering program accreditation: Where have we been and where should we go” was posted on TechRxiv.

- S Hanis, N Edna Elizabeth, R Kishore, Ala Khalifeh. “Authenticated Encryption to Prevent Cyber-Attacks in Images”, Illumination of Artificial Intelligence in Cybersecurity and Forensics, Lecture Notes on Data Engineering and Communications Technologies, vol 109. pp.325-343, Springer, 2022.

INTELLECTUAL PROPERTY RIGHTS

- Dr. S. Radha, VP, Dr. R. Hemalatha, ASP & Dr. S. Aasha Nandhini, RA submitted the FER for the patent titled “A System, Device and Method for Plant Disease Detection and Alert” bearing application number 202041047647 to IPR office through CIntelligence Services Pvt Ltd on 29.01.2022.

- Dr. N. Edna Elizabeth, Prof, Ms. R. Sriharini, Ms. D. Supriya, Mr. V. S Surenther, Ms. S. Sneha (UG-ECE 2018-2021 Batch), has filed a patent titled “IoT based Multi-Purpose Smart Fabric Curtain” with reference number 202241007546.

- Dr. M. Gulam Nabi Alsath, Dr. S. Kirubaveni, ASPs & Dr. S. Radha, VP filed the FER response for their invention titled “Novel Optically Transparent UWB MIMO Antenna System: A Method and Device Thereof” on 25.03.2022.

- Dr. S. Ramprabhu, ASP, Mr. M. Lingeshwaran, PT-RS filed a patent titled, “Fractal Inspired Loop Elements Based 2.5-D Miniaturized Frequency Selective Surface” with Application Number: 202241029873 on 24.05.2022.

JOURNAL PUBLICATIONS

- Dr. G. Anushiya Rachel, AP/KITS, Ms. S. Sreenidhi, Edgeverve systems Ltd., Dr. P. Vijayalakshmi, Prof, Dr. T. Nagarajan, Prof & Head/CSE/SNU “Incorporation of Happiness in Neutral Speech by Modifying Time-Domain Parameters of Emotive-Keywords” in Circuits, Systems and Signal Processing, pp. 1-27, November 2021.

- Ms. K. Mrinalini, RS, Dr. P. Vijayalakshmi, Prof, Dr. T. Nagarajan, Prof & Head/CSE/SNU “Feature-weighted AdaBoost classifier for punctuation prediction in Tamil and Hindi NLP systems” in Expert systems, pp.1-19, November 2021.

- Ms. S. Annapoorani, RS, Dr. R. Jayaparvathy, Prof, “Modified Seagull Optimization Algorithm based MPPT for augmented performance of Photovoltaic solar energy systems” in the Automatika Journal for Control, Measurement, Electronics, Computing and Communications, November 2021 (Published Online).

- Ms. R. Sriharini, UG-ECE 2017-2021 Batch, Dr. N. Edna Elizabeth, Prof, Ms. D. Supriya, Mr. V. S. Surenther, Ms. S. Sneha, UG-ECE 2017-2021 Batch, “IoT based multi-purpose smart fabric curtain” in Australian Journal of Electrical and Electronics Engineering, pp. 1-9, November 2021.

- Ms. J. Abanah Shirley, RS, Dr. S. Esther Florence, ASP, Dr. B. S. Sreeja, ASP, Dr. S. Radha, Prof & Head, “Performance Analysis of Wearable Pressure Sensor Based on Structural Properties of Zinc Oxide Nanostructures Grown on Fabric” in IEEE Transactions on Nanotechnology, vol. 20, pp. 837-845, November 2021.

- Ms. J. Abanah Shirley, RS, Dr. S. Esther Florence, ASP, Ms. V. Saraswathi, Ms. S. Sankareshwari, Ms. S. Sona, UG-ECE 2014-2018 Batch, “Fall detection smart-shoe enabled with wireless IoT device” in Circuit World, vol. 47(4), pp. 325-334, November 2021.

- Ms. V. Aruna, RS, Dr. M. Gulam Nabi Alsath, ASP, Dr. S. Kirubaveni, ASP, Dr. Jaume Anguera, Prof/Universitat Ramon Llull, Spain, Ms. Jessica Constance Paul, Mr. K. Ram Kumar, UG-ECE 2017-2021 Batch, “Refractive Index-Based Terahertz Sensor Using Graphene for Material Characterization” in Sensors, vol. 21, 8151, pp. 1-13, December 2021.

- Ms. V. Aruna, RS, Dr. M. Gulam Nabi Alsath, ASP, Dr. S. Kirubaveni, ASP, Ms. V. Pancha Durga V, UG-ECE 2017-2021 Batch, “An Ultra-thin Multiband Refractive Index-Based Carcinoma Sensor Using THz Radiation” in IEEE Sensors Journal, December 2021.

- Dr. P. Devi Sowjanya, Amritha Vishwa Vidyapeetham, Dr. M. Gulam Nabi Alsath, ASP, Dr. S. Kirubaveni, ASP, Dr. P. Balaji Bhargav, Scientist/RC, “Multilayer Thin Film Based Optically Transparent Dual-Band Automotive Windshield Antenna” in International Journal of RF and Microwave Computer-Aided Engineering, December 2021.

- Ms. J. Blessy Annie Flora, PG CS 2018-2020 Batch, Dr. S. Radha, VP, Dr. R. Hemalatha, ASP, Dr. S. Aasha Nandhini, Research Associate published a paper titled “Plant Disease Detection for Banana using Long Range Wide Area Network” in International Journal of Security and Networks, vol. 16 (2), pp. 129-134, July 2021.

- Dr. M. Gulam Nabi Alsath, ASP, Dr. K. Malathi, Prof/CEG “Reply to Comment on Compact UWB Monopole Antenna for Automotive Communications” in IEEE Transactions on Antennas and Propagation, p. 1, December 2021.

- Ms. G. Thennarasi, RS/SRM, Dr. P. Sandeep Kumar, AP/SRM, Dr. K. Malathi, Prof/CEG, Dr. Sachin Kumar, AP/SRM, Dr. T. Rama Rao, Prof/SRM, Dr. M. Gulam Nabi Alsath, ASP "Conformal Quad-Port UWB MIMO Antenna for Body-Worn Applications" in International Journal of Antennas and Propagation, December 2021.

- Ms. G. Annalakshmi, RS, Dr. S. Sakthivel Murugan, ASP, "A Novel feature descriptor based coral image classification using extreme learning machine with ameliorated chimp optimization algorithm", Elsevier Journal of Ecological Informatics, pp. 1-14, December 2021.

- Mr. T. Thomas Leonid, PT-RS, Dr. R. Jayaparvathy, Prof published a paper titled Classification of Elephant Sounds using Parallel Convolutional Neural Network", Journal of Intelligent Automation and Soft Computing, vol. 32 (3), 2022, pp.1415-1426, December 2021.

- Dr. K. Nirmala Devi, Faculty/Kongu Engg. College, Dr. C. Annadurai, ASP, Dr. I. Nelson, ASP, Dr. R. Manikandan, Faculty/SASTRA, Dr. Amir H. Gandomi, Prof/ University of Technology Sydney published a paper titled "Deep Q-Learning Based Neural Network with Privacy Preservation Method for Secure Data Transmission in Internet of Things (IoT) Healthcare Application" in MDPI Electronics, vol. 11 (1), pp. 1-14, January 2022.

- Mr. R. Adithya Pillai, UG-EEE Student, Dr. S. Sakthivel Murugan, ASP, Mr. Guruprasad Gupta, UG-EEE Student, "A Complete Analysis of Clarity (C50) Using I-SIMPA to Maintain Ideal Conditions in an Acoustic Chamber" in Journal of Sound and Vibration, vol. 56 (1), pp. 51-64, January 2022.

- Ms. A. Abirami, RS, Dr. S. Esther Florence, ASP, Dr. R. Vimal Samsingh, ASP/Mech published a paper titled "Realization of a Novel Weaving Framework in Looms for Manufacturing of E-Textiles" in IEEE Transactions on Components, Packaging and Manufacturing Technology, pp. 1-9, January 2022.

- Ms. J. Mary Suji Mol, PT-RS, Dr. S. Esther Florence, ASP, Mr. M. Abraham, Faculty/HITS, "Twisted F-Shaped Slot Loaded UWB Printed Antenna for On-Body Application" in Wireless Personal Communications, pp. 1-19, January 2022.

- Dr. B. Ashvanth, Faculty/SVCE, Dr. B. Partibane, ASP, "Inductively coupled triple layers of ultra-miniaturized frequency selective surface for L-band applications" in International Journal of RF and Microwave Computer-Aided Engineering, pp. 1-9, January 2022.

- Ms. S. Annapoorani, PT-RS, Dr. R. Jayaparvathy, Prof, Dr. P. Nammalvar, Faculty/KCET, "An Efficient Hybrid Converter for Dc-Based Renewable Energy Nanogrid Systems" in Revue Roumaine des Sciences Techniques, vol. 66 (4), pp. 225-230, January 2022.

- Ms. S. Mary Cecelia, RS, Dr. S. Sakthivel Murugan, ASP, "Denoising, Edge aware restoration and enhancement of single shallow coastal water image" in Fluctuation and Noise Letters, vol. 21 (1), pp. 1-16, February 2022.

- Mr. K. Balaji, PT-RS, Dr. S. Sakthivel Murugan, ASP, “Execution of Channel Characterization for Underwater Optical Wireless Communication System in Blue-Green Spectral Range for Different Types of Sea Water Based on Chlorophyll Content” in Light & Engineering, vol. 30 (1), pp. 71-81, February 2022.

- Dr. K. Nirmala, ASP/BME, Dr. C. Vinoth Kumar, ASP, “Hash and Prediction-Error-Based reversible Watermarking for Medical Images” in Fluctuation and Noise Letters, vol. 21 (1), 2250007-28, January 2022.

- Dr. K. A. Karthigeyan, Dr. S. Radha, VP, Dr. E. Manikandan, AP/VIT, “Polarisation-insensitive and broadband band-stop metamaterial filter for THz waves” in Pramana - Journal of Physics, vol. 96:65, pp. 1-5, March 2022.

- Ms. K. Mrinalini, RS, Dr. P. Vijayalakshmi, Prof & Head, Dr. T. Nagarajan, Prof & Head/CSE/SNU, “SBSim: A Sentence-BERT Similarity-Based Evaluation Metric for Indian Language Neural Machine Translation Systems” in IEEE/ACM Transactions on Audio, Speech and Signal processing, vol. 30, pp. 1396-1406, March 2022.

- Ms. M. Nanmalar, RS/IT, Dr. P. Vijayalakshmi, Prof &Head, Dr. T. Nagarajan, Prof & Head/CSE/NU “Literary and Colloquial Tamil Dialect Identification” in Circuits, Systems and Signal Processing, pp.1-24, March 2022.

- Dr. K. Malathi, Prof/CEG, Ms. S. Padmathilagam, RS/CEG, Dr. M. Gulam Nabi Alsath, ASP, “Compact Ultra-wideband Pattern Diversity Antenna for Body Centric Communications” in the International Journal of Microwave and Wireless Technologies, April 2022.

- Ms. B. N. Priyanka, RS, Dr. R. Jayaparvathy, Prof, Ms. D. Divyabarathi, PG-CS 2016-2018 batch, “Efficient and Dynamic Cluster Head Selection for Improving Network Lifetime in WSN using Whale Optimization Algorithm” in Wireless Personal Communications, vol. 123, pp. 1467-1481, April 2022.

- Dr. N. Vinodhkumar, ASP/VelTech, Dr. G. Durga, ASP, Mr. S. Muthumanickam, AP/RMKCET, “Numerical Study on SEU Performance of Strain Engineered 6T-SRAM Cells” in the Journal of Circuits, Systems and Computers, vol. 31 (2), pp. 2250034 (1-9), March 2022.

- Ms. M. Akila, RS, Ms. N. Divya, Mr. S. Abishek, UG-ECE 2017-2021 Batch students, Dr. V. Lingasamy, Senior Technical Lead/Sterlite Technologies Limited, Mr. K. Hariharan, UG-ECE 2017-2021 Batch student and Dr. K. T. Selvan, Prof, “A Broadband Dual-Polarized Magneto-Electric Dipole Antenna Element for Low-Frequency Astronomical Arrays” in Applied Computational Electromagnetics Society Journal, vol. 37 (1), pp. 78-84, January 2022.

- Ms. B. Raagavi, PG-AE 2018-2020 Batch, Ms. S. Swathi, RS, Dr. S. Sakthivel Murugan, ASP, “Characteristics Analysis of Metamaterial Enhanced Magnetic Induction Based Underground Communication” in Wireless Personal Communications, vol. 123, pp. 1669-1685, March 2022.

- Dr. D. Kanchana, Dr. S. Radha, VP/SSNCE, Dr. B. S. Sreeja, ASP, "A miniaturised FSS with band-stop response for shielding application in X-band frequency" in Pramana, vol. 96 (1), pp. 1-5, March 2022.

- Ms. J. Renita, PT-RS, Dr. N. Edna Elizabeth, Prof, Ms. A. Nandhini, PG-VLSI 2018-2020 Batch, "Implementation and Performance Analysis of Elliptic Curve Cryptography using an Efficient Multiplier" in Journal of Semiconductor Technology and Science, vol. 22 (2), pp. 53-60, April 2022

- Mr. C. Ashok, PT-RS, Dr. N. Venkateswaran, Prof, Ms. Vaddi Lakshmi Satya Sai Sarojini, SJCE, s. Sneha Rajan, SJCE, "An unambiguous DOA estimation method for coprime array with displaced subarrays" in Applied Acoustics, vol. 195, pp. 1-7, April 2022.

- Mr. C. Ashok, PT-RS, Dr. N. Venkateswaran, Prof, "An Improved Polynomial Rooting based method for Solving Non-Trivial Ambiguity in Direction-Finding using an Unfolded Co-prime Linear Array" in Signal, Image and Video Processing, pp. 1-8, April 2022.

- Ms. S. Kalpana, Faculty/SRMIST, Dr. C. Annadurai, ASP, "Optimized Cognitive Learning Model or Energy Efficient Fog-BAN-IoT Networks" in Computer System Science Engineering, vol. 43 (3), pp. 1027-1040, May 2022.

- Dr. P. Senthil Kumar, Prof, Dr. B. S. Sreeja, ASP, Mr. K. Krishna Kumar, Dr. G. Padmalaya, Static and dynamic analysis of sulfamethoxazole using GO/ZnO modified glassy carbon electrode by differential pulse voltammetry and amperometry techniques" in Chemosphere, vol. 302, pp. 134936, May 2022.

- Dr. S. Karthie, ASP, Ms. J. Zuvairiya Parveen, Ms. Yogeshwari, Ms. E. Venkadeshwari, UG-ECE 2016-2020 Batch, "Compact dual-mode microstrip bandpass filter based on slotted square patch resonator" in Microelectronics International, vol. 39(2), pp. 49-57, May 2022.

- Dr. S. Sayi Soundariya, Dr. S. Ramprabhu, ASP, Mr. G. Mugeshnandha, Mr. G. Karthick, Mr. S. Nandhakishore, UG-ECE 2015-2019 Batch, "Miniaturized Multi-band Frequency Selective Surface with Angular and Polarization Independent Characteristic" in Frequenz, pp. 1-8, May 2022.

- Mr. R. Anandan, PT-RS, Dr. C. Annadurai, ASP published a paper titled "An ultrawideband miniaturized MIMO antenna with split ring Yagi like structures for S and X frequency multiband applications" in Journal of Electromagnetic Waves and Applications, pp. 1-17, May 2022.

- Dr. P. Vijayalakshmi, Prof. & Head, Dr. T. Nagarajan, Prof. & Head/SNU, Ms. R. Jayapriya, Mr. S. Brathindara, Ms. K. Krithika, Mr. N. Nikhilesh, Mr. N. Narenraju, Mr. S. Johanan Joysingh, Ms. V. Aiswarya, Ms. K. Mrinalini, "Development of a Low Resource Wearable Continuous Gesture-to-Speech Conversion System," Disability and Rehabilitation: Assistive Technology, pp. 1-12, 2022.

CONFERENCE PUBLICATIONS

- Ms. M. Akila, RS and Dr. K. T. Selvan, Prof presented the paper titled “Toward improved prediction f RCS reduction bandwidth of checkerboard metasurfaces” at the 2021 IEEE International Symposium on Antennas and Propagation held in Singapore during December 6-10, 2021.

- Dr. S. Esther Florence, ASP, Dr. K. T. Selvan, Prof, Dr. H. G. Espinosa, Griffith University, Australia, Dr. C. Furse, University of Utah, USA presented the paper titled “Experiences from teaching an online short-term course on bioelectricity during the pandemic” at the 2021 IEEE International Symposium on Antennas and Propagation held in Singapore during December 6-10, 2021.

- Dr. P. Kaythry, ASP, “Letting Villages go smart in Indian Scenario” in TENCON 2021 during December 7-10, 2021.

- Dr. C. Vinothkumar, ASP, “Markov Random Field based Compression of Encrypted Medical mages” in the Third International Conference on Communication and Intelligent Systems during December 18-19, 2021.

- Ms. S. Indu, Ms. Indu Subramanian, Ms. Aishwarya Ponni, Ms. Akilandeswari, Ms. S. Kaavya, r. P. Vijayalakshmi, Prof & Head presented & published a paper titled “Speaker identification in vehicular environment using GMM and BiLSTM”, in Proceedings of IEEE International Conference on Technology, Engineering, Management for Societal Impact using Marketing, Entrepreneurship and Talent (TEMSMET), co-hosted by Symbiosis International (Deemed University) held during December 2021.

- Ms. S. Abirami, Mr. L. Anirudh, UG-ECE 2017-2021 Batch students and Dr. P. Vijayalakshmi, rof & Head,, “Silent speech recognition: an inversion problem” in the 8th International Conference on Biosignals, Images and Instrumentation (ICBSII), 2022 organized by Department of BME, SSN CE during March 16-18, 2022.

- Dr. K. J. Jegadish Kumar ASP participated and, “Design of Twin-slot Radiator Beam-forming antenna using Metasurface” in the International Conference on Wireless Communications, Signal Processing and Networking (WiSPNET 2022) held at Sri Sivasubramaniya Nadar College of Engineering, Chennai, India during March 24-26, 2022.

- Mr. R. Amrish, Mr. K. Bavapriyan, Mr. V. Gopinaath, UG-ECE 2018-2022 Batch students, Dr. A. Jawahar, Prof, Dr. C. Vinoth Kumar, ASP, “DDoS Detection Using Machine Learning Techniques” in the International Virtual Conference on Artificial Intelligence, 5G Communications and Network Technologies (ICA5NT 2022) organized by Velammal Institute of Technology, Chennai on 28.04.2022.

- Ms. B. Adsaiya, Ms. V. Ezhilarasi, Ms. T. Gomathi, UG-ECE 2018-2022 Batch students, Dr.C. Annadurai, Dr. S. Ramprabhu, Dr. I. Nelson, ASPs, “Generating Side-View Face Images from a Single-View Face Image” in the International Virtual Conference on Artificial Intelligence, 5G Communications and Network Technologies (ICA5NT 2022) organized by Velammal Institute of Technology, Chennai during April 28-29, 2022.

- Ms. X. Agasya, Ms. S. Esther Sobiya, Mr. V. Gokulakrishnan, UG-ECE 2018-2022 Batch students, Dr. C. Annadurai, Dr. S. Ramprabhu, Dr. I. Nelson, ASPs, “Design of Y-shaped Fractal Antenna for Satellite Application” in the International Virtual Conference on Artificial Intelligence, 5G Communications and Network Technologies (ICA5NT 2022) organized by Velammal Institute of Technology, Chennai during April 28-29, 2022.

- Mr. A. Ajay, Ms. P. Harshavardhini, Ms. C. Yuvasri, UG-ECE 2018-2022 Batch students, Dr.C. Annadurai, Dr. S. Ramprabhu, Dr. I. Nelson, ASPs, “Design of Low Insertion Loss Narrow Band Filter for Satellite Application” in the International Virtual Conference on Artificial Intelligence, 5G Communications and Network Technologies (ICA5NT 2022) organized by Velammal Institute of Technology, Chennai during April 28-29, 2022.

- Dr.B S Sreeja,, “Mechanical and Skin Insertion Analysis of Hollow Polymer Microneedle for Transdermal Drug Delivery” at the 3rd Indo-Korea conference on Development of Advanced Materials for Future Technologies (DAMFT-2022) during April 22-23, 2022.

- Dr.B.S Sreeja,, “Development of integrated 1D/0D/1D hybrid formation by MWCNT and CQDs supported MnO2 hybrid nanomaterials for electrochemical detection of heavy metal ions” in 3rd Indo-Korea conference on Development of advanced materials for future technologies (DAMFT-2022) during April 22-23,2022.

- K. Bhuvaneswari, B S Sreeja, S Radha, “Study on electrochemical detection of metal ions and photocatalytic degradation of MB dye using Nano zero-valent iron” in 3rd Indo-Korea conference on Development of advanced materials for future technologies (DAMFT-2022) during April 22-23,2022.

- Gowthami A,B S Sreeja,” Design and Fabrication of Low Cost and Biocompatible Microneedle arrays using 3D printing” in 3rd Indo-Korea conference on Development of advanced materials for future technologies (DAMFT-2022) during April 22-23,2022.

- E.Nivetha, S.Nivedhan, R.S Sairanjini, Pavithra V, Sreeja B S, “Multiport RF MEMS Silicon ased Switches using Electrostatic and Electrothermal Actuation” in 3rd Indo-Korea conference on Development of advanced materials for future technologies (DAMFT-2022) during April 22-23,2022.

- Dr. B. S. Sreeja, ASP, “Mechanical and Skin Insertion Analysis of Hollow Polymer Microneedle for Transdermal Drug Delivery” at the 3rd Indo-Korea conference on Development of Advanced Materials for Future Technologies (DAMFT-2022) held during April 22-23, 2022.

- Dr. B. S. Sreeja, ASP, “Development of integrated 1D/0D/1D hybrid formation by MWCNT and CQDs supported MnO2 hybrid nanomaterials for electrochemical detection of heavy metal ions” in 3rd Indo-Korea conference on Development of advanced materials for future technologies (DAMFT-2022) held during April 22-23, 2022.

- Dr. K. Bhuvaneswari, Dr. B. S. Sreeja, ASP, Dr. S. Radha, VP/SSNCE, “Study on electrochemical detection of metal ions and photocatalytic degradation of MB dye using Nano zero-valent iron” in 3rd Indo-Korea conference on Development of advanced materials for future technologies (DAMFT-2022) held during April 22-23, 2022.

- Ms. A. Gowthami, Dr. B. S. Sreeja, ASP, “Design and Fabrication of Low Cost and Biocompatible Microneedle arrays using 3D printing” in 3rd Indo-Korea conference on Development of advanced materials for future technologies (DAMFT-2022) held during April 22-23, 2022.

- Ms. V. Dharshini, Ms. S. Saranya, Mr, V. K. Sethuraman, UG-ECE 2018-2022 Batch students, Dr. A. Jawahar, Prof, Dr. C. Vinoth Kumar, ASP, “Energy Efficient Street Lighting System” in the 10th International Conference on Contemporary Engineering and Technology 2022 (ICCET) organized by Prince Shri Venkateshwara Padmavathy Engineering College, Chennai on 21.05.2022.

- Mr. A. Pranav, UG-ECE 2020-2024 Batch, Ms. S. Vidhyashree, RS, Dr. M. Gulam Nabi Alsath, Dr. S. Kirubaveni, ASPs, “Dual-Layer Beamscanning Reflectarray Antenna Operating at Ku-Band” in the National Conference on Information and Communication Technologies organized by the Department of ECE, SSNCE during 23.02.2022.

- Ms. N. Kavitha, RS, Ms. S. Vidhyashree, RS, Dr. M. Gulam Nabi Alsath, ASP, Ms. B. Ishwarya, UG-ECE 2016-2020 Batch, “Design and Development of Frequency Reconfigurable Reflectarray Antenna” in the National Conference on Information and Communication Technologies organized by the Department of ECE, SSNCE during 23.02.2022.

- Ms. S. Vidhyashree, RS, Dr. M. Gulam Nabi Alsath, Dr. S. Kirubaveni, ASPs, “Novel Ku Band Reflectarray Antenna for Beam scanning Applications” in the National Conference on Information and Communication Technologies organized by the Department of ECE, SSNCE during 23.02.2022.

CONSULTANCY SERVICES

- Dr. M. Gulam Nabi Alsath & Dr. S. Ramprabhu, ASPs along with Mr. S. Murugan, Lab Technician facilitated the consultancy of Antenna and Filter Measurements for external researchers and industry. A sum of Rs. 99,710/- was generated as revenue from Jan-May 2022.

- Dr.B.S.Sreeja facilitated a consultancy on microfluidic device development in the Materials and MEMS lab and generated a revenue of Rs.25,000/-.

CLUB REPORT

AECE

CORONA 7.0

The Association of Electronics and Communication Engineering hosted 'Pitch it please' and mock placement for the 7th edition of Corona.

Pitch it please

Date: 21 March, 2022.

Budding entrepreneurs were given an opportunity to pitch their ideas in the domains of Machine learning, Robotics, IoT and sensors, MedTech and EduTech. They were then given constructive feedback on making their ideas marketable, they were assessed for their Sales and Marketing techniques, Pitching Talents,Advertising. Students from all departments of SSN college of engineering were invited to take part in the event. The winner was awarded a cash prize of 1500 rupees.

Winner:

T. Mohamed Nadhim, ECE 1st year.

Mock placement

Date: 21 March, 2022

The AECE of SSN conducted mock placements to prepare students for the upcoming placement season. Two rounds were conducted for the core and coding positions and three rounds for the management positions. The participants were first given a 30-minute written test comprising 3 sections of core, coding and management related questions (10 each). Based on their performance in the written test, they were shortlisted in these 3 different fields and were sent to the next round. The participants shortlisted for the core and coding positions were given direct interviews with the panel members and the shortlisted participants for management positions were sent for a group discussion before the final interview round. The winners for each section were awarded a cash prize of 700 rupees.

Winners:

Coding: Raksha Madhuri, ECE 3rd year
Core: Abhishek Jeremy, ECE 2nd year
Management: Sidhesh, ECE 3rd year

IEEE ComSoc

Corona 7.0
Date: 21 March 2022

The IEEE ComSoc of SSN conducted a technical Pictionary, a guessing game in which players attempt to identify technical words from pictures drawn by their teammates. Each team comprised 2-3 members. Two rounds were held. The first round had 87 participants and 27 teams. Based on their performance, 6 teams were shortlisted for the final round. The winners were awarded a cash prize of 1500 rupees.

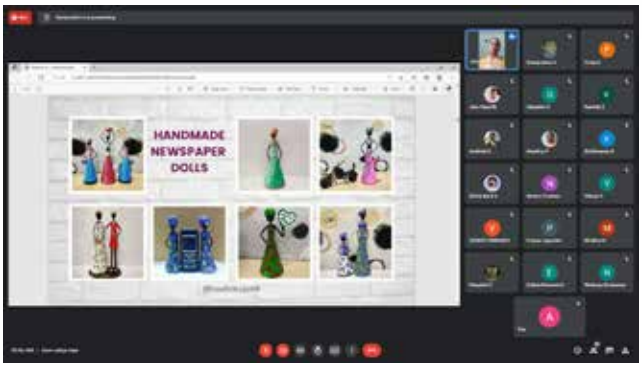
Winners:
K Ajay Adithya and Aishwarya Ponni, ECE 4th year

Webinar on achieving problem: Solution Fit and product -Market fit
Date: 6 January, 2022

The IEEE ComSoc student chapter organized a webinar, “Achieving Problem - Solution Fit and Product- Market Fit “by Ms. J A Radhika, an Artist and Founder of Queen Bee Crafts and Creative Arts. She shared the inspiring story of her life, the challenges she faced, and how she overcame them and became successful. She talked extensively about the challenges she faced during the early stages of her business and how she solved them. About 100 students attended this webinar.

Techathlon
Date: 6 January, 2022

Three events were organized for the techathlon: Circuit Sync, Sketch it up and Code sprint. The event began with the first round, circuit sync. Five circuit-based questions were given, testing basic concepts like circuit reduction techniques, logical operations, and basic transistor equations. Following this, the Sketch it up round was conducted by SSN EBMS, where the participants had to create a 3D design using Autodesk fusion 360 based on modeling a medical instrument and animating it. The final round, Code sprint was conducted by the SSN computer society. This round tested the participants’ knowledge on Data structures and algorithms. 14 teams and 42 students took part in this event.



Webinar on achieving problem: Solution Fit and product -Market fit

Corona 7.0 - Pictionary

TECH CLUB

Corona 7.0
Date: 21 March, 2022

The Tech club of SSN conducted the event “Risc it” for corona 7.0. Two competitive rounds of circuit design were conducted. In the first round, the participants were given a circuit and were asked to debug it. In the second round, components were given, and the participants had to frame a circuit connection to get the output that is asked. A total of 8 teams and 16 students took part in this event.

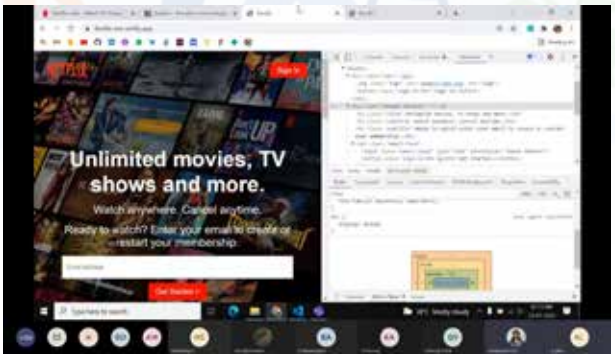
Winners:
Hariharan. A and Balaji. S, ECE 2nd year.

Devflix
Date: 23 Jan, 2022

Devflix was a part of the tech club talk series organized by the tech club of SSN, the workshop was conducted by Lalith K, 3rd year ECE at SSN. It was a beginner friendly web development workshop using HTML and CSS. The participants were then taught to build the landing page of Netflix from scratch.

Masterclass
Date: March12-13, 2022

Masterclass was a two-part talk series. The first talk was given by Sabharish Padmanaaban, a Graduate Researcher and PG student at Carnegie-Mellon University in the Department of Electrical and Computer Engineering. It was about the importance of a master’s degree, the application and shortlisting process and the corresponding entrance exams. The second talk was given by four final year students who had taken various qualifying exams recently. They shared their tips and resources to crack these exams.



Zenith

The Tech club of SSN ECE conducted Zenith, which started on 20th March 2022. It is a flagship series of courses conducted by the seniors to provide students the opportunity to broaden their knowledge through multiple courses on various core topics in the domains of machine learning, robotics and web development.

- Preethalakshmi K
II ECE ‘B’

STUDENT PROJECTS

SSN's Student Internal Funding Scheme has identified 33 potential projects from the students of ECE Department and granted a sum of Rs. 6.32 Lakhs to pursue the same. Hearty congratulations to the student teams. The details of the sanctioned projects are as below.

S. No.	Name and Year of the Student(s)	Project Guide	Title	Budget
1	T. Mohamed Nadhim V. Sriya Pavani Sreeshma M. Nair, IT Y.V. Ojus, CSE	Dr. K. S. Gayathri	Alzheimer's disease detection using speech processing withIoT and ML	Rs.7000
2	Syed Azim V.G. Susmitha S. Sai Skand B. Ragul, CSE	Dr. V. S. Felix Enigo	Eagle Eye: The complete anti-cheat device	Rs.30000
3	B. Sanjay S. Amoga Lekshmi J. S. Binathy, Chemical	Dr. P. Rajesh Dr. S. Kirubaveni	Effect of zinc substitution on the enhancement of thermoelectric power factor of nanostructured ZnxCo3-xO4	Rs.20000
4	S. Srikanth G.M. Deyanesh Krishna	Dr. P. Rajesh	Energy harvesting through piezoelectric effect using lithium sulphate doped triglycine sulphate single crystal	Rs.20000
5	R. Deepthi V. Nithyashree ECE B. Adithya Mechanical	Dr. R. Rajavel Dr. A.K. Lakshminarayanan	Unmanned aerial vehicle to scare the birds away from the agriculture field so safeguard the crop seeds	Rs.29000
6	G. Siva Sankaran ECE V. S. Vignesh Mechanical S. Lokkshanna EEE	Dr. R. Rajavel Dr. A.K. Lakshminarayanan	Protect crop damage from cattle using semi-autonomous drones	Rs.29000
7	S. A. Kanisha Kiran ECE S. Meenakshi Lalitha Chemical	Ms. S. Lakshmi Priya Dr. N. Sujaudeen Dr. K. R. Sarath Chandran	IoT-Enabled locker system with App intervention for smart campus	Rs.15000
8	D. K. Lakshana K. P. Lalitha ECE N. Jewison Jacob Civil	Dr. P. Rajesh Dr. S. Kirubaveni	The influence of rare earth ions on the properties of nanostructured tin oxide based perovskites for thermoelectric applications	Rs.20000

S. No.	Name and Year of the Student(s)	Project Guide	Title	Budget
9	S. J. Varshaa ECE H. Tureya Mechanical P. D. Anusha EEE	Dr. R. Rajavel Dr. A.K. Lakshminarayanan	Fault detection and diagnosis of induction motors for industrial applications using artificial intelligence	Rs.22000
10	R. Samuel Robinson II Year	Dr. S. Esther Florence	Development of a novel lightweight radar absorbing materials for stealth applications	Rs.19000
11	J. Sriganesh Thanseer Hishak II Year IT V. Sharath J. Sriram R. Sriram IV Year	Dr. M. Anbuselvi Dr. M. Dhanalaksmi	Development of artificial muscles for human movement assistance	Rs.24000
12	H. Kamya R. Kruthi III Year	Dr. P. Rajesh Dr. S. Ramprabhu	Fabrication of microstrip patch antennas using dye doped triglycine sulfate single crystals for optical communication applications	Rs.18000
13	Riyanka Rajakumar V.S. Tejesh Kumar S. Vignesh P. Vijayaraghavan III Year	Dr. M. Gulam Nabi Alsath Dr. S. Kirubaveni	Experimental analysis on the design of conformal spatial filtering variants for millimetre wave RADAR applications	Rs.18000
14	K. Gokula Krishnan V. Abishek Jeremy V. P. Pranav Vishal II Year	Dr. P. Rajesh Dr. S. Kirubaveni	Fabrication of nanocrystalline nickel ferrite thin films for development of a gas sensor	Rs.18000
15	S. Sri Sharshini B. Sri Krishnan M. Yogashree IV Year Pranav Agumbe II Year	Dr. S. Kirubaveni Dr. M. Gulam Nabi Alsath	Conformal helmet mount antenna for defence communication	Rs.12000
16	G.J. Elakiya III Year Divine Abishek III Year Mechanical	Dr. P. Rajesh Dr. S. Kirubaveni	Preparation of Al doped ZnO thin films for thermoelectric applications	Rs.18000

S. No.	Name and Year of the Student(s)	Project Guide	Title	Budget
17	S. Rakshana Priya IV Year S. P. Pranav II Year A. Gokulram II Year IT	Dr. R. Amutha	Smart voice assistant for visually impaired people using IoT and deep learning paradigm	Rs.14000
18	Annamalai Iyappan Dhanush Kumaraguru M. Ganesha R. Gokul Srinivash II Year	Dr. K.J. Jegadish Kumar	Design of circularly polarized ultra-wide band origami antenna	Rs.5000
19	V. Pavithra Krithika Swaminathan II Year	Dr. W. Jino Hans	Smart wearable for visually impaired patients using computer vision	Rs.15000
20	Sam Devavaram Jebaraj L. Santhosh Srinivas III Year B. Devadharshini K. Karnan II Year Civil	Dr. P. Kaythry Dr. P. Sangeetha	Efficacy of machine learning techniques in predicting ground water fluctuations in Chengalpattu district	Rs.28000
21	K. Prasanna E. Sabari S.K. Tharun Arasu III Year	Dr. R. Jayaparvathy Dr. M. Gulam Nabi Alsath	Soil quality prediction using machine learning	Rs.12000
22	S. Anusha Anjalai Anand Afnan III Year	Dr. B. Ramani	Smart wearable device for Alzheimer's patients supported by an app	Rs.10000
23	Vishal Ramprabhu V. Yuvaraj M. Harihara Sudhan III Year	Dr. R. Rajavel Dr. A.K. Lakshminarayanan	Detection of corrosion in industrial pipeline using jetbot	Rs.25000
24	H.C. Aditya B. Kirthivasan N. Mohameed Javid Jafir III Year	Dr. R. Hemalatha Dr. S. Radha	Analysing the effect of wireless communication networks in WSN formulation	Rs.15000

S. No.	Name and Year of the Student(s)	Project Guide	Title	Budget
26	Shrinidhi Seenivasan G. Sharmada II Year	Dr. B.S. Sreeja	Camouflaging / Non-visible drone	Rs.25000
27	V. Janakiram II Year C.S. Aakash II Year IT	Dr. S. Sakthivel Murugan	Passive acoustic detector for monitoring of underwater mammals	Rs.30000
28	R. Thayalan V. Vikhas III Year M.C. Ashwin M. Bharathi R. Santhoshkumar III Year Civil	Dr. P. Kaythry Dr. P. Sangeetha	Study and monitor the behaviour of the RCC concrete columns with embedded fiber optic sensors	Rs.28000
29	M. Abisek B. Girish Babu III Year	Dr. P. Rajesh Dr. M. Siluvai Michael	Binary composite of nickel-bismuth phosphate: An systematic battery grade electrode for supercapattery applications	Rs.24000
30	D. Padma Charan V. Harish Muthukaruppan K. Harish III Year	Dr. S. Ramprabhu Dr. W. Jino Hans	Microwave characterization of embryonic development in chicken eggs	Rs.6000
31	D. Jaswanth III Year S. Harish Ashwin Raj A. Vignesh IV Year Putti Mathias Manvith Balraj III Year Civil	Dr. R. Hemalatha Dr. P. Sangeetha	Defect detection in nominal cement concrete structures using enhanced U-Net	Rs.13000
32	P. Baskaran III Year	Dr. P. Rajesh Dr. M. Mahalakshmi Chemistry	Synthesis of ceramic piezoelectric materials BNT-BT and fabrication of sensors	Rs.18000
33	G.Geethanjali II Year, PG-CS	Dr. M. Gulam Nabi Alsath	Design of electromagnetic absorbers for millimeter wave radar application	Rs.20000

ANNA UNIVERSITY RANK HOLDERS 2021

Indhuja U S
CGPA: 9.17
RANK: 11

Sanjay S
CGPA: 9.11
RANK: 16

Akilesh K
CGPA: 9.09
RANK: 18

Divya N
CGPA: 9.04
RANK: 23

Kirthana R
CGPA: 9.06
RANK: 21

STUDENT ACTIVITIES

CO-CURRICULAR ACTIVITIES

- Ms. N. Nishrhutha, PG-CS 2020-2022 Batch, “Improving the Lifespan of IoT Sensor Devices using Smart Packet Filtration Algorithm” in the International Conference on Trends in Computational and Cognitive Engineering (TCCE) organized by Universiti Tun Hussein Onn, Malaysia on 22.10.2021.
- Team SSN_ITU consisting of Ms. Charu Jain, Ms. Indu Subramanian, Ms. Meghna Govind, UG-ECE 2018-2022 Batch mentored by Dr. N. Venkateswaran, Prof won the ITU AI/ML 5G Challenge - 2021 competition on “Location estimation using RSSI of wireless LAN”.
- Mr. Yashwanth Ramesh and Mr. P. Baskaran, UG-ECE 2019-2023 Batch students were offered the position of Research Assistant for the LRDE, Bengaluru project on phased array antenna under the guidance of Dr. K. T. Selvan, Prof. The assistantship will be for a period of six months from January 1, 2022 and carries a monthly stipend of Rs. 4000/-.
- Ms. S. Gayathri, Ms. P. Geethika, Ms. H. Kamya, Ms. R. Kruthi, Ms. Shwathi Ramanathan, Ms. Riyanka Rajakumar and Ms. G. Varshini, UG-ECE 2019-2023 batch have been selected to the round of Top 100 teams in the “Smart Internz IBM Hack challenge 2021”.
- Ms. R. Vinu Abinayaa,UG-ECE 2019-2023 Batch has participated in the National level event “Project Build a thon” for building a data science project for Food processing Industries organized by IBM on 08.12.2021.
- Ms. K Rakshaa Madhuri, UG-ECE 2019-2023 Batch participated in “Source Code” competition of Kascade organized by Kshitij 2022, IIT Kharagpur on 02.01.2022.
- Ms. R. Vinu Abinayaa, UG-ECE 2019-2023 Batch has participated in “Managerial Olympiad” of Kaskade organized by Kshitij 2022, IIT Kharagpur on 02.01.2022.
- Ms. B. Sandhya, UG-ECE 2019-2023 Batch has been shortlisted as one of the finalist (Top 30 teams) in the “Smart internz IBM Hack challenge 2021” after first level of short listing on 16.09.2021.

- Ms. K Rakshaa Madhuri, UG-ECE 2019-2023 Batch has participated in eRaksha Competition organized by Ministry of Electronics and Information Technology, Cyber Peace Foundation under Category 3 (Ages 17 and above) - Word Hack on 22.08.2021.
- Ms. K Rakshaa Madhuri, UG-ECE 2019-2023 Batch participated in India International Science Festival (IISF) under Engineering Students Festival 2021 held at Panaji, Goa during December 10-13, 2021. She has submitted an abstract on “An improvement over existing methods in contact tracing” under the theme of medical & community healthcare.
- Ms. K Rakshaa Madhuri, UG-ECE 2019-2023 Batch won the 2nd place and a cash award of Rs. 2000/- for solving The Labyrinth Breaker Challenge organized by SSN ACM on 12.12.2021.
- Ms. K Rakshaa Madhuri, UG-ECE 2019-2023 Batch has participated in the “Managerial Olympiad” and “Maths Olympiad” of Kaskade organized by Kshitij 2022, IIT Kharagpur on 02.01.2022.
- Ms. K Rakshaa Madhuri, UG-ECE 2019-2023 Batch participated in the events LogicX and E-Contest conducted as a part of Shaastra 2022 by IIT Madras on 16.01.2022.
- Ms. K Rakshaa Madhuri, UG-ECE 2019-2023 Batch has participated in DevFlix-Responsive Website Development Workshop organized by SSN Tech Club and developed a responsive Netflix Landing Page on 22.01.2022.
- Team Drone Vision consisting of Mr. G. Bharath Vishal, Ms. G. Kamya, Ms. G. Sreeharine, Mr. S. Srivatsan, UG-ECE 2019-2023 batch students, Mr. S. Jaysharan, Mr. P. C. Sivan Sriram, EEE students mentored by Dr. W. Jino Hans, ASP & Dr. M. Senthilkumaran, ASP/EEE has been selected for participation in the Smart India Hackathon 2022.
- Ms. S. Anusharaj, UG-ECE 2020-2024 batch attended the “Introduction to Arduino and IoT” workshop conducted by Shaastra 2022 (IIT Madras) on 13.01.2022.
- Ms. K Rakshaa Madhuri, UG-ECE 2019-2023 batch participated in the event “Pitch it Please” in interdepartmental technical fest Corona 7.0 conducted by the Department of ECE, SSN CE on 21.03.2022

- Ms. K Rakshaa Madhuri, UG-ECE 2019-2023 batch won first prize with a cash award of Rs. 700 in the event “Mock Placements (Coding)” in interdepartmental technical fest Corona 7.0 conducted by the Department of ECE, SSN CE on 21.03.2022.
- Team 405 Found headed by Mr. S. Ashwath, UG-ECE 2020-2024 batch was ranked 3rd in college, and got qualified to participate at the National Level Smart India Hackathon 2022 representing SSN.
- Team J Nano consisting of Mr. A. Paranthaman, Mr. Vishal Ramaprabhu, Mr. S. Vijayarahul, Mr. K. Thamizhanbu, Mr. Yuvaraj, Ms. K. Rakshaa Madhuri K, UG-ECE 2019-2023 batch students mentored by Dr. R. Rajavel & Dr. R. Kishore , ASPs has been selected for participation in the Smart India Hackathon 2022.
- Team Tech Robust consisting of Ms. S. Gayathri, Mr. M. Abiisek, Mr. G. Dinesh Kumar, Ms. P. Geethika, Ms. B. Girish Babu, Ms. J. Shweatha, UG-ECE 2019-2023 batch students mentored by Dr. R. Hemalatha & Dr. K. Muthumeenakshi, ASPs has been selected for participation in the Smart India Hackathon 2022.
- Team 111 comprising of Ms. B. Sandhya, Ms. G. Sree Harine, UG-ECE 2019-2023 batch students and Mr. A. Anirudh, UG-CSE 2019-2023 batch student mentored by Dr. R. Hemalatha, ASP got their project titled “Smart Tool for crop Health Analysis” shortlisted for the semi-finals in the Grand Challenge Competition title “SAMVEDAN 2021 - ‘Sensing’ Solutions for Bharat”.
- Ms. J. Shweatha, UG-ECE 2019-2023 Batch has published a paper titled “Detailed Study of Stellar Evolution and Stellar Gravitational Collapse Leading to The Formation of Black Holes” in the International Journal of scientific Advances, vol. 3 (2), 2022.

EXTRACURRICULAR ACTIVITIES

- Mr. B. Surya Prakash, UG-ECE 2020-2024 Batch, secured gold medal in Silambam Martial Arts in the National Championship 2021 held at Madgaon-Goa conducted by Youth and Sports Development Association of India on 29.11.2021.
- Ms. R. Soundarya, UG-ECE 2020-2024 Batch has represented Anna University Table Tennis team (women) and has participated in the AIU zonal inter university table tennis tournament (women) 2021-2022 championship of South zone organized at Academy of Maritime Education and Training (AMET) during January 06-09, 2022. Her team has secured the 4th position and are selected to play Khelo India nationals.
- Mr. M. Pranav, UG-ECE 2020-2024 batch has secured first place in Table Tennis-Men event in the 8th LICET Tournament 2022, held at Loyola ICAM College of Engineering and Technology during March 14-18, 2022.
- Ms. R. Soundarya, UG-ECE 2020-2024 batch represented Anna University and participated in the All-India Interzonal Table Tennis Championship 2021-2022 held at Chandigarh University, Mohali from March 15-19, 2022.
- Ms. M. Benasir, UG-ECE 2020-2024 batch secured 4th position in the South Zonal Inter University chess championship and got selected to represent Anna University in All India interzonal University chess championship. Finally, got 6th place in All-India Interzonal University chess tournament held during April 19-22, 2022 at SRM Institute of Science and Technology, Kattankulathur.
- Ms. J. Shweatha, UG-ECE 2019-2023 Batch secured second place under Micro-fiction category in the National level IGNIS - The Creative Writing Competition, Agon-Rush 2022 conducted by IIM Ranchi on 06.02.2022. She also received a cash prize for the same.
- Mr. V. Harish Muthukaruppan, UG-ECE 2019-2023 Batch has won first prize in the Sirugathai Potti conducted by Saaral Tamil Mandram of SSN College of Engineering on 12.04.2022.

WORKSHOP AND TRAINING

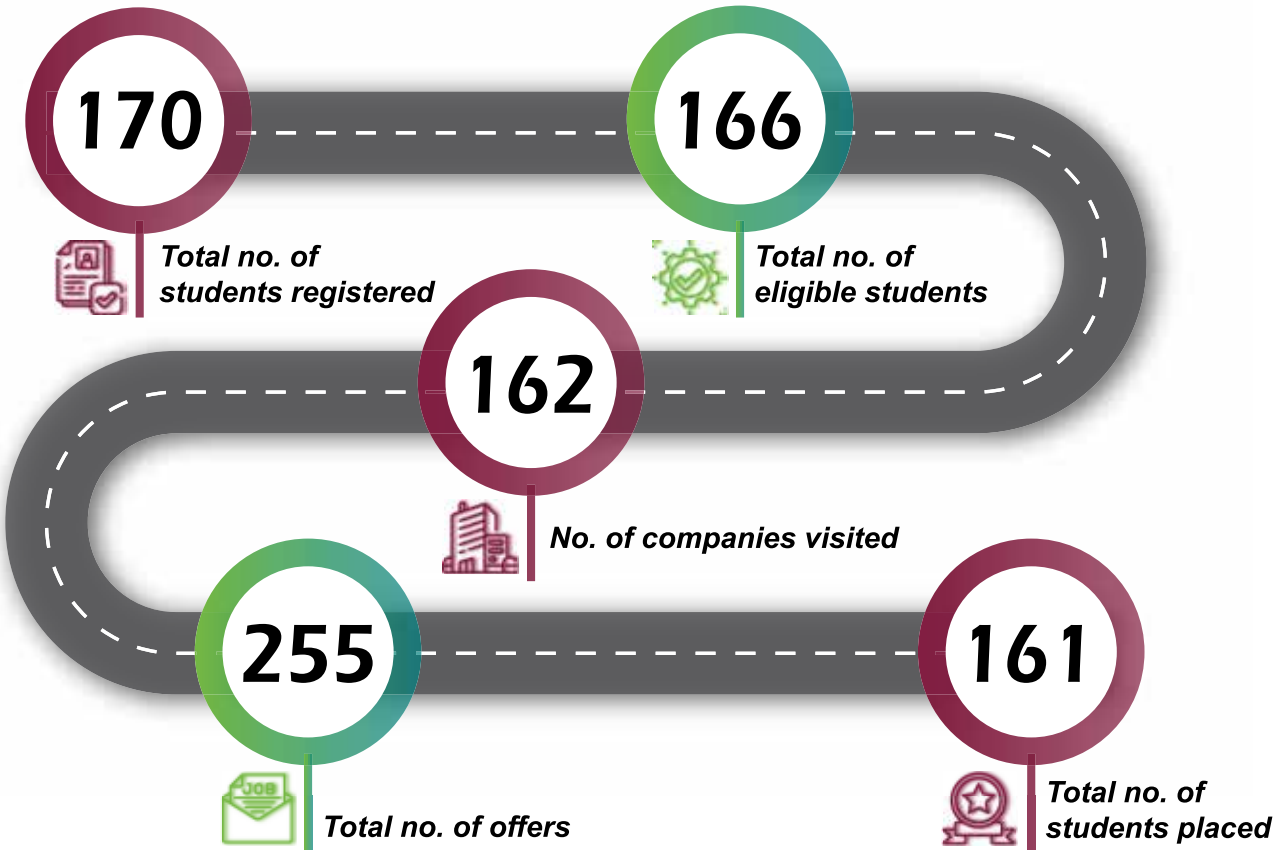
1. Ms. A. J. Bhuvaneshwari, RS attended the virtual International Faculty Development Programme on “Strategies on Effective Way to Write Research Papers” organized by Department of Chemical Engineering, SSN during November 18-28, 2021.
2. Ms. N. Kavitha, RS gave a presentation on “Reflectarrays” in five days FDP on “Advanced Electromagnetics and Modern Antenna Design Principles” organized by the Department of ECE, SSN CE during December 06-10, 2021.
3. Ms. S. Vidhyashree, RS participated in the five days FDP on “Advanced Electromagnetics and Modern Antenna Design Principles” organized by the Department of ECE, SSN College of Engineering during December 06-10, 2021.
4. Ms. R. Bino Wesley, RS has participated in the five-days FDP on “Advanced Electromagnetics and Modern Antenna Design Principles” organized by the Department of ECE, SSN College of Engineering during December 06-10, 2021.
5. Ms. K. Vijayalakshmi, RS, attended the 2-day workshop on “Sensors, Robotics and Automation” organized by the Department of ECE, Sri Sivasubramaniya Nadar College of Engineering, Chennai during December 13-14, 2021.
6. Ms. M. Ramya, RS participated in virtual National Workshop on “How to improve authors citation” organized by Department of Chemical Engineering, SSN College of Engineering on 16.12.2021.
7. Ms. A. J. Bhuvaneshwari, RS participated in virtual National Workshop on “How to improve authors citation” organized by Department of Chemical Engineering, SSN College of Engineering on 16.12.2021.
8. Mr. Rama Krishna Reddy Venna, RS attended the 2-day workshop on “Trends in Semiconductor Technology” organized by Department of ECE, SSN College of Engineering during December 17-18, 2021.
9. Ms. M. Ramya RS, participated in 2 days workshop on “Trends in Semiconductor Technology” organised by Department of ECE, SSN College of Engineering, Chennai during December 17-18, 2021.

10. Ms. A. J. Bhuvaneshwari, RS attended the 2-day workshop on “Trends in Semiconductor Technology” organized by Department of ECE, SSN College of Engineering during December 17-18, 2021.
11. Ms. K. Vijayalakshmi, RS participated in the 2-day Workshop on “Trends in Semiconductor Technology” organized by the Department of ECE, Sri Sivasubramaniya Nadar College of Engineering, Chennai during December 17-18, 2021.
12. Ms. N. Kavitha, RS attended the 2-day workshop on “Trends in Semiconductor Technology” organized by Department of ECE, SSN College of Engineering during December 17-18, 2021.
13. Mr. Rama Krishna Reddy Venna, RS attended the 1-day workshop on “Design optimization of High-Frequency transformers and inductors” organized by Department of EEE, SSN College of Engineering on 27.12.2021.
14. Ms. K. Vijayalakshmi, RS participated in the 4 weeks online program on “Industrial Automation with PLC & SCADA” organised by NIELIT, Calicut during 13.12.2021 to 07.01.2022.
15. Mr. Rama Krishna Reddy Venna, RS attended the ATAL FDP on “Quantum Computing” organized by MET’s Institute of Engineering, Maharashtra during January 03-07, 2022.
16. Ms. M. Ramya, RS participated in INUP-Level 1 Familiarization workshop organized by IIT, Madras from January 11-13, 2022.
17. Ms. A. J. Bhuvaneshwari, RS participated in Six days AICTE sponsored Online STTP on “Cyber Security” organized by Anna University, Chennai from January 17-22, 2022.
18. Ms. M. Ramya, RS participated in INUP-i2i1 Familiarization workshop on Nanofabrication Technologies, organized by IIT, Bombay from January 19-21, 2022.
19. Ms. M. Ramya, RS, Ms. A. J. Bhuvaneshwari, RS participated in the Five-day FDP on “Embedded System Design using Intel SoC FPGAs” organized by Department of ECE, SSN College of Engineering, Chennai during February 01-05, 2022.
20. Ms. M. Ramya, RS, Ms. A. J. Bhuvaneshwari, RS participated in International Seminar on “New Trends in Wireless Sensor Networks and Machine Learning” organized by Department of ECE, SSN College of Engineering, Chennai on 08.02.2022.
21. Ms. M. Ramya, RS, Ms. A. J. Bhuvaneshwari, RS participated in the Five-day online FDP on “Paper And Thesis Drafting Using Latex Environment” organized by Department of EEE, CMR Institute of Technology, Bengaluru during February 14-18, 2022.

22. Mr. M. Vimal Raj, RS, Ms. S. Mary Cecilia, RS, Ms. S. Mubeena Parveen, RS has participated in the International Workshop on “Current Trends and Future Directions in Underwater Communications - Explore the Unseen V4.0” during February 17-18, 2022.
23. Ms. N. Kavitha, RS, “Design and Development of Frequency Reconfigurable Reflectarray Antenna” in the 7th National Conference on Information and Communication Technologies (NCICT 2022) organized by the Department of ECE, Sri Sivasubramaniya Nadar College of Engineering on 23.02.2022.
24. Ms. S. Vidhyashree, RS, “Novel Ku Band Reflectarray Antenna for Beam Scanning Applications” at the 7th National Conference on Information and Communication Technologies (NCICT 2022) organized by the Department of ECE, SSN College of Engineering on 23.02.2022.
25. Ms. N. Kavitha, RS participated in the seminar titled “Nano-Photonics based Antenna and Sensor Development” organized by the Department of ECE, SSN College of Engineering on 26.02.2022.
26. Ms. K. Vijayalakshmi, RS participated in INUP-i2i Familiarization workshop on Nanofabrication technologies organized by IIT, Madras from January 11-13, 2022.
27. Ms. K. Vijayalakshmi, RS, attended the five days FDP on “Paper and thesis drafting using Latex environment” organized by EEE Department, CMRIT Bengaluru from February 14-18, 2022.
28. Mr. M. Vimal Raj, RS attended the virtual 2-day workshop on “Ocean Observation Systems and Underwater Marine Resources - Explore the unseen v5.0” during March 16-17, 2022.
29. Ms. M. Ramya, RS attended the webinar on “Multi-disciplinary competence needed for engineers to make competitive products in today’s and future technology” organized by Department of ECE, SSN CE on 20.04.2022.
30. Ms. A. J. Bhuvaneshwari, RS, Ms. M. Ramya, RS attended the workshop on “Use Mind Maps and Unleash Your Creativity” organized by Department of CSE, SSN CE on 23.04.2022.
31. Ms. A. J. Bhuvaneshwari, RS, Ms. M. Ramya, RS, Ms. K. Vijayalakshmi, RS has attended the Webinar and live demonstration of “Electrochemical Bio Sensors for Food and Agriculture” Organized by Department of ECE, SSN CE in association with Zimmer and Peacock (a sensor manufacturing industry in US, UK and Norway) and Technando Technologies LLP (New Delhi, India) on 27.04.2022.

PLACEMENT REPORT

UG Placement Report



PG Placement Report

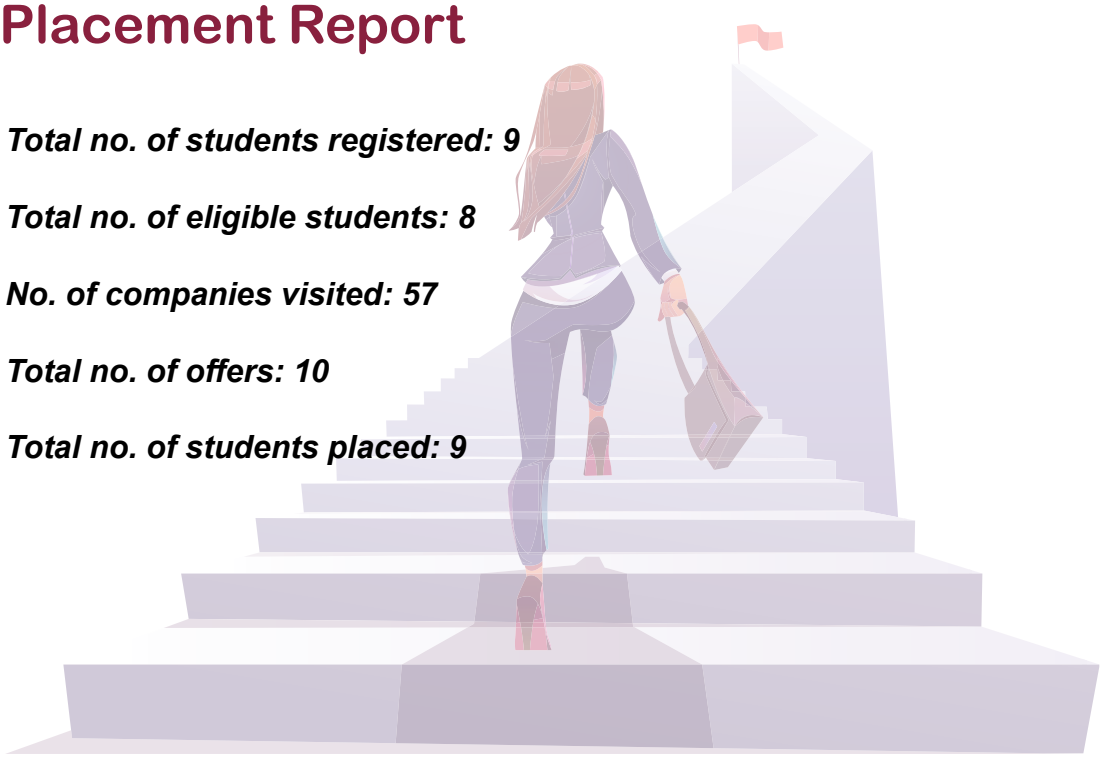
Total no. of students registered: 9

Total no. of eligible students: 8

No. of companies visited: 57

Total no. of offers: 10

Total no. of students placed: 9



Marquee And Super Dream Company Placements (UG)

Shwetha S
Research Associate,
Adobe
84.24 CTC

Nethraa Sivakumar
MTS (Member of Technical Staff),
Adobe Systems
41 CTC

Sainithya S
SDE,PayPal
23.45 CTC

Vignesh V
Applications Engineer,
Silicon Labs
21.18 CTC

Leela Devi Devendran
Software Engineer,
Optum
13.81 CTC

Manusree Ramaraajan
Software Engineer,
Optum Global
13.81 CTC

Nivetha S
Software Engineer,
Optum
13.81 CTC

Rishabh R
Software Engineer,
Optum
13.81 CTC

Shruthi B
Software Engineer,
Optum
13.81 CTC

Yasmin M.A.K
Software Engineer,
Optum
13.81 CTC

Challa Venkata Srividya Gayatri
Software Engineer,Optum
13.81 CTC

Afnitha S Grace
Software Engineer,
Optum
13.81 CTC

Andrea Celestine Solomon
Software Engineer,
Optum
13.81 CTC

Bhavya K Shah
Software Engineer,
Optum
13.81 CTC

Harshavardhini Parthiban
Software Engineer,
Optum - UHG
13.81 CTC

Javed Roshan
Software Engineer,
Optum Global
13.81 CTC

MUTHU BHARATHWAJ S
Technology analyst ,
Citibank
13.75 CTC

Sandhiya S
Technology analyst,
Citibank
13.75 CTC

Aishwarya Ponni P
Technology analyst ,
Citibank
13.75 CTC

Agasya Xavier Micheal
Technology analyst,
Citibank
13.75 CTC

Saikrishnan K
Full time Engineer
Software Engineering,
Fidelity
12.93 CTC

START

Manne Amrutha
Executive Graduate Trainee,
Fidelity
12.93 CTC

R AKILANDESHWARI
Executive Graduate Trainee,
aligned to Software Engineering,
Fidelity
12.93 CTC

Sriram J
SDE
Maximl
12 CTC

Harini Shree V
Software Developer,
Accolite Digital
11 CTC

M Palani
Software Engineer,
Gain Credit
10.67 CTC

Srirama Charan Medicherla S S
Software Engineer - Backend,
Lynk Logistics
10 CTC

Harish Ashwin Raj Subramani
Associate Software
Development Engineer ,Sapient
10 CTC

Vibish Kashyap B
Junior Capabilities & Insights Analyst
McKinsey & Company
10 CTC

Deepakkumar S
MSS Software Engineer,
McKinsey & Company
10 CTC

Jashanth Balu Rajkumar Packialakshmi
Digital analyst,
McKinsey & Company
10 CTC

Josh Susinth J
Software Engineer Trainee,
Mr.Cooper
10 CTC

Vignesh Mohan
Associate Software Development Engineer,
Publicis Sapient
10 CTC

Nithya N
Business Intelligence and
Analytics Consultant,
Thorogood Associates
10 CTC

Masters Admissions Batch of 2022

Indu Subramaniam
MS - Electrical Engineering
Stanford University , USA

Pooja Srinivasan
MS - Data Science
Columbia University , USA

Bhooshan V
MS - Electrical and Computer Engineering
Georgia Institute of Technology , USA

S.Nikhil Viswanath
MS - ECE
Georgia Institute of Technology, USA

Nimisha Pabbichetty
MS - Electrical and Computer Engineering
Georgia Institute of Technology , USA

Aakash Murugan
MS - Engineering Management
Cornell University, USA

Akash C
MS - ECE - ML DS
University of Southern California , USA

Anirudh Srinivasan
MS - Computer Engineering
University of California (San Diego), USA

Dhiganth Rao
MS - Computer Science
University of Southern California , USA

Kiran Keshav
MS - Electrical and Computer Engineering
Northeastern University , USA

Nitish Kumar M
MS - Computer Engineering
North Carolina State University , USA

Shweta Srikanth
MS - Biostatistics
University of North Carolina at Chapel Hill , USA

Pradeep Balaji M
MS - Computer Engineering
North Carolina State University , USA

Ridhan Srikumar
MS - Computer Science
Drexel University , USA

Sai Aakash R
MS - Applied Machine Learning
Imperial College London , UK

Palaniappan B
MS - IOT
Queen Mary University of London , UK

Rangasubramanian K
MBA
Indian Institute of Management Bangalore , INDIA

Abhishek Padmanabhan
MBA
Indian Institute of Management Trichy , INDIA

WASSUP?

What,When and Where

What : Event name
When : Around July and august…or after July
Where : The college/organization
Type : workshops,courses,competitions/tech festivals, hackathons,conferences
Mode : Online/offline

3rd International Conference on Data Intelligence and Cognitive Informatics ICDICI 2022

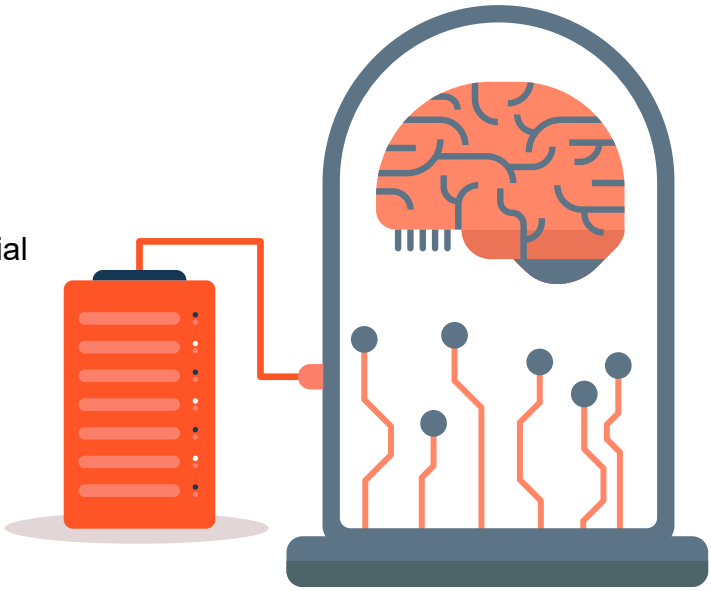
6-7 July 2022
SCAD College of Engineering and Technology,Tirunelveli
International Conference
Online
Registrations open till 1 July 2022

Hands on workshop on Embedded system architecture and ARM processor

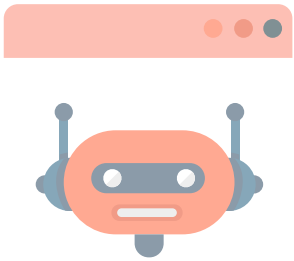
29-30 July 2022
Vellore Institute of Technology, Vellore
Workshop
Offline
Registrations open till 10 July 2022

3rd International Conference on Microelectronic Devices Circuits and Systems

11-13 August 2022
Vellore Institute of Technology, Vellore
Conference
Offline
1/7 Full paper submission
20/7 Notification of acceptance
25/7 Registration for conference and tutorial
2/8 Camera ready paper



3rd International Conference on Robotics, Intelligent Automation and Control Technologies (RIACT 2022)



23-25 September 2022
Vellore Institute of Technology, Chennai
Conference
Full Length Paper Submission : 12th August 2022
Notification of Acceptance : 5th September 2022
Conference Fee Payment : 12th September 2022

GIAN program on Programmable controllers with Machine learning

25-29 July 2022
NIT, Trichy
Workshop
Offline
Last date of Registration 1 July 2022

Short term course on selection of Nanomaterials for energy harvesting and storage applications

July 16 & 17 2022
IIT, Roorkee
Workshop
Online
Last date of Registration 8 July 2022

The Indian Conference on Computer vision, Graphics and Image Processing (ICVGIP)

December 8 - 10 2022
IIT Gandhinagar
Conference

- Anusharaj S
II ECE 'A'

Can computers truly achieve human intelligence?

In this day and age, we trust the computer to do a lot of things for us. We rely on it to wake us up in the morning, keep us entertained, make intricate calculations for us, interpret our data, etc. We often believe it to be the smartest and fastest machine to exist, and we almost forget that it was in fact the human brain that created this powerful computing machine. Therefore, the most efficient and powerful computing machine to ever exist is probably the human brain. This finally brings us to the age-old debate 'Can a computer actually beat the human brain?' Well, the answer to this lies in – Neuromorphic Computing.

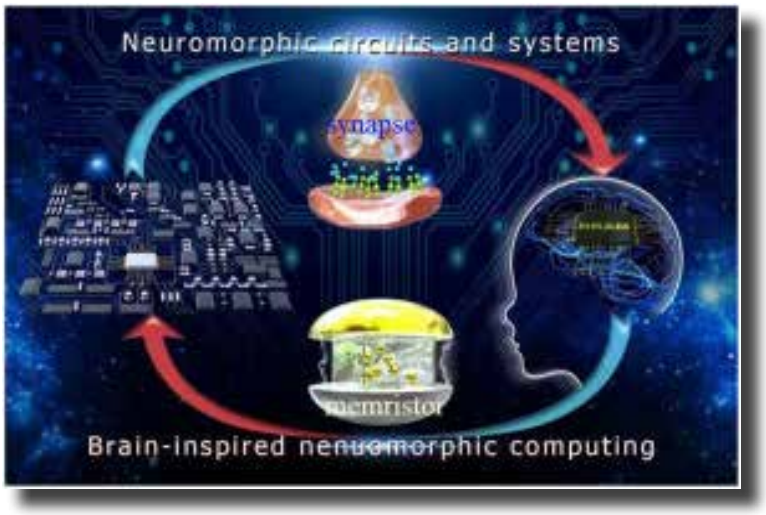
Neuromorphic computing implements aspects of biological neural networks as analog or digital copies on electronic circuits. Here, the elements of the computer are modeled after the human brain and nervous system. Neuromorphic engineers draw from several disciplines, including computer science, biology, mathematics, electronic engineering and physics, to create artificial neural systems inspired by biological structures. This approach has two main goals - the first is to create a device that can understand the dynamic process of learning, retaining information and even make logical deductions the way a human brain can i.e., a cognitive machine, the second is to acquire new information and prove a rational theory that a human brain can be emulated on a chip.

The exact sequence of events that take place when we do a particular activity on our computer completely depends on its inherent architecture. Almost all modern computers we use are based on the Von Neumann architecture. Here, the processor is responsible for executing instructions and programs, while the memory stores those instructions and programs. Von Neumann architecture separates out memory and computing because von Neumann chips have to shuttle information back and forth between the memory and CPU, they waste time and energy, a problem known as the von Neumann bottleneck.

Semiconductors are often called the brains of electronics. Over time, the power of these tiny silicon chips has grown exponentially in terms of computing power on a chip (following Moore's Law) even as their circuitry has shrunk to unimaginably small sizes. But with power-hungry autonomous vehicles, robots, drones, and other self-reliant machines requiring small yet strong and energy-

chips, cramming more and more of these transistors onto these von Neumann processors will not cut out anymore as the traditional semiconductors have reached the limits of miniaturization and capacity. Thus, one promising alternative that is gaining considerable momentum seems to be neuromorphic computing.

Neuromorphic Computing devises computers that can work as efficiently as the human brain without requiring a large room for the placement of its hardware and software. The human brain also needs far less energy than most supercomputers. A human brain uses about 20 watts, whereas a supercomputer roughly needs about 28 megawatts or you can also say that a brain requires about 0.00007% of a supercomputer's power supply. While supercomputers need elaborate cooling systems, the brain sits in a compact bony room that keeps it neatly at 37°C.



Neuromorphic Computing works by mimicking the physics of the human brain and nervous system by establishing what are known as spiking neural networks, where spikes from individual electronic neurons activate other neurons down a cascading chain. It is analogous to how the brain sends and receives signals from biological neurons that recognize movement and sensations in our bodies. The working of neuromorphic computing-enabled devices begins with the placement of artificial neural networks that comprises millions of artificial neurons. These electric spikes convert input into an output that results in its working. The passing on of electric spikes functions on the basis of a spiking neural network. Conventional computing is based on transistors that are either on or off, one or zero. Spiking neural networks can convey information in both the same temporal and spatial way as the brain can and so produce more than one of two outputs.

Neuromorphic systems can be either digital or analog, with the part of synapses played by either software or memristors. Memristors could also be used to emulate the synapses' ability to store information as well as transmit it. Memristors can store a range of values, rather than just the traditional one and zero, allowing them to mimic the way the strength of a connection between two synapses can vary. Changing those weights in artificial synapses in neuromorphic computing is one

way to allow brain-based systems to learn. Along with memristive technologies, including phase change memory, resistive RAM, spin-transfer torque magnetic RAM, and conductive bridge RAM, researchers are also looking for other new methods to model the brain's synapse, such as using quantum dots and graphene.

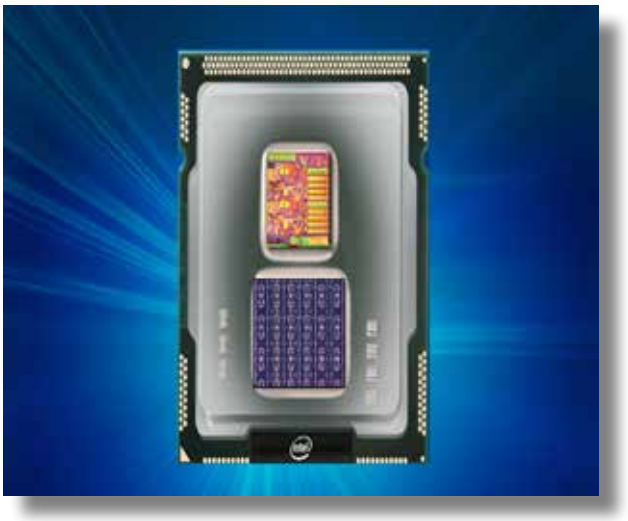
Neuromorphic systems also introduce a new chip architecture that collocates memory and processing together on each individual neuron instead of having separate designated areas for each. By collocating memory, a neuromorphic chip can process information in a much more efficient way and enables chips to be simultaneously very powerful and very efficient. Each individual neuron can perform either processing or memory, depending on the task at hand. Neuromorphic technology brings about a fundamental change in how the hardware and software are developed, because of the integration between different elements in neuromorphic hardware, such as the integration between memory and processing.

Key advantages of neuromorphic computing compared to traditional approaches are

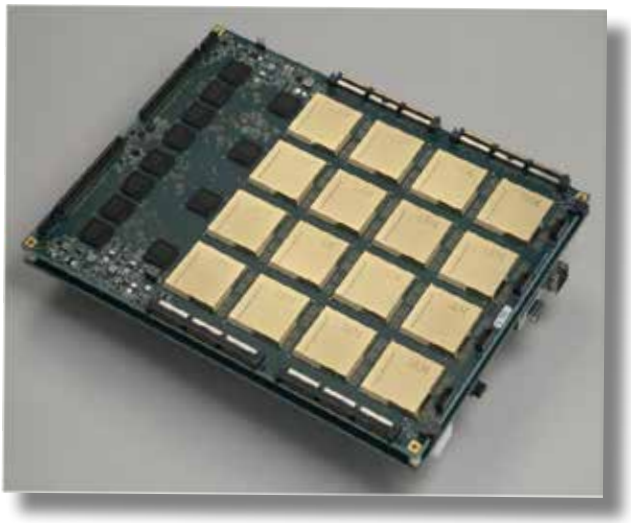
1. energy effciency
2. low consumption of power
3. high execution speed
4. robustness against local failures
5. the ability to learn
6. higher adaptability and fault tolerance
7. mobile architecture

The real-world examples (although mainly used for research purposes) that exist today include

- **The Tianjic chip.** Used to power a self-driving bike capable of following a person, navigating obstacles, and responding to voice commands. It had 40,000 neurons, 10 million synapses and performed 160 times better and 120,000 times more efficiently than a comparable GPU
- **Intel's Loihi chips.** Have 130 million synapses and 131,000 neurons per chip. It is optimized for spiking neural networks.
- **Intel's Pohoiki Beach computers**. Features 8.3 million neurons. It delivers 1,000 times better performance and 10,000 times more efficiency than comparable GPUs.
- **IBM's TrueNorth chip.** Has over 1 million neurons and over 268 million synapses. It is 10,000 times more energy-efficient than conventional microprocessors and only uses power when necessary.



Intel's Loihi chip.

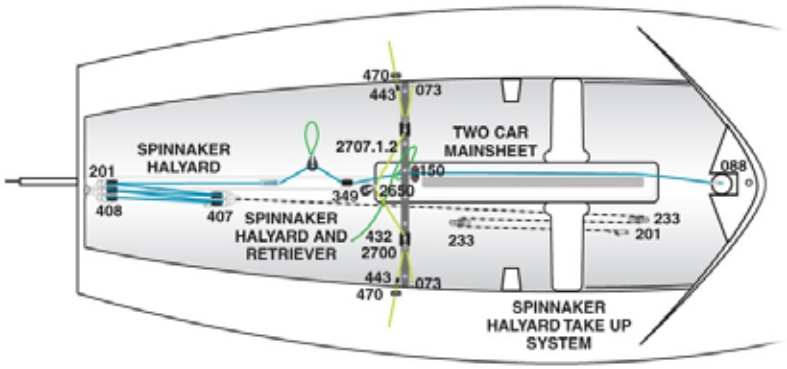


IBM's TrueNorth chip

The Human Brain Project is currently using a massively parallel, many-core supercomputer that was designed at the University of Manchester.

BrainScaleS from Heidelberg University. Uses neuromorphic hybrid systems that combine biological experimentation with computational analysis to study brain

The SpiNNaker system. Based on numerical models running in real-time on custom digital multicore chips using the ARM architecture. The SpiNNer system (NM-MC-1) provides almost custom digital chips, each with eighteen cores and a shared local 128 Mbyte RAM, giving a total of over 1,000,000 cores.

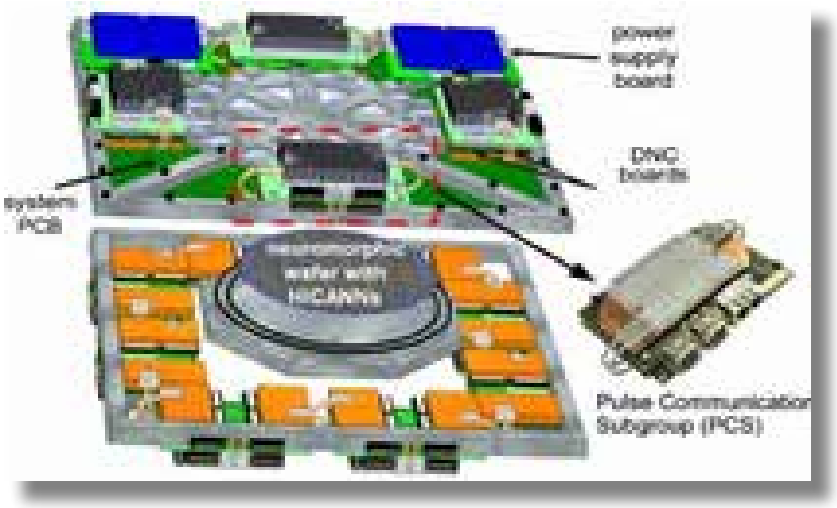


SpiNNaker system.

MemryX Inc (Startup at the University of Michigan). It is a developing programmable AI accelerator chip that promises unmatched performance at relatively low power for high-performance applications.

Intel Labs has built mathematical algorithms on a computer chip that mimics what happens in your brain's neural network when you smell something.

IIT Kanpur's NeuroCHaSe Research Group are actively working on the development of neuromorphic hardware platforms and ensuring their security against adversary attacks. They are also going to fabricate a 3D neuromorphic IC.



BrainScaleS from Heidelberg University

In the near future, Neuromorphic Computing will completely take over technological advancement and will be the driving force of Artificial Intelligence. Since neuromorphic systems are likely to help develop better AIs as they're more comfortable with other types of problems like probabilistic computing, where systems have to cope with noisy and uncertain data. "*The neuromorphic computing market is poised to grow rapidly over the next decade to reach approximately 1.78 billion dollars by 2025, according to a report by US-based research markets. The reason is simple – the growing interest of companies in AI, which can always do with more and more computing power*".

Prof. David Moss (Director of Swinburne University of Technology Research Centre) said "*As time goes on and we figure this out, the possibilities will only be limited by our imagination and not by technology".* We are creating a brain that needs no sleep, and no resting periods, we are essentially creating a brain that wouldn't die. Granted it would take decades and decades of technological research and advancement, but it does make one ponder the ultimate question of whether the mortal mind can recreate consciousness in machines thereby reaching the ultimate goal of immortality.

- Harini A
II ECE 'A'

BMW iX Flow

'Expression like you've never seen before - Change your car's colour to fit your mood with the BMW iX Flow featuring E Ink.'- BMW

BMW recently unveiled a chameleon car, that has the feature of changing colours, at the annual Consumer Electronics Show (CES) in Las Vegas. This has been made possible with the help of 'E Ink' and a body wrap technology similar to that of Amazon's e-kindle.

The E Ink consists of microcapsules that contain particles of black and white pigments suspended within a liquid encased in the wrap. The 'colour changing' effect is created by applying an electrical charge to these microcapsules and the colour alternates depending on whether it is a negative or positive charge causing either white or black pigments to collect on the surface of the microcapsule respectively. Achieving this involves using many precisely fitted electronic paper segments, which are designed to reflect the contours of the vehicle and variations in light and shadow.
After the segments are applied and the power supply for stimulating the electrical field is connected, the entire body is warmed and sealed to guarantee optimum and uniform colour reproduction during every colour change.

The changing colour makes the car more efficient by taking into account light and dark colours in relation to reflecting sunlight and the absorption of thermal energy. Since a white surface reflects a lot more sunlight than a black one, heating the vehicle and passenger compartment as a result of strong sunlight and high temperatures can be reduced by changing the exterior to a light colour. In cooler weather, a dark outer skin will help the vehicle absorb more warmth from the sun. In both cases, selective colour changes can help to cut the amount of cooling and heating required from the vehicle's air conditioning. This reduces the amount of energy the vehicle's electrical system needs and, with it, the vehicle's fuel or electricity consumption since the technology itself uses no energy to keep the chosen colour. This principle could also increase the range of an electric car.
At the touch of a button, the car can change its colour from black to white and even create patterns, by activating the E Ink in the wraparound shell. The future production is supposed to include a "BMW Theatre Screen" that comes down from the vehicle's headliner to display in the rear row. The screen is a 31-inch panorama display in 32:9 format with smart TV functions and a resolution of up to 8K.
"With the 31-inch display, 5G connectivity, 8K resolution, surround sound and individual streaming program, an unprecedented experience is created that sets new standards for in-car entertainment."
-Frank Weber (a member of BMW AG's board of management)

- C Shanmukha Priya
II ECE 'B'

INDUSTRY INSIGHT

Centre of Excellence in Wireless Technology, IITM Research Park

The Indian telecom tower sector has increased by 65 percent in the last seven years. From 400,000 in 2014 to 660,000 in 2021, the number of mobile towers has increased. Similarly, from 800,000 in 2014 to 2.3 million in 2021, the number of Mobile Base Transceiver Stations has increased by 187 percent. In the years 2023-2040, it is anticipated that 5G technology will contribute $450 billion to the Indian economy. In India, 5G Spectrum Trials are under underway to assure the spread of 5G technology across the country.

As a part of the content writing team of Impulse we got the opportunity to interview MS Swetha Mohan, who graduated from SSN in 2020. She did her Undergrad specialisation in ECE and now is currently working at the Centre of Excellence in Wireless Technology which is an incubator start-up at IIT Madras Research Park as a Development Engineer. Her Area of Specialisation include 5g Networks and Communication and Recently got a job offer from Qualcomm as a Physical Layer Tester.

As an undergraduate she did several projects in Image Processing and Object Detection. Only when she was placed in Mu sigma as a Data Scientist, she realised that data science wasn't her cup of tea and went on to searching core jobs off-campus. She describes the process of searching jobs off-campus as tiresome, as there is a lot of uncertainty in even being called to the interview. She says the period where she was searching for jobs off campus as one of her hardest times and she has had many sleepless nights thinking about whether she will get a interview call or not. After applying for several jobs, she got an interview offer from a start-up she says working in a start-up helped her to get her next job at Centre of Excellence in Wireless Technology.

She had uploaded her profile in Naukri.Com and she was contacted by Qualcomm as they were interested in her profile because of her previous experience in Telecommunication. She describes her interview process at Qualcomm as a challenging one. There were 3 rounds of Interview. The first round was a coding round, since C and C++ are predominantly used in Qualcomm the coding round were also based on them. She said instead of solving Leetcode and Hacker rank it is better to solve questions and cover the important topics previously asked by the company. These questions are available in GeeksforGeeks. She says that this method takes less time and has proven efficient for her. The second round was a Technical Round that mainly focused on her resume she was questioned about her previous works and intriguing questions on her resume were asked. She stresses on the importance of not including anything we aren't sure about in our resume as the that would lead to a big negative dip in the interview process. The third round was again a technical round where she was asked design-based questions on testing. The questions were based on how

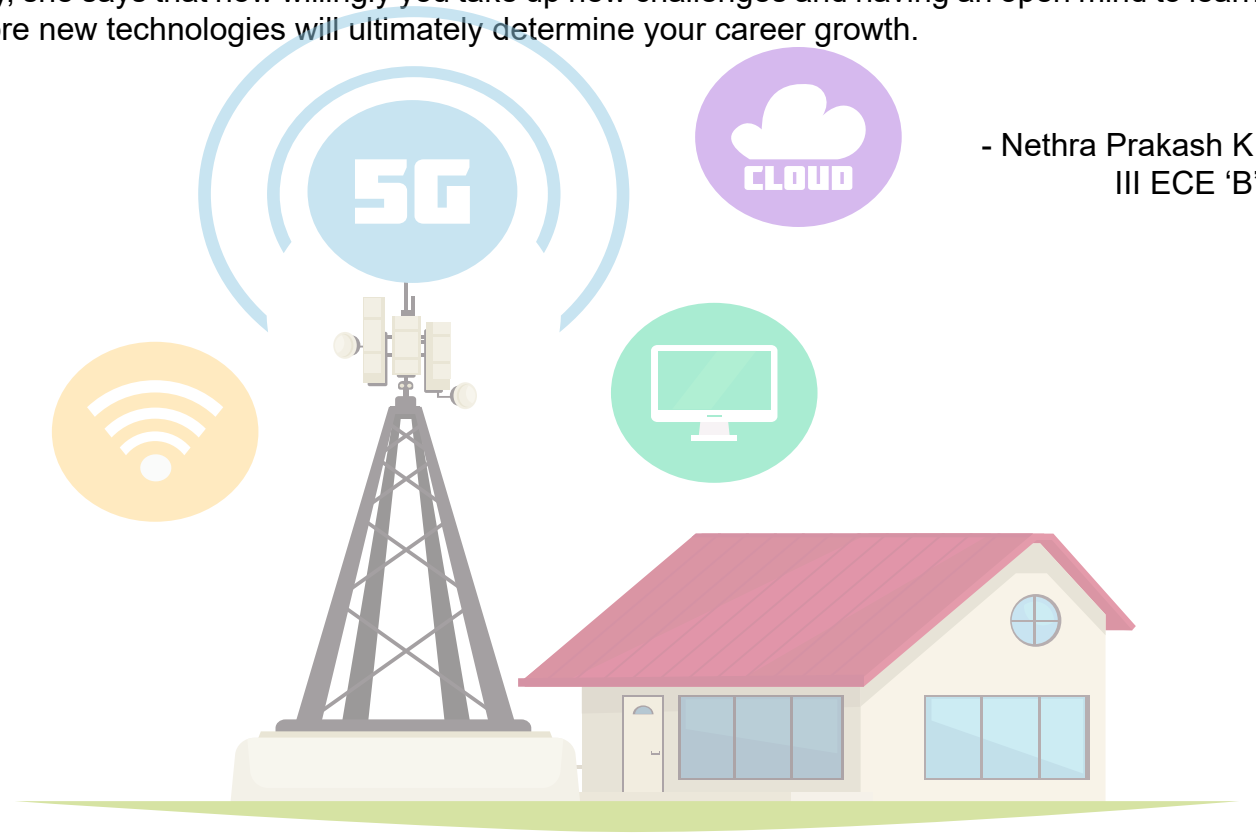
real life situations. On asking her about her experience in attending college placements she said that the placement training cell was very useful and helped her get her job at Mu Sigma. Here again, she said that she practiced questions that were previously asked during the companies interview process.

She says it's very important to know the basics of the domain in which we want to work as that's the main thing core companies look for. She also insists on the importance of keeping yourself updated with the current technologies and tools that are used by the industries. On asking her about the importance of CGPA she said that matters only when a company is hiring a fresher and once, they get some work experience, the company only looks for the skill set and attitude of the candidate. However, she says CGPA plays a very important role in getting admission for master's courses at foreign universities. She keeps insisting on how fresh graduates should focus on learning in the first 2-3 years of their career.

When asked about why many youngsters take up a software job despite studying ECE, she says that software companies hire way more people than core companies and core companies require niche skill sets that take some time to master. She also insists that it's always better to have a software job as a backup in order to meet one's financial needs.

Questioning her about the job opportunities in telecommunication she says that there are never-ending options for graduates and the opportunities are going to expand in the coming years as India is working on shifting to 5G. She also says that even when there is a transition to 6G it would be easier for her to adapt as she has previously worked in 5G. According to her, a master's degree increases the probability of getting a core job at a top company. For students who don't wish to pursue masters working in a start-up for a couple of years and gaining experience can increase their chance of getting an interview call from the top ECE core companies.

Lastly, she says that how willingly you take up new challenges and having an open mind to learn and explore new technologies will ultimately determine your career growth.



- Nethra Prakash K
III ECE 'B'

A conversation with Udayaezhil about Perficient

Perficient is a leading digital consultancy company based in St Louis, MO, United States. They provide digital solutions for their clients and help them grow their businesses. They use the latest technologies to build strategy, digital marketing, product development, data intelligence, and global delivery. They have approximately 300 fortune-1000 client relationships with 20+ years of industry experience. They have won several awards including 2022 IAOP The Global Outsourcing 100 and 2021's Talend US Partner of the Year. On the whole, they combine deep technology and management consulting skills and experience to deliver mission-critical, business-driven, and value-oriented solutions that enable our clients to compete more effectively, operate more efficiently and succeed in an increasingly dynamic market.

Udayaezhil is a proud alumnus of SSN College of Engineering who has completed his bachelor's in Electronics and Communication Engineering in the year 2019 and his Master's from the College of Engineering, Guindy. He is currently working as an Associate Technical Consultant at Perficient. He joined Perficient in the year Aug 2021. He works with SQL and Spark. Talking about SSN, he told, "SSN is the place where you are given a lot of opportunities to learn not only the academics but also extracurricular activities".

Perficient is an IT company that works with frontend, backend, UI, and UX Design. Talking about the consulting internship, it started in August. There was training about the latest technologies. It lasted for 6 months and helped him get to know about the work and culture at the office. Then comes the most awaited question, "Is CGPA a critical factor?". His answer was," CGPA is considered as the entry-level criteria for entry-level jobs. But more than anything knowledge and performance will help us more in a long run". For an interview, it is important to be strong in basics. Talking about the interview preparation for perficient, it is important to know about the basic concepts of OOPS (Object Oriented Programming).

Being an associate technical consultant is a 50% analytical role and the remaining will be team management and coding skills. It was challenging to learn new languages and improve communication skills in the workplace. Every student in their UG period will have this confusion about either doing their masters or doing their job. But, our alumni, UdayaEzhil was more confident about doing his masters. The right time to decide whether to do your master's or you will be sitting for placements is in your 5th semester. It is better to do an internship for a month or two at the end of your 6th semester so we will have some knowledge of how the industry works, the culture, and the company.

A final piece of advice to juniors will be, that it is very important to plan everything before the final year and start preparing for the same.

- Vinu Abinayaa R
III ECE 'B'

One Step At a Time !

The way in which an individual can express oneself without words, through the art known as dance is truly a wonderful thing. It always fascinates me how the movement of our body has evolved to be so diverse in nature all around the world. In India, Dance has definitely made our culture richer and more colourful and it is always a joy to talk to performers and learn more about them and their art.

I had the opportunity to talk to Krishi Divya Dharshini, an acclaimed Bharatanatyam dancer, avid artist, a coordinator in our very own Tech Club and an individual who excels in academics. She loves to be on her toes always, both metaphorically and literally, which was evident from the fact she was pacing up and down while chatting with me, unable to stay in the same spot for too long. I had an engaging and enriching conversation with her as she answered all my questions with great vigour, details of which are below.

Let's start from the beginning. How old were you when you first started dancing and could you recall who first introduced you to the world of Bharatanatyam?

I was in 1st standard when my mother first sent me to Bharatnatyam classes. I am sure many Indian girls can relate with me, as most parents send their children to such classes from a young age here. It almost seems like a rite of passage in many Indian families. While the beginnings of a life in dance could be brought upon by our parents, continuing to do so will be completely up to the student.

What is your earliest memory of dancing?

More than recalling myself dancing, my earliest memory of dancing was watching other people dance. My dance teacher had a habit of making us watch lots of videos of different performances and also often made our seniors perform in front of us in class. Many of my initial lessons in dance came from those too.

What drew you to dancing?

Well, for one, dancing was an amazing escape from routine life. It is a breath of fresh air on a monotonous day. It also serves as a great way to relax and destress—a sort of mental escape—on my most tiring days. Finally, it is a great form of physical activity for me. I ensure that I practice Bharatanatyam at least an hour a day, no matter how busy I am, which makes it kind of like my daily exercise routine.

Are there any particular performances that are close to your heart?

For most Bharatanatyam dancers including myself, our Arangetram will always be a special one. It is the first time that we will have the stage to completely showcase our individuality as a dancer on stage in front of our guru, family and friends. It is also usually our first major solo performance ,which makes its exciting but nerve wrecking. I have also had amazing experiences here in Arudhara, be it our Instincts performances this year, reels in our Instagram page and collaboration with SMC. I specifically would like to mention a dance routine we recorded in Semmozhi Poonga. Five of my friends and I wanted to do something different for Shivratri and also wanted to get the complete experience of doing a group performance, from choreography to execution. Needless to say, it was a great learning experience and now I enjoy both solo and group performances

Talking about group and solo performances, how alike or different do you think both are?

We might be performing the same form of dance in both cases but the dynamics of bringing together both the performances are poles apart. This difference starts from the practice sessions itself. While in a solo performance, all I have to do is focus on myself. Whether I am following the beat and whether I am perfecting the steps—those are the concerns there. But that is not the case in a group performance. Here, I will have to bond with the members of my team and all of us need to be able to move in the same direction, be it in our dance steps or the way we think.This changes the learning methodology itself and here teamwork, good understanding between members and effective communication, on and off stage, will be key to nailing the performance. This, I believe, can be applied in all aspects of group work in our life and not just in a Bharatnatyam group performance.

Since we are on the topic of certification, could you tell us about the accolades and certification that you have received till date?

I have passed five levels of the Prayathnam certification courses. I have also completed my Certification course in Bharatanatyam from the Dr. J. Jayalalitha Tamil Nadu Music and Fine Arts University. I have also had the wonderful opportunity of performing for a ticketed show which live streamed on the playtoome platform. And had the honour of performing in the Nataraja Festival hosted by The Indian Dance Experience (TIDE) which has housed several promising names. I have also performed in various districts in Tamil Nadu like Chidambaram, Thiruppur, Kancheepuram and Thanjavur.

Having been a dancer for the better part of your life, what do you think are the traits that a dancer must possess?

There is a slokam taught by my teacher which I believe covers all the traits that a dancer should have. Its called the Patrasya Pranah and the ten abilities mentioned here are: agility, steadiness, bodylines, quick turn, clarity of eye movement, tirelessness, intelligence, dedication, clear speech and the abilty to grasp notes of the music.

जवः स्थिरत्वं रेखा च भ्रमरी दृष्टिरश्रमः
मेधा श्रद्धा वचो गीतं पात्रप्राणा दश स्मृताः।
एवंविधेन पात्रेण नृत्यं कार्यं विधानतः।

javaḥ sthiratvam rekhā ca bhramarī dṛṣṭiraśramaḥ
medhā sraddhā vaco gītam pātraprāṇā daśa smṛtāḥ
evamvidhena pātreṇa nṛtyaṁ kāryam vidhānataḥ

We have talked a lot about your coach. How do you think she has impacted your life?

My teacher, Dr Himaja, is a strict teacher who expects perfection in our work but at the same time is jovial and friendly. She has been part of my life for almost its entirety. Hence,she has been an integral part of shaping my personality and who I am today.

To conclude, any tips you would like to give your juniors?

Make sure to give time for what you like always. For example, in my case,It's a common misconception that you have to stop dance once the exams are nearing or when you are in you are in 10th and 12th Standard. But you should never take a break from what you enjoy doing. This is what will help you maintain a cool and calm mind even when life gets stressful. Also, you guys can always approach your seniors for any help, be it in academics or extra curriculars or for any advice in general.

- Nivetha Elango
II ECE 'B'

Spinning and Winning

"No cricket team in the world depends on one or two players. The team always plays to win." – Virat Kohli

Cricket is a sport played by 2 teams, each team comprising 11 players, competing against one another. It is one of the most popular games in the world. It creates a lot of excitement and frenzy amongst its fans around the world, especially in our country.
We recently had a conversation with Prasanna Venkatesh who is well known among his peers for his accomplishments in cricket. He has won numerous accolades. He has also represented Bahrain at the ICC U19 world cup in 2018. In the colloquy, he had shared all about his experiences, failures and learnings in the field of cricket. Here are few excerpts from the interview:

When did you start playing cricket? How was your first experience on the cricket field?

"I started playing at the age of 6. I was curious about the sport back then and loved watching cricket. The first time I played cricket was a great memory, with my friends in our apartment. That's where my love for cricket developed.
Adding to that, I've been fortunate to play under multiple coaches, learning different perspectives and approaches to the game of cricket. My first coach whom I'd spent the most time with, was the one that taught me the fundamentals of the game."

How many accolades have you won and which one holds a special place?

"I've been fortunate in winning some accolades, from player of the tournament awards to team trophies. The achievement I cherish the most is being selected to represent Bahrain at the ICC U19 World Cup Qualifiers in 2018. The selection camp was conducted over a span of four months, with daily practice and selection matches, after which a squad of 14 were selected to travel to Thailand for the ICC tournament. It was quite a challenging and rewarding experience."

According to you, what are the qualities that a cricketer should possess?

"Firstly, one must learn to celebrate the success of others as cricket is most importantly a team sport. A player should also be decisive, disciplined and focused in order to consistently play the game."

Who is your inspiration?

“There hasn’t been one specific player, but rather a group of personalities that have shaped my approach to cricket. Every cricketer has got their own style. The energy they bring on to the field is immense. The modesty of Rahul Dravid and the work ethic of Virat Kohli are some qualities that we can all inculcate into our lives.”

What are your failures? What did you learn from them?

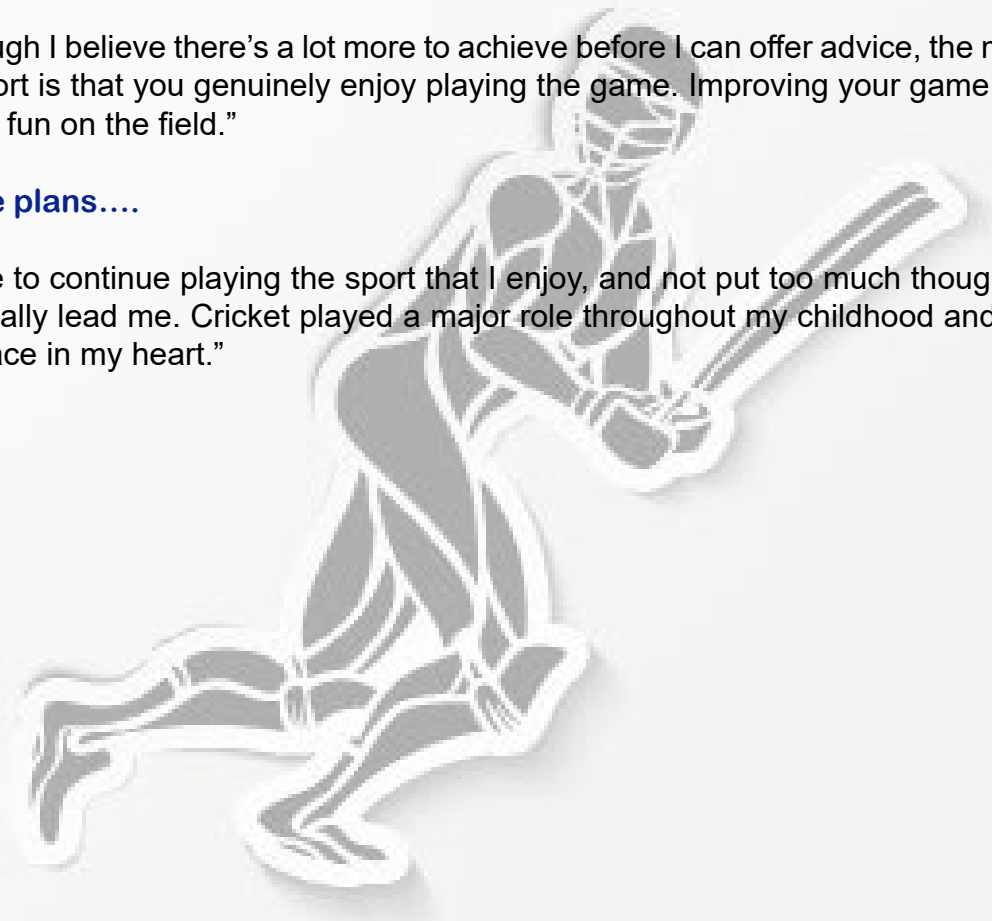
“There have been moments where my performance did not match both the team’s expectations and my own. I’ve gradually learned that a positive mindset and self-confidence go a long way.”

What advice would you give to the aspiring players?

“Although I believe there’s a lot more to achieve before I can offer advice, the most important aspect of the sport is that you genuinely enjoy playing the game. Improving your game becomes easy if you’re having fun on the field.”

Future plans….

“I hope to continue playing the sport that I enjoy, and not put too much thought into where this would eventually lead me. Cricket played a major role throughout my childhood and will always hold a special place in my heart.”



- Varshini G
III ECE ‘B‘

ALUMNI CORNER

Indu Subramaniam, Stanford

Education is not the learning of facts, but the training of the mind to think -

Albert Einstein

We always want to be the best in anything we do, be it sports, games, academics, etc. It is the basic human psychology that drives us to achieve more and stand unique among other people. Speaking of uniqueness, we interviewed Indu Subramaniam, a 4th year ECE student who has bagged a seat at the prestigious Stanford University, in the domain of Speech Processing. We wanted her to share with us about her thoughts and journey.

What is the motivation that made you study MS abroad?

First, I want to thank my mentors for motivating me to take MS. Their words made me believe what I can be able to do. They said whenever you take any task, go to the farthest point of it. In terms of education, it is to make yourself highly qualified in whatever you are interested in. Second, I also have an interest in doing research and work based on that. Being an undergraduate student, it is difficult to find work related to research. I wanted to make myself more qualified to compete with others, which required a higher education qualification. Therefore, because of my interest and passion, I decided to pursue higher studies abroad to achieve my goal.

Could you elaborate on your experience during the selection process?

I want to tell you it is not a pleasant journey. It is an overwhelming and tiring process. You might have an on what universities you are willing to study in, but it is highly uncertain that you will be selected. This isn't to discourage you, but it is reality. You will need emotional support and well-wishers to support and guide you. Consistent effort makes you get selected in universities where you want to pursue your higher education. These 5 to 6 months of effort from July to January towards the application process is very much needed and in one day, these efforts will repay you by getting selected into those universities. Competitive exams like GRE, TOFEL etc., those scores are also important for the evaluation. Writing those exams was difficult and despite how much ever you worked hard in getting the best score will not meet what you expected. But don’t get settled with that and get demotivated. Enjoy the process of attaining your goal and keep pushing yourself and see only the result of it. That’s what matters!

How do you prepare yourself or build your resume to get selected for these reputed universities? What should one do to build their CVs?

The foremost factor is to choose your right domain. Understand and try to find the right domain you are interested in pursuing your higher studies. It has to be stressed in your statement of purpose. This will directly reflect your purpose and motive to study higher education. Then you have to work on projects and do some research paper related to your domain that shows how strong you are in the domain and will help you during the selection process. This will show that you have prior experience and that you have involvement in what you are doing. Then the second part of building your CV is that it should mention the qualities that should explain your domain of interest. Don't need to add extra information that you are not best at. It should be neat and short. Mention projects and your works that explain your strength in the domain that you have chosen. And apart from this, you can mention any extra-curricular activities that you have done during your academic days which displays you as an all-rounder. It will show your managing skills and academically a sound person. Both are equally important. Projects and research

Is it a better or a wise choice to study masters abroad? How is it different from doing master's in India?

It is based on one's perspective. To me, my perspective is that I saw more exposure in my domain of interest than in India. It is purely based on one's way of looking at things. I noticed that the scope of the domain I chose is just now expanding and it is appreciable. There are more options and better job openings abroad and there are more research projects undertaken which is basically related to my motive to study abroad. This is my own understanding of why I took MS abroad. One has to do some research and gain some information regarding whether to take an MS abroad or do a masters in India. One should decide based on their capability that he/she can do it. Do challenge yourself and face them!

How do you choose the right University to pursue your studies? What are the factors one should look into when choosing a university?

You can choose a university based on how popular your domain is in that choice of university. Look through their research on that domain, their project work and activities they have taken for the development of that domain. Do a complete analysis on choosing a university, keeping your domain of interest in front. It is important because looking into this will make you understand that pursuing your MS in those universities will have the outcome that you expected. Always do some research on your own in choosing the right university. Check on the faculties in those universities, the environment of the university, global popularity and much more factors while choosing the university. It is purely based on your own mindset.

Do internships and publishing research papers increase our chance to get admission to these reputed universities? How much do they contribute to the selection process?

Doing internships and quality research on your domain of interest really matters more. You will get a chance to work with your professors for your final year project. Use that chance to show how strong and efficient you are in your domain of interest. Because internships and research, one or four or many, they do contribute during the selection process. Working with your professors also is one factor during the selection. Having a good impression on you will make them write a strong letter of recommendation. It is also one of the factors that helps you for your selection. Always gain knowledge by doing projects, internships and create an excellent reputation for you, which will be essential to get selected at a reputed university.

How different is a thesis from a non-thesis? Which one is preferred widely and why and what did you choose?

Thesis is your research that you have to submit at the end of your MS study and non-thesis is your course work where you won't submit any research paper. I usually prefer thesis based as my interest is based on research. I would choose research/thesis based, because the world is shifting towards research-based work, other students can carry your work out for their own domain work or projects. Doing research can make you understand what your study is based on; this is my belief. If you have chosen a non-thesis course, then it is difficult to shift from product role to research-based role during your career. Hence, you have a lot of options if you choose a thesis-based course, but you can carry your own analysis on this and take what you want.

Can you give some tricks to your juniors who are passionate about studying MS abroad?

Always have one think in your mind, fix your goal and do whatever it takes to reach that. Fix your domain that you are passionate and enthusiastic to work, do quality projects and research to show your strength in the domain of work and do so in such a way that it results in gaining knowledge and learning outcomes. Take part in as many extracurricular activities as possible, like events conducted in our college, mostly go for technical events to test yourself in engaging in these events. Try taking part in other activities that help you in building your managing and team working skills too. These can be added to your resumes and can show how efficient and skilful you are. Focus on your academics, as it is equally important. Scoring a good CGPA will show how strong you are in your academic skills. Though this looks like I scared you, do hard work, schedule your plans, show consistent workflow, then you can achieve anything. SKY HAS NO LIMIT!!

- Abiisek M
III ECE 'A'

Nimisha Pabichetty, Georgia Tech

Artificial Intelligence and Machine Learning are paving the way to the future. Realising the full potential of artificial intelligence demands highly advanced machinery. With a wide variety of applications in domains such as robotics, biotechnology, renewable energy and smart automation, Electrical and Computer Engineering is opening up the gateway to endless possibilities of advancements in the engineering field.

Nimisha Pabbichetty, Robotics Domain Head of the SSN Tech Club from ECE batch of 2022 is going to pursue MS in Electrical and Computer Engineering at Georgia Institute of Technology. Read on to learn about her admission process and the art of building a good resume.

Q: How did you decide what to study?
A: I've been interested in the field of Robotics since high school so I applied to Robotics or related programs. I have the freedom to choose my courses at Georgia Tech.

Q: What is the criteria required to get in and what is the admission process?
A: The Masters admissions process is a bit of a black box. There are several aspects to it- your GPA, GRE score (if asked), SOP, LOR, your projects (research papers tend to boost your applications), internships and even extracurricular/co-curricular activities. Try to have a balanced profile and strengthen other areas if some area is weak. For example, if your GPA is a little low then do more quality projects and try to publish papers.

Q: How to write a good resume? Do you have any tips?
A: Use Latex to prepare all of your documents. Overleaf.com is a good free latex editor with many templates that you can use. I personally recommend using one of the standard single-column templates for your resume. Highlight (using italics and bold) the important parts. Don't make the font size too small, the resume should look attractive, not off-putting. So make sure there's good spacing too.

Q: Tell us about your projects and internships.
A: At the time of applying I had 1 IFP,1 FYP and several mini projects. I had also interned at Polytechnic Montreal via Mitacs and at NTU.

Q: Could you give us some tips about the personal essay?
A: The essay is definitely one of the most important parts of your application. When drafting your essay, keep in mind that you're trying to tell the reader a story. Don't just state what happened. Also have several seniors vet your SOP (you will write several drafts before you're finally done). Make your intro and conclusion interesting and unique, it'll help your SOP stand out.

Q: Tell us about your exam preparation.
A: I wrote GRE and TOEFL. Both IELTS and Toefl are very simple to attend and score using your GRE prep itself. You will just have to familiarise yourself with the test template. For GRE, I recommend using gregmat.com for preparation, it has served many of us really well and I personally believe it is the best prep source out there. Consistent practice is key. Focus on vocabulary.

Q: Is there anything else one should know about applying?
A: When shortlisting universities make sure you go through the program's curriculum and the professors and labs available. Make sure the university is a good fit for your research interests. Finances are also an important thing to consider. Don't apply to only ambitious universities. Apply to a mix of safe, moderate and ambitious universities just in case.

Q: How to manage finances?
A: Many universities allow their graduate students to take up Teaching Assistant (TA) and/or Research Assistant (RA) positions. These roles give you a good stipend as well as experience. Several universities also provide tuition waivers to those who take up these positions Georgia Tech and UCSD both do this for instance. Some universities also allow students to work off-campus.

Q: Any advice for your juniors?
A: Don't get too stressed out about applying, just make sure you choose the right universities.

- R Dhivyaharshini
II ECE 'A'

Abhishek Padmanabhan, IIM Trichy

Engineers make the "World Work '' by acting as a basement for building a better world, but adding an MBA to it gives a pathway to make it happen. Thus, Tech and Non-Tech roles together make the building of a firm strong and successful. So, here we have Abhishek Padmanabhan, Event Coordinator of Tech Club, ECE batch of 2022, to share his journey and insights on pursuing an MBA after completing engineering.

Tell us about yourself.

Hi! I'm Abhishek Padmanabhan. I'm a fourth-year student currently pursuing BE ECE. Throughout my life, I have been an active person, engaging myself in various sports and physical activities. I play basketball, football and badminton. Apart from sports, I also enjoy cooking and learning new things. I love exploring and listening to people. I am an extrovert and get along well with everyone.

Why did you choose to do an MBA for higher studies?

I think I have always known management is my calling. I've always enjoyed being in charge of things ever since I was small and I thought, why not learn more about it and make it my career? I'm also very curious about how businesses work. I read and watch many videos on start-ups and businesses. I think this is what made me choose MBA.

Tell us about your preparation journey.

I wrote CAT in 2021. I started the preparations in May-June. Initially, I spent around 3-4 hours a day studying quants and DILR. I also read the newspaper everyday morning as it helps in your vocabulary and helps in your general knowledge. I joined the IMS coaching institute and apart from that I also used various resources found online, i.e. previous year's CAT papers, mock papers, etc. I practiced at least one of the quants, or DILR and VARC, every day.

How did you manage both preparation and final year academics?

It was tough in the beginning, but as time passed on, you gradually learn how to manage time effectively. I woke up early in the morning to prepare and would keep the daytime for college activities and then would get back to the prep from evening onwards. I made sure no matter what, I took care of my health and did not sleep too late as it can affect my overall health.

How did you get into IIM Trichy and cracked the interview process?

I had gotten calls from all the New and Baby IIMs. After clearing the required cutoffs for each IIMs (the cutoffs vary from year to year) I had gotten shortlisted for the interview. I also got shortlisted from other colleges, such as SCMHRD and SIBM Pune, after writing the SNAP exam. My interview preparations started with me asking myself the possible questions that can be asked. I practiced my communication skills by reciting the answers that I had prepared every day in front of the mirror and even recording them to see if my fluency was clear or not. I even asked my parents and my friends to give me mock interviews and I would see how well I fared in them.

I would note down all the mistakes and try to not make those mistakes the next time.

I would also try to ask them to put me in stressful or pressure-like situations so I would see how well I would combat them. At the end of every interview, I would ask them tips on how they feel I can improve.

Remember, this is for you and it's okay to ask others for help.

The interview process was around 10-12 mins for me. They asked management-based questions like why would you prefer this over that. I answered the questions in an in-depth detail because the interviewer would want to know the most logical answer and a proper answer. They also asked some questions relating to my domain, like what a triode, diode, and their functions are.
Since it's for a management college does not mean they will not ask. They are bound to ask domain questions if you are a fresher. Most importantly, be confident. Believe that no matter what, you'll be able to face the interview. Things will go downhill if you let fear get in your way.

According to you, what are the Do's and Don'ts for MBA aspirants?

Do's for MBA

- → Read a newspaper every day
- → Communicate with people
- → Research which college you want and the exam required for it
- → Understand your weak points/ areas and work on them daily.

Don'ts for MBA

→ Avoid spending too much time planning how to study and wasting time watching and reading materials on how to.

→ Remember - everyone has different ways of studying. It's all up to you on how you prepare. As long as you work hard and strategize well, it'll be good.

→ Avoid staying up the full night and studying. Your health comes first. Learn to sleep for at least 7 hours a day.

→ Never take too many mocks before the exam. A maximum of 25-30 mocks before your CAT exam is more than enough. Instead of doing more and more mocks, it's better if you go through your previous mocks and analyze the mistakes you make and correct them.

Any words of motivation for aspiring students?

It's okay if you panic, or get scared or nervous before the exam or interview. Sometimes in life, not everything goes our way. Just do your best and see where it takes you. It'll amaze you.

All the very best!!!

- Shwathi Ramanathan
III ECE 'B'

Nikhil Viswanath, Best Outgoing Student of SSNCE - 2022

1.How does it feel to be the best outgoing student?

It's a majestic feeling. I have always gazed at the name board with the previous 'Best Outgoing Student' awardees in the Admin block and our department. It is a privilege to see my name up there. The overall title feels like a crown jewel for all my efforts from the start of my college life. Big thanks to our HoD for constantly backing me, my project guide who has guided me throughout my college life, and my mentor and other faculty for being of great help. My batchmates had a phenomenal impact on my journey and have helped me reach here.

2. What's the one motto that you held on to during your academic journey?

"You haven't failed until you stop trying." School and later college life for me has been managing my time amongst various activities I undertook. It has been a challenging ride for sure. I represented the college Cricket Team while being the Class Representative. I adapted to the pandemic and balanced my office-bearer duties while studying, interning, and working on other projects.
There were numerous roadblocks in each task I took on. There were also times when things would not work out well. But I needed to keep moving forward and trust the process. I completed my duties satisfactorily and stand as a happy student while graduating.

3. What did a day in your life look like in these four years?

My college life had multiple chapters. In my first year, I was a day scholar who would reach home after my cricket training and then catch the early morning bus.
Then as a hosteller in my second year, my routines were studies, sporting/ keeping myself fit, and other duties I undertook.
During the days of online classes in my third year, I would attend college courses on the weekdays and study online courses I had enrolled in on Sundays.
Continual screen time was a tiring process, but this helped me waive off courses in my final semester - where I focused on conducting Instincts, attended an internship and worked on my final year project and a research associateship.

4.What advice would you give to students who look up to you?

SSN is an institute which gives a vast amount of opportunities - for those who seek them. Join various clubs - have great fun while developing your hard and soft skills. Your current seniors are more than glad to guide you since they themselves look to groom juniors for their clubs. You might even find good contacts through such student clubs. Be a resourceful person who knows who to approach for what.

Impulse - our department magazine is the best resource out there. Go through each edition, you will get an insane amount of information.Do courses and projects on the side when you have time after college. Practical experience has a greater impact on your technical profile than college grades.

When you look back on what you spent your time and effort on you should have a happy and satisfactory feeling. Cherish the time with your batchmates and teammates, try to relax and have fun whenever you get a chance to. Ensure you do not burn out. Hence take good care of your mental and physical health.

Congratulations !!!

5. What would you be pursuing next?

I developed a liking for Signal Processing thanks to the teachers who handled the relevant courses. And through self-learning and projects on my own - I am keen on using Machine Learning for Signal Processing. I will be pursuing my Master of Science in the same field at the Georgia Institute of Technology from Fall 2022. My experiences in college have shaped me, and I look forward to showcasing the values and skills I hold in the coming years.

- Kirthivasan B
III ECE 'A'

5G WIRELESS COMMUNICATION

"It must be remembered that there is nothing more difficult to plan, more doubtful of success,nor more dangerous to manage, than the creation of a new system. For the initiator has the enmity of all who would profit by the preservation of the old institutions, and merely lukewarm defenders in those who would gain by the new ones."
-Machiavelli

The technology arena has moved on-- from voice to wireless information. Yet the cellular revolution is less than 20 years old, and the entire history of "mobile radio" is barely 100 years old. Cellular wireless networks have come a long way since the first 1G system was introduced in 1981, with a new mobile generation appearing approximately every 10 years. In the past 30 years, the mobile industry has transformed society through 4 or 5 generations of technology revolution and evolution, namely 1G, 2G, 3G, and 4G networking technologies. 1G gave us mass-market mobile telephony. 2G brought global interoperability and reliable mobile telephony and made SMS text messaging possible. 3G gave us high-speed data transfer capability for downloading information from the Internet. 4G provided a significant improvement in data capability and speed and made online platforms and high-speed mobile internet services availablefor the masses. 5G technology will be the most powerful cellular wireless network with extraordinary *data capabilities, unrestricted call volumes, and infinite data broadcast*

To gather more insight into this exciting field, we interviewed Dr. N. Prabagarane, who is actively working in wireless communications.

1. Can you give us a brief introduction to 5G wireless communications?

5G is the abbreviation for "fifth generation" cellular network technology. Its global deployment began in 2019 as a replacement for 4G networks and 4G LTE standards.

5G wireless technology is capable of enabling a new type of network that connects virtually everyone and everything, thereby delivering a massive 5G Internet of Things (IoT) ecosystem that can satisfy the communication requirements of billions of connected devices, creating a truly connected world. Also, it can provide a larger population with high speeds (wider channels), massive network capacity, increased reliability and availability, and a more uniform user experience.

5G is essentially a framework of multiple advanced technologies that is dynamic, coherent, and adaptable and that supports a gamut of applications.

2. What are some recent, exciting breakthroughs in enabling 5G technology?

In terms of the Physical layer (New Radio/ mmWaVES): 5G employs wider bandwidth. To be specific, it uses the sub-6 GHz and mmWave (Millimeter Wave) and employs similar networking approaches as 4G LTE. 5G networks use OFDM (Orthogonal Frequency-Division Multiplexing). The 5G NR (New Radio) air interface is combined with OFDM to provide greater flexibility and considerably less latency than LTE. Furthermore, the 5G NR can further be enhanced to provide flexibility and scalability of OFDM to endow with a higher degree of both, thereby expanding 5G access for a variety of use cases to more individuals and objects.

In terms of the Physical layer (Dynamic spectrum sharing (DSS)):
Dynamic spectrum sharing is usually a software upgrade that is applied to LTE radios, which allows the service providers to speed up the 5G NR setup and increase 5G NR coverage without re-farming the existing low band spectrum. Standalone (SA) 5G NR 3GPP which was finalized in 2018, will coexist with the NSA 5G NR and this new 5G NR end-to-end architecture will use mmWaves and sub-GHz frequencies. Moreover, this mode is incompatible with the subsisting 4G/LTE. Also, 5G NR will utilize massive machine-type communications (mMTC), and ultra-reliable and low latency communications (URLLC) to provide multi-gigabit data rates with enhanced efficiency and lower costs.

3. Can you mention some significant applications of this technology? How is it leveraged for industrial applications?

5G offers the following significant applications:

- Utilizing the Potential of IoT: 5G and the Internet of Things are a natural pairing that will have profound effects on nearly every industry and consumer.

- Similar to Broadband Mobile Service: Enhanced mobile service is one of the most noticeable early effects of the 5G network. 5G mobile networks will provide broadband services, which can support high-definition video streaming without buffering.

- With the evolution to cloud-native 5G networks, businesses will now be able to process more data based on the specific application by using strategically distributed computational power and store at the best location. Furthermore, intelligent edge computing will operate at the point of convergence linking ultra-low latency 5G, IoT, and AI.

The 5G offers also specific Industrial Applications:

- The 5G healthcare use case will now allow physicians and patients to stay connected aforetime.

- The customer experience will be of the utmost importance in 5G retail applications

- Future farms will rely more on data and less on chemicals.

● Inventory management in transportation and logistics is costly, time-consuming, and challenging. 5G enables improved vehicle-to-vehicle and vehicle-to-infrastructure communications. 5G will simplify fleet monitoring and navigation on a massive scale.

● Potentially, 5G when powered by AR can improve navigation thereby assisting in identifying and flagging potential road hazards without diverting the attention of the driver.

4. Where do you see this field in the next ten years?

The future of 5G is 6G. 5G (fifth-generation wireless) cellular technology is succeeded by 6G (sixth-generation wireless). 6G networks will be operating at higher frequencies than 5G. One of the main goals of the 6G internet is to facilitate communications with one-microsecond latency. Also, it will aim at delivering significantly increased capacity and significantly reduced latency.

5. What are the prerequisites for a student who wants to work in this domain?

To be familiar with networks, telecommunication especially wireless communications and standards.

6. What are the elective options available in our college curriculum related to this technology?

We have introduced a course on 5G wireless technologies for grad students.

7. Can you also mention some standard texts and online courses that students can utilize to develop their knowledge in this domain?

Books:
1. Fundamentals Of 5G Mobile Networks, By Jonathon Rodriguez

2. 5G Mobile and Wireless Communication Technology by Afif Osseiran, Jose F. Monserrat , Patrick Marsch

3. 5G Technology: 3GPP New Radio

4. 5G Book: Understanding 5G, A Practical Guide to Deploying and Maintaining 5G Networks

5. 5G Mobile Communications Concepts and Technologies By Saad Asif
Link :https://solutionsreview.com/mobile-device-management/the-best-5g-network-security-books-for-your-boo kshelf/

8. What are the job opportunities available to students interested in this field?

There are a lot of job opportunities for students. They can work with technology companies such as Nokia, Qualcomm, Intel, etc., research centers, academia, and government who are all keen on promoting the worldwide deployment.

We thank our Professor, Dr. N. Prabagarane, who shared his valuable time to share his insights with us. We hope this article gives a clear picture of 5G Wireless Communication to the students.

- Shrinidhi Seenivasan
II ECE 'B'

WRITER'S ENCLAVE

WHAT IS BEAUTY?

"Beauty is not in the face; beauty is a light in the heart." Well, we might have come across this quote several times in our life. I am pretty sure most of us understand the true essence behind this saying. But to those who don't, just hang on! I am going to try and explain the meaning behind the same through this article based on my understanding.

In a diverse country like India, whenever there's any talk or discussion about beauty, people tend to relate it with skin tone or physical appearance. People desperately try to improve their skin tone by using a variety of cosmetics products. They even change their eating habits and lifestyle just to become fair. Even pregnant women consume saffron milk to make sure that their baby is born fair. In short, most people have a common thought that if a person is fair-skinned, then that person is beautiful. This idea is obviously not true and has to be changed. But where did this misconception originate from? Thanks to the Indian cinema and media. Both these entities have played a major role in spreading this misconception among citizens, even without intending to do so. Predominantly, most of the actors and actresses who act in films or feature in advertisements telecasted in televisions are fair-skinned. Be it the lead actors or even the supporting actors, almost all of them are fair-skinned. So, people automatically tend to believe that one has to be fair-skinned to feature in a television advertisement or a film.

So, what exactly is beauty? How can one define beauty? In my personal opinion, beauty has got more to it than just a good skin tone. It has got something to do with our inner self. Our mind is the most important factor which is taken into consideration while determining how beautiful we are. When we possess a positive attitude towards everything that happens in life, we radiate the same to people around us without even realizing. It's like spreading a contagious virus to people with whom we talk to, only that it is harmless and carries an exorbitant amount of positive energy. Hence, having a positive and healthy mind helps not only us, but also the people around us. In fact, people who think positively and look on the bright side of things are found to be more attractive and charming. It is also scientifically proven that when we think of something that makes us happy, our brain actually releases Endorphins - the happiness hormone which gives us a feeling of well-being and as a result, we develop a positive attitude. So, it is highly important to stay positive and optimistic at all times. In conclusion, fair skin is nothing more than a glowing outer covering of our body. It adds no value to our character or our attitude. It might add more value to one's physical appearance, but it has no impactful effect in defining his/her nature. But on the other hand, being cheerful and energetic at all times has its own benefits. A positive mindset is second to none in portraying a better version of a person in society. It makes a person feel more confident and, of course, BEAUTIFUL.

Stay positive; Stay cheerful

- Rahul Ramu
II ECE 'B'

BECOMING CONSCIOUS OF THE UNCONSCIOUS

Have you ever been in a situation where someone was rude to you without reason? I'm sure many of us have encountered these situations in school, college, public transport, or other public places. Let me narrate one such instance from my life when I had to go to a particular office.

I entered the office building with some trepidation. The lady took my application form and went through it. She did not look happy. I was a bundle of nerves. Then she looked up, "Where is the other certificate?" With all the respect I could muster in my nervous state, I said, "Ma'am, I didn't bring that".

She launched on a tirade about common-sense and irresponsible people and told me she wanted me to get it the same day. All my pleas fell on deaf ears. Then my father, who was standing outside, came in and introduced himself. Her entire demeanor changed in a flash.

I often wondered what I did to invoke her wrath. Much later, I came across the term 'unconscious bias'. Unconscious biases are the attitudes that are held subconsciously and affect the way individuals feel and think about the people around them.

We like someone because of their appearance, we look at certain people and decide they are dishonest. We cannot imagine men doing certain types of jobs or women taking up certain roles. It is an effort to work on the biases we are aware of, but to overcome those that we are not aware of seems a humongous task. These biases are not always well-formed, but they are ingrained into our subconscious.

In many interviews, candidates are selected based on 'gut feel'. This is one of the most common yet dangerous instances of unconscious bias. Recruiters feel like they have the ability to judge a person's ability within a limited time and decide whether they are fit for the job. But in reality, they are hiring based on their unconscious biases. This practice can cost the institution money and talent.

It is almost impossible to train people out of their unconscious biases since there is little difference between unconscious bias and instantaneous perception. So how can we mitigate the effects of such biases?

We can appeal to our objectivity in all our important decisions, yet as human beings we are subject to many biases we are unaware of. Research has shown the importance of

recognizing and mitigating such biases. It is important for us to surround ourselves with diverse people, to consciously slow down our decision making and by taking responsibility for our biases, and consequent decisions and actions.

Today, we live in a world where there is no dearth of research or awareness. Every waking moment, we are making judgements on people, on ideas, on things. As students, it is important for us to not only increase our awareness but also act on the issues that we become aware of. By cultivating diverse friendships and by being more inclusive, we are not just being open-minded and helpful, we are laying the foundations for a stronger and more tolerant society.

- Prashobh Saji James
II ECE 'B'