

The Department of
Electronics and Communication Engineering
PRESENTS



Impulse

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EDITOR'S NOTE

Greetings, esteemed readers!

It is with great pleasure that we present to you the latest edition of our college newsletter. As we dive into the fascinating world of academia, we are thrilled to bring you a diverse array of articles, news and updates that encapsulate the spirit of our insitution.

In this edition, we aim to celebrate the achievements and endeavors of our vibrant student community. From groundbreaking research to innovative projects, our students continue to impress with their dedication and passion for knowledge. We are also excited to highlight the exceptional faculty members who play a crucial role in shaping the minds of our students. Their commitment to excellence and their tireless efforts to create engaging learning environments are what truly make our department a hub of intellectual growth and discovery. Furthermore, this edition provides valuable insights into the numerous student-led initiatives and extracurricular activities that contribute to the holistic development of our community.

We also extend our appreciation to the readers for your continued support and engagement, which inspire us to maintain the highest standards of journalistic integrity. Hope you enjoy reading Impulse as much as we did creating it!

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VISITS AND INTERACTIONS

1. Dr. P. Vijayalakshmi, Prof & Head/ECE along with Dr. V. E. Annamalai, Principal/SSN CE and Dr. T. T. Mrinalinee, Prof & Head/CSE attended a meeting with Comcast team on 16.11.2022 and had a discussion on exploring possibilities of internship, value added courses and joint research.

2. Dr. S. Radha, VP/SSNCE, Dr. Esther Florence S, ASP/ECE and Dr. Vimal Samsingh R, ASP/Mechanical, met with a team from Powertronics Pvt. Ltd at Korattur EB substation to discuss collaboration for the “Development of Intelligent Continuous Inline Monitoring System for Powerlines” on 19.12.2022.

3. Dr. S. Radha, VP/SSNCE, Dr. R. Hemalatha, ASP/ECE & Mr. D. Kishore, PG-CS 2022-2024 Batch visited NRCB Trichy and met Dr. R. Selvarajan, Director, NRCB Trichy on 26.12.2022 for data collection using drones and had discussion on the SSTP project.

4. Dr. P. Vijayalakshmi, Prof & Head/ECE along with Dr. Mrinalini Kannan, Project officer, attended the HCL Industrial consultancy progress meeting for the project titled “Development of machine translation systems” on 09.01.2023 and 27.01.2023.

5. Dr. P. Vijayalakshmi, Prof & Head/ECE attended the consultancy progress meeting as a consultant to 4S- Medical systems to discuss the progress made in the project. Dr. Shomeshwar Singh CEO, 4S-Medical systems attended the meeting.

6. Dr. P. Vijayalakshmi, Prof & Head/ECE and Dr. S. Esther Florence, ASP/ECE attended a meeting at Rane NSK steering systems Pvt. Ltd., Chennai to explore mutual areas of cooperation with SSN on 06.02.2023. Dr. P. Vijayalakshmi presented the strengths and research areas of the department of ECE in the meeting.

7. Dr. M. Gulam Nabi Alsath, ASP/ECE convened the MoU initiation meeting with M/s Senesan Technologies Pvt Ltd (STPL) on 08.02.2023. Dr. Deepak Ramprasath, Project Manager, Thiagarajar Telekom Solutions, Madurai along with Mr. Shivakumar, Managing Director, STPL detailed the various levels of collaboration with SSN. Dr. S. Radha, VP/SSN CE and Dr. S. Kirubaveni, ASP/ECE as collaborating faculties attended the meeting.

8. Dr. M. Gulam Nabi Alsath, ASP/ECE and his research team attended the biweekly research meeting with M/s BigCAT Wireless Pvt Ltd on 08.02.2023. The progress made in the product development were discussed during the meeting.

9. Dr. P. Vijayalakshmi, Prof & Head/ECE, Dr. B. S. Sreeja, ASP/ECE, Dr. S. Esther Florence, ASP/ECE had a discussion with a team of doctors from Kauvery Hospitals, Chennai, to explore investing and mentoring support for healthcare related projects carried out in the department of ECE on 08.02.2023.

10. Dr. P. Vijayalakshmi, Prof & Head/ECE attended Cognizant's meeting to discuss plans to strengthen the association between SSNCE and CTS on 10.02.2023.

11. The LRDE CARS project "Design of metasurface-based shared aperture phased array antenna operating at S and X bands" officially ended on 08.01.2023. Dr. K. T. Selvan, Prof/ECE sent the completion report, statement of expenses, and the invoice for the final payment to be made by LRDE on 10.02.2023.

12. Dr. P. Vijayalakshmi, Prof & Head/ECE, Dr. K. Mrinalini, Project Officer, Shiksha project, Mr. V. Vijayaraghavan, Ms. Vinu Abhinaya, Project interns (UG-ECE 2019-2023 Batch)/Shiksha Project presented their project progress on 10.02.2023 and 24.02.2023 to the HCL Team.

13. Dr. M. Gulam Nabi Alsath and Dr. S. Kirubaveni, ASPs/ECE along with Dr. S. Radha, VP/SSN CE executed the MoU with M/s Senesan Technologies Pvt. Ltd. on 10.02.2023. As a part of this MoU, a proposal on "Development of Massive MIMO Antenna" was submitted to Telecom Technology Development Fund, Universal Service Obligation Fund, Department of Telecommunications, Govt on 12.02.2023 with the above team from SSN as Institute Partners and M/s Senesan as Industry Partner. The total cost of the project is Rs. 11.50 Crore.

14. Dr. N. Edna Elizabeth, Prof/ ECE, along with Mr. Girsih Babu, UG-ECE 2019-2023 Batch had a discussion about the student internship at SETS with Ms. Suganya, Scientist SETS, Taramani, and with Ms. J. Renita, RA/SETS on 27.02.2023.

15. Dr. P. Vijayalakshmi, Prof & Head/ECE, Dr. A. Jawahar, Prof/ECE and Dr. M. Gulam Nabi Alsath, ASP/ECE attended a meeting with Managers from Valeo for possible research collaboration on 16.03.2023.

16. Dr. P. Vijayalakshmi Prof & Head ECE along with Dr. K. Mrinalini Kannan, Project officer, Mr. Vijayaraghavan and Ms. Vinu Abhinaya, Project Interns presented the project progress of "Development of machine translation systems for Shiksha Initiative" to the HCL Team on 10.03.2023 & 24.03.2023.

17. NBA team from AMS college of Engineering (accepted as our mentee/spoke institute for Margdarshan scheme) met Dr. A. Jawahar, Prof/ECE, Dr. V. Rajini, Prof & Head/EEE

and Dr. C. Vinothkumar, ISO Coordinator/ECE on March 3, 4 and 10, 2023 and discussed regarding the preparation of NBA documents.

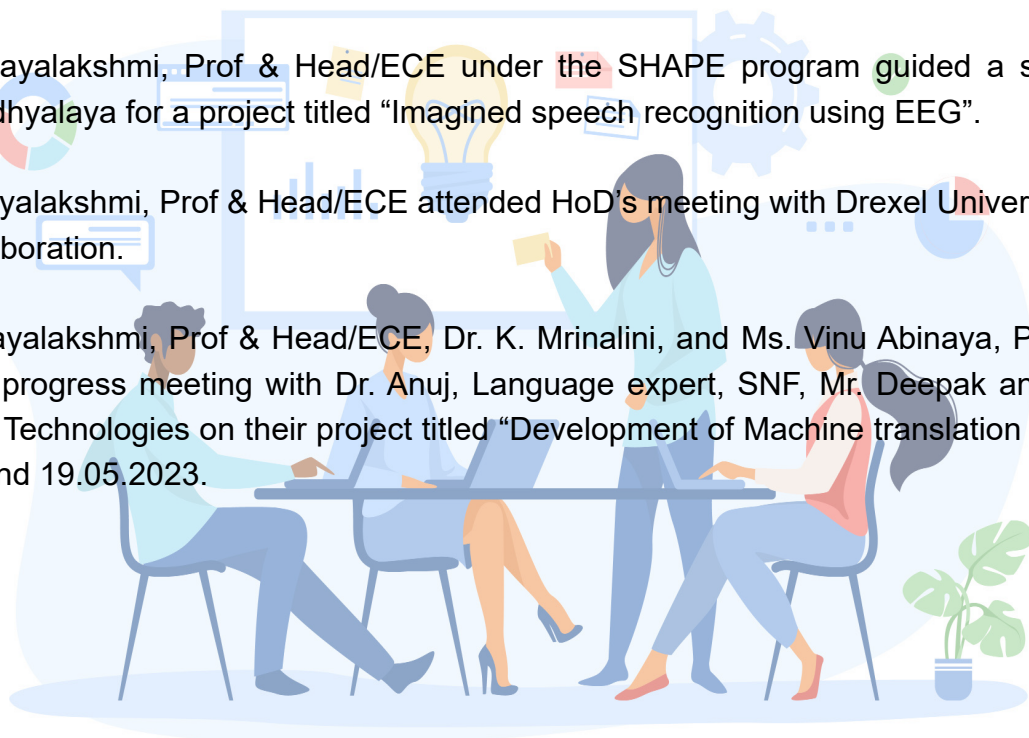
18. Dr. R. Kishore, ASP/ECE & Dr. N. Edna Elizabeth, Prof/ECE attended the meeting with the Water Security team at CEWAR SSN to discuss the further proceedings of the IFFP project titled “Water Security Analysis at Thiruthangal Village, Virudhunagar District” presented last month, on 13.03.2023.

19. Dr. M. Gulam Nabi Alsath and Dr. S. Kirubaveni, ASPs/ECE attended the Telecommunication Technology Development fund project presentation along with the collaborators M/s. Senesan Technologies organized by the Department of Telecommunications, Gol on 25.04.2023. The group presented their proposal on Active Antenna Arrays to the expert committee. The total cost of the project is 11.5 Crore including SSN’s share of Rs. 1.5 Crore.

20. Dr. P. Vijayalakshmi, Prof & Head/ECE under the SHAPE program guided a student from Chinmaya Vidhyalaya for a project titled “Imagined speech recognition using EEG”.

21. Dr. P. Vijayalakshmi, Prof & Head/ECE attended HoD’s meeting with Drexel University team for possible collaboration.

22. Dr. P. Vijayalakshmi, Prof & Head/ECE, Dr. K. Mrinalini, and Ms. Vinu Abinaya, Project intern attended the progress meeting with Dr. Anuj, Language expert, SNF, Mr. Deepak and Ms. Parul Arora of HCL Technologies on their project titled “Development of Machine translation systems” on 05.05.2023 and 19.05.2023.



EXPERT LECTURES

GUEST SPEAKERS

1. Dr. K. T Selvan, Prof/ECE and Dr. G. Durga, ASP/ECE organized a guest lecture by Shri. T. S. Krishnamurthy, Former Chief Election Commissioner. He delivered the lecture titled "Election Laws and reforms" to the second year ECE students on 10.04.2023.
2. Dr. K. T Selvan, Prof/ECE and Dr. G. Durga, ASP/ECE organized a guest lecture by Dr. C. Gopinath, Suffolk University, Boston, USA. He delivered the lecture titled "Gandhi and Money matters" to the second year ECE students on 28.04.2023.
3. Dr. P. Vijayalakshmi, Prof & Head/ECE organized a seminar by Prof. Dr. Beena Ahmed, University of New South Wales, Sydney, Australia on 18.05.2023. Dr. Beena Ahmed delivered a lecture titled "Automatic speech therapy tools" to B.E. ECE students who took Speech Technology as their elective. Around 40 students, research scholars attended the seminar.
4. Dr. S. Ramprabhu, ASP/ECE organized a webinar on "Commercialization of Lab Technologies & Tech-Transfer" by Dr. Asha Srinivasan, Co-Founder & ex-CTO, Boost Environmental Systems, Vancouver, Canada on 07.02.2023.
5. Dr. S. Ramprabhu, & Dr. C. Annadurai, ASPs/ECE organized a webinar on "How do I convert my research/innovation into a startup?" by Mr. Maharajan Veerabahu, Co-Founder & Vice President, e-Con Systems, Chennai on 13.02.2023.

FACULTY AS GUEST SPEAKERS

1. Dr. S. Sakthivel Murugan, ASP/ECE as a resource person delivered a talk on "Effective research proposal and paper writing" at Velammal Engineering College, Chennai on 13.12.2022.
2. Dr. M. Gulam Nabi Alsath, ASP/ECE delivered a guest lecture on "Reflectarray Antennas: A potential candidate for 5G" during the IEEE sponsored five-day FDP on "Recent Trends in 5G Communication Networks" hosted by Sairam Engineering College on 26.12.2022.
3. Dr. S. Esther Florence, ASP/ECE delivered an invited talk on "Textile Antenna" at the 3 day online FDP on "Recent Trends in Antenna Technology" at VIT Chennai on 23.01.2023.
4. Dr. M. Gulam Nabi Alsath, ASP/ECE delivered an invited talk on "Automotive Antennas: Challenges and Opportunities" during the three-day FDP on "Recent Trends in Electronics and Data Science" organized by VIT, Vellore on 06.02.2023.

5. Dr. S. Esther Florence, ASP/ECE delivered an invited talk on “Textile Antenna and investigation on its use as sensors” at the three days online FDP on “Recent Trends in Electronics and Data Science” at VIT Vellore on 07.02.2023.
6. Dr. S. Sakthivel Murugan, ASP/ECE delivered a lecture on “Sensors and its application in underwater Technology” in an FDTP on “Recent Trends in Electronics, Signal Processing and Networking - RTESPN 2023” organized by Departments of Electronics, MIT Campus, Anna University, Chennai on 09.02.2023.
7. Dr. S. Esther Florence, ASP/ECE delivered a talk on “On-body Sensors for Remote Monitoring” at the 2-day Workshop on “Sensors for Industrial IoT” at SSNCE on 11.02.2023.
8. Dr. S. Esther Florence, ASP/ECE delivered a talk at the Awareness Webinar on “Shri Pralhad P. Chhabria Awards” organized by IEEE Madras Section and IEEE Women in Engineering Affinity Group Madras Section in association with IEEE Madras Young Professionals on 13.02.2023.
9. Dr. M. Anbuselvi, ASP/ECE delivered a guest lecture on “FPGA in Deep Learning”, in FDP on “FPGA based Deep Learning Application in Signal Processing”, conducted by Department of ECE, Dr. N. G. P. Institute of Technology, Coimbatore, on 14.02.2023.
10. Dr. Gulam Nabi Alsath, ASP/ECE delivered the keynote address on “Reflectarray Antennas: Opportunities, Design and Development” during the DST SERB sponsored 2nd International Conference on “Artificial Intelligence Computational Electronics and Communication Systems” organized by the Manipal Institute of Technology, MAHE, Manipal on 16.02.2023.
11. Dr. B. S. Sreeja, ASP/ECE gave an invited talk on “Innovations and Inclinations on Microwave Antennas” in an FDP held at the department of ECE, SRM University, Chennai on 20.02.2023.
12. Dr. B. S. Sreeja, ASP/ECE gave an invited talk on “Wearable Technologies for Healthcare Applications” in an FDP held at the Centre for Innovation and Product Development, VIT University, Chennai on 15.03.2023.
13. Dr. S. Ramprabhu, ASP/ECE delivered a keynote address titled “Recent Trends in Communication Systems - An EMI/EMC Perspective” during the AICTE sponsored National Conference on Recent Trends in Artificial Intelligence, Advanced Communication and Smart systems (RTAACS’ 23) organized by KPR Institute of Engineering and Technology, Arasur, Coimbatore on 31.03.2023.
14. Dr. P. Vijayalakshmi, Prof & Head/ECE delivered a lecture titled “Signal processing guided machine learning” in IEEE SPS sponsored FDP on Machine learning for signal processing: Applications and research challenges on 15.05.2023.

EVENTS ORGANIZED

FIVE DAY FDP ON “ADVANCEMENTS IN ANTENNA DESIGN TECHNIQUES”

Dr. M. Gulam Nabi Alsath, Dr. S. Ramprabhu and Dr. S. Kirubaveni, ASPs/ECE organized a Five Day FDP on “Advancements in Antenna Design Techniques” from December 05-09, 2022.

WORKSHOP ON “SENSORS FOR INDUSTRIAL IOT”

Dr. S. Esther Florence, Dr. R. Hemalatha, Dr. K. Muthumeenakshi, ASPs/ECE organized a workshop on “Sensors for Industrial IoT” during February 10-11, 2023.

FDP ON “FUTURISTIC TECHNOLOGIES IN HEALTHCARE”

Dr. P. Vijayalakshmi, Prof & Head/ECE, Dr. B. Ramani & Dr. W. Jino Hans, ASPs/ECE organized an FDP on “Futuristic Technologies in Healthcare” during March 23-24, 2023.

THREE-DAY WORKSHOP ON “INTEL FPGAs FOR EMBEDDED, AI/ML AND HETEROGENEOUS COMPUTING APPLICATIONS”

Dr. P. Vijayalakshmi, Prof & Head/ECE, Dr. R. Rajavel, ASP/ECE & Dr. S. Karthie, ASP/ECE in association with Intel Technologies India Pvt Ltd., Bengaluru organized a 3-day Workshop on “Intel FPGAs for Embedded, AI/ML and Heterogeneous Computing Applications” during February 9-11, 2023.

WORKSHOP ON “WORKSHOP WITH ALUMNI FOR FUTURE ALUMNI V 7.0”

Dr. S. Sakthivel Murugan, ASP/ECE organized the workshop on “Workshop with alumni for future alumni V 7.0” on March 24, 2023.

“INTRODUCTION TO SEMICONDUCTOR INDUSTRY AND VLSI”

A technical talk by Edveon Technologies Private Limited titled, “Introduction to Semiconductor Industry and VLSI” was organized by Dr. A. Jawahar, Prof/ECE and Dr. G. Durga, ASP/ECE on 21.03.2023.

“NATIONAL CONFERENCE ON INFORMATION AND COMMUNICATION TECHNOLOGIES(NCICT 2023)”

Dr. P. Kaythry, Dr. G. Durga, Dr. C. Vinoth Kumar, and Dr. S. Karthie, ASPs/ECE conducted “National Conference on Information and Communication Technologies (NCICT 2023)” on 17.03.2023.

“8TH INTERNATIONAL CONFERENCE ON WIRELESS COMMUNICATIONS, SIGNAL PROCESSING AND NETWORKING (WISPNET-2023)”

Date: March 29-31, 2023

Organizing Committee: Dr. P. Vijayalakshmi, Prof & Head/ECE was the conference Chair, Dr. K. T. Selvan, Prof/ECE, Dr. R. Rajavel & Dr. S. Sakthivel Murugan, ASPs/ECE acted as the Organizing chairs for the same.

Keynote Speakers: A total of 7 invited & keynote talks were delivered by eminent speakers. The eminent speakers include Dr. Hugo Espinosa, Griffith University, Australia, Dr. Aryan Kaushik, University of Sussex, UK, Dr. T. Nandha Kumar, University of Nottingham, Malaysia Campus, Dr. David Koilpillai, Dr. Udhay Khankhoje, IIT Madras, Dr. Tata Sudhakar, NIOT, Chennai and Mr. Ajay Kumar Vaidhiyanathan, INTEL, Bengaluru.

“MEASUREMENT POSSIBILITIES USING MICROWAVE ANALYZER”

As an initiative, Dr. P. Vijayalakshmi, Prof & Head/ECE and Dr. B. Ramani, ASP/ECE organized a Skill development program - Hands-on Training on “Measurement Possibilities using Microwave Analyzer” for the technical assistants of SSN CE on 29.04.2023.

“RF DEVICE CHARACTERIZATION USING VNA”

Dr. P. Vijayalakshmi, Prof & Head/ECE and Dr. B. Ramani, ASP/ECE organized a Skill development program - Hands-on Training on “RF device characterization using VNA” for the technical assistants of SSN CE on 13.05.2023.

A TALK ON “THE EVOLVING WORLD OF WORK:A LECTURE IN THREE CHAPTERS” AND “INDUSTRY READY ENGINEER - INDUSTRY ACADEMIA COLLABORATION”

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

- ♦ Dr. Francis Kuriakose, Cambridge Development Institute, UK, on “The evolving world of work: a lecture in three chapters” on 17.02.2023.
- ♦ Manoj Raghavan, MD & CEO, Tata Elxsi, on “Industry ready engineer - Industry academia collaboration” on 01.12.2022.

EVENTS ATTENDED

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1. Dr. K. J. Jegadish Kumar, ASP/ECE participated in the webinar series on “Advancements in Antenna Design Techniques” organized by the Department of Electronics and Communication Engineering, SSNCE during December 05-09, 2022.
2. Dr. M. Anbuselvi, ASP/ECE participated and successfully completed the Online FDP on “Introductory UHV” organized by AICTE, during January 16-20, 2023.
3. Dr. S. Hanis, ASP/ECE attended a workshop on “Course Design” at SSN School of Advanced Career Education on January 19-20, 2023.
4. Dr. S. Hanis, ASP/ECE attended a lecture by Prof. Praveen Garimella on “Collaborative Course Design” on 11.02.2023.
5. Dr. S. Karthie, ASP/ECE attended a webinar on “Millimeter-Wave and Terahertz Solutions in SiGe BiCMOS Technologies” by Prof. Dietmar Kissinger, organized by IEEE IISc MTT/APS Student Branch Chapter, in association with IEEE University Partnership Program, and IEEE Bangalore Section on 15.02.2023
6. Dr. P. Vijayalakshmi, Prof & Head/ECE attended the “leadership Conclave” conducted by Shiv Nadar Foundation on 17-18 February, 2023 at SSNCE, Chennai.
7. Dr. P. Vijayalakshmi, Prof & Head/ECE, Dr. B. Ramani, ASP/ECE, Dr. W. Jino Hans, ASP/ECE attended the Distinguished Lecturer talk (DLP) on “Neural Language Generation: From Self-Supervised Representation Learning to Multimodal Contextualization” by Dr. Nancy F. Chen, AI Researcher -Institute for Infocomm Research (I2R) |A*STAR, Singapore organized by IEEE-SPS Madras Chapter in association with Sri Sai Ram Engineering College, IEEE SPS Student branch chapter on 22.02.2023.
8. Dr. M. Gulam Nabi Alsath, Dr. S. Ramprabhu and Dr. S. Karthie, ASPs/ECE attended the two-day “Discovery Workshop” organized by the SSN School of Advanced Career Education on March 17-18, 2023.
9. Dr. B. Partibane, ASP/ECE participated and successfully completed the one month-long faculty development module on “Effective Teaching of Computer Networks” Certificate in Computer Science Education (CSEDU), Organized by Indraprastha Institute of Information Technology, Delhi during March to April 2023.
10. Dr. P. Vijayalakshmi, Prof & Head/ECE attended the seminar presented by Prof. Hema A. Murthy, Department of CSE, IIT Madras, titled “Signal Processing guided Machine learning” on 28.04.2023 at IIT Madras.

PROFESSIONAL ROLES AND RECOGNITIONS

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- Dr. P. Vijayalakshmi, Prof & Head ECE is appointed as co-area chair for Speech, Voice and Hearing Disorder in INTERSPEECH 2023.
- Dr. S. Hanis, ASP/ECE and Dr. M. Anbuselvi, ASP/ECE have been recognized as PhD supervisors of Anna Univeristy.
- Dr. P. Kaythry, ASP/ECE, NSS PO received an Appreciation certificate from Environmentalist Foundation of India for long time volunteering association.
- Dr. R. Hemalatha ASP/ECE acted as session chair in the 4th IEEE International Conference on Advances in Computing, Communication Control and Networking (ICAC3N-22) organized by Galgotias College of Engineering and Technology, Noida during December 16-17, 2022.
- Dr. N. Edna Elizabeth, Prof/ECE acted as session chair for the International Conference on Security and Data Privacy (ICS DP 2022) held on 15.12.2022 at SSN College of Engineering.
- Dr. N. Edna Elizabeth, Prof/ECE acted as session chair for the International Conference on Security and Data Privacy (ICS DP 2022) held on 15.12.2022 at SSN College of Engineering.
- Dr. B. S. Sreeja, ASP/ECE acted as Session Chair in the Ninth International Conference on Biosignals, Images, and Instrumentation (ICBSII) organized by Dept. of BME, SSN College of Engineering held during March 16-17, 2023.
- Dr. A. Jawahar, Prof/ECE acted as Session Chair in the 8th National Conference on Information and Communication Technologies (NCICT'23) organized by Dept. of ECE, SSN College of Engineering held on 17.03.2023.
- Dr. K. Muthumeenakshi, ASP/ECE chaired a paper presentation session in the 9th International Conference on Biosignals, Images and Instrumentation organized by the department of Biomedical Engineering, SSN College of Engineering on 17.03.2023.
- Dr. K. J. Jegadish Kumar, ASP/ECE acted as Judge in project exhibition - 2023 at Sri Sairam Engineering College, Chennai on 23.03.2023.
- Dr. R. Kishore, ASP/ECE is recognized as International Conference Advisory Committee Member for "International Conference on Smart Electronics & Communication Technologies (ICSECT-2023)" organized by Periyar Maniammai Institute of Science and Technology, Vallam, Thanjavur.

- Dr. P. Vijayalakshmi, Prof & Head/ECE conducted viva-voce examination for a candidate of University of Kerala as a chairman of the examination committee/ Indian examiner on 03.04.2023.
- Dr. S. Sakthivel Murugan, ASP/ECE acted as session chair for Signal Processing in the Second International conference on Recent Advances in Electrical, Electronics, Ubiquitous Communication, and Computational Intelligence: RAEEUCCI-2023 organized by the Department of ECE, SRMIST, Kattankulathur campus under the technical sponsorship of IEEE on 20.04.2023.
- Dr. P. Kaythry, ASP/ECE acted as session chair in the International e-conference on “Technological innovations on digital management and sustainable development in Smart Villages” organized by Easwari Engineering college on 20.04.2023.
- Dr. S. Sakthivel Murugan, ASP/ECE was a subject expert and alumnus for the Board of Studies (BoS) meeting for Electronics and Communication at Mahendra Engineering College on 21.04.2023.
- Dr. P. Vijayalakshmi, Prof & Head/ECE as an interview board member attended the ECE faculty recruitment of Loyola ICAM and interviewed around 13 candidates on 24.04.2023.
- Dr. A. Jawahar, Prof/ECE attended External Research Advisory Committee meeting for a research scholar at Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology on 26.04.2023.
- Dr. A. Jawahar, Prof/ECE attended External Research Advisory Committee meeting for a research scholar at Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology on 26.04.2023.



RESEARCH CORNER

RESEARCH GRANTS

- ▶ The project titled “**Real-time multi-dialect automatic speech recognition system for Tamil**” is sanctioned by Tamil Virtual Academy. An amount of Rs.13.77 Lakh is sanctioned to carry out the project. Dr. B. Bharathi ASP/CSE is PI and Dr. P. Vijayalakshmi, Prof & Head/ECE and Dr. T. Nagarajan Prof & Head/CSE, SNUC are the Co-PIs for the project.
- ▶ The project titled “**A powered EMG-based embedded system controlled transfemoral prosthesis**” is sanctioned under SERB-CRG for an amount of Rs. 34.81 lakh. The project has Dr. G. Satheeshkumar, ASP/Mech as PI and Dr. P. Vijayalakshmi, Prof & Head, ECE, and Dr. M. Dhanalakshmi AP/BME as Co-PIs.
- ▶ Dr. A. Jawahar, Prof/ECE as PI and R. Kishore, Dr. N. Prabagarane, ASPs/ECE as Co-PIs received the IFFP grant of Rs. 2.5 Lakh for the project titled “**Real time water quality monitoring system for Thenpennai River (Development of prototype model as proof of concept)**”.

PROJECT NEWS

- ▶ Dr. M. Gulam Nabi Alsath, ASP/ECE, Dr. S. Radha, VP/SSN CE signed the Statement of Work Document with **BigCAT Wireless Pvt Ltd** on 20.01.2023 with a note on extension of the ongoing project for the next one year starting July 2022 till June 2023.
- ▶ Dr. R. Selvarajan, Director/NRCB as main PI, Dr. S. Radha, VP/SSN CE as PI and Dr. R. Hemalatha, ASP/ECE as Co-PI submitted a collaborative proposal titled “**Development of a multi-use, artificial intelligence (AI) based, internet of things (IoT) compatible, decision support system (DSS) for varietal identification, plant health monitoring, and yield prediction in precision banana farming**” to DBT along with NRCB as lead institute, ISRO, IIAT and PSG. The funding for SSN in this project is worth Rs. 43.71 Lakh. The total cost of the project is Rs. 2.18 Cr.
- ▶ Dr. B. Padmanaban, Former Principal Scientist, ICAR, New Delhi, Research Coordinator, Jamal Mohamed College, Trichy, Dr. S. Radha, VP/SSN CE, Dr. R. Hemalatha, ASP/ECE, and Dr. S. Angel Deborah, AP/CSE, submitted a proposal titled “**Sustainable Management of Red Palm Weevil using IoT technology for the early detection of Red Palm Weevil and sustainable management of the pest by applying bio-formulation to trees via drones (a plant-derived material induce systemic resistance against all biotic stresses)**” to QRD “Early detection of Red Palm Weevil” innovation challenge, Ministry of Qatar, UAE through NineSights, the NineSigma innovation community. The total cost of the proposal is Rs. 80 Lakh.

- ▶ Dr. B. S. Sreeja, ASP/ECE as PI, Dr. S. Radha, VP/SSN CE and Dr. M. Srinivasan/SSN RC as Co-PIs submitted a proposal titled **“Development of Cost-Effective Lifetime Enhanced Continuous Glucose Monitoring Electrochemical Sensors for Type I Diabetes Mellitus - A Micro Needle-Based Approach”** to DST SERB worth Rs. 28.2 Lakh.
- ▶ Dr. B.S. Sreeja, ASP/ECE as PI, Dr. S. Radha, VP/ SSN CE, Dr. M. Srinivasan, SSNRC, Dr. Sachin G. Sarate, AP/BME, Dr. Meenakshi Sundaram, Cilinician, Saveetha Dental College, as Co-PIs submitted a proposal titled **“Wearable, Ultra Low Cost, Automatic, Painless Insulin administrating Transdermal Delivery System”** to BIRAC- Big Grant Scheme for funding worth Rs.50 lakhs.
- ▶ Dr. B.S. Sreeja, ASP/ECE as PI, Dr. S. Radha, VP/ SSN CE, Dr. P. Gopinath, Prof/IITR, Dr. M. Srinivasan, SSNRC, Dr. Meenakshi Sundaram, Clinician, Saveetha Dental College, Dr. Fouziya Sulthana, ASP/SRMIST, Dr. C. Joshitha, ASP/KL University, Dr. R. Saranya, ASP/ REC, as Co-PIs submitted a proposal titled **“Integrated Continuous Glucose monitoring sensor with Insulin delivery system - a sustainable approach for health care”** to SDGF UN30 for funding worth Rs. 3.26 Cr.
- ▶ Dr. R. Kalidoss, ASP/ECE as PI, Dr. B. Partibane, ASP/ECE and Dr. K. S. Vishvaksenan, ASP/ECE as Co-PIs submitted a proposal titled **“Design and Implementation of Artificial Intelligence Enabled Internet-of-things for smart cities: Traffic Assistance and Waste Management”** to Chief Minister’s Research Grant-2023 for funding worth Rs.34.57 Lakh.
- ▶ Dr. N. Edna Elizabeth, Prof/ECE as PI, Dr. R. Kishore ASP/ECE, Dr. S. Hanis ASP/ECE, Dr. N. Prabagarane, ASP/ECE and Dr. Samuel Wesley Prof/NIFT Taramani, Chennai as Co-PIs submitted a proposal titled **“Development of Artificial Intelligence based expert auto fit analyzer for women’s upper garment”** to SERB-CRG for funding worth Rs.46.02 Lakhs.
- ▶ Dr. N. Edna Elizabeth, Prof/ECE as PI submitted a proposal titled **“Analysis and Implementation of Elliptic Curve Cryptographic (ECC) algorithm in lightweight devices for Smart Applications”** to SERB-MATRICES for funding worth Rs. 6 Lakh.
- ▶ Dr. R. Kishore, ASP/ECE as PI submitted a proposal titled **“Studies on the possibilities of using the properties of elliptic curve arithmetic for secure communication in real time applications”** to SERB MATRICES for funding worth Rs. 6 Lakh.
- ▶ Dr. R. Hemalatha, ASP/ECE as PI, Dr. S. Radha, VP/SSN CE, Dr. S. Angel Deborah, AP/ CSE, Dr. M. Alagar, AP/Entomology/TNAU, Dr. P. Latha, AP/Plant Pathology/TNAU and Dr. V. Baskaran, AP/Entomology/TNAU as Co-PIs submitted a proposal titled **“Early Rapid Detection and management of Red Palm Weevil in Coconut Plantations using LoRA enabled Acoustic Sensing Network”** to SERB CRG for funding worth Rs. 65.42 Lakhs.
- ▶ Dr. B. S. Sreeja, ASP/ECE as PI, Dr. S. Radha, VP/SSN CE, Dr. M. Srinivasan, Research Scientist/SSNRC, as Co-PIs submitted a proposal titled **“Design and Implementation of Novel Hybrid Thermoelectric Power Generator and Storage System for Efficient Waste Heat Recovery”** to SERB-CRG for funding worth Rs. 36 Lakh.
- ▶ Dr. R. Amutha, Prof/ECE as PI, Dr. C. Vinoth Kumar, ASP/ECE and Dr. K. S. Gayathri, AP/IT as

Co-PIs submitted a project proposal titled, “**Development of Air-writing Recognition System for Tamil alphabets to enhance the Learning Skills of Special Children of Tamil Nadu**” to Chief Minister’s Research Grant (CMRG) for funding worth Rs. 30.45 Lakh.

- ▶ Dr. A. Jawahar, Prof/ECE as primary applicant, Dr. R. Kishore, Dr. P. Kaythry, Dr. C. Vinoth Kumar, Dr. N. Prabagarane, ASPs/ECE as co-applicants submitted the project titled “**Improving the Hygiene and Sanitation facility for the Rural Government School Students**” worth 8240 USD for the 2023 IEEE HTB/SIGHT Projects.
- ▶ Dr. P. Vijayalakshmi, Prof & Head/ECE along with a 7-member faculty team submitted a project proposal to Department of Telecommunication, Ministry of Communications to setup “**5G use case labs**” in the department of ECE on 24.04.2023.

BOOKS AND BOOK CHAPTERS

- ▶ Ms. A. Gowthami, RS/ECE, Dr. B. S. Sreeja, ASP/ECE, Dr. S. Radha, VP/SSN CE published a book chapter titled “**Transdermal Injection with Microneedle Devices in Healthcare Sector: Materials, Challenging Fabrication Methodologies, and its Limitations**” In: Guha, K., Dutta, G., Biswas, A., Srinivasa Rao, K. (eds) in MEMS and Microfluidics in Healthcare, Lecture Notes in Electrical Engineering, vol. 989, pp. 183-201, Springer, Singapore, March 2023.
- ▶ Mr. J. Prithvi, RS/ECE, Dr. B. S. Sreeja, ASP/ECE, Dr. S. Radha, VP/SSN CE, Dr. C. Joshitha, Faculty/ Koneru Lakshmaiah Education Foundation, Ms. A. Gowthami, RS/ECE published a book chapter titled “**Critical Review and Exploration on Micro-pumps for Microfluidic Delivery**” In: Guha, K., Dutta, G., Biswas, A., Srinivasa Rao, K. (eds) in MEMS and Microfluidics in Healthcare, Lecture Notes in Electrical Engineering, vol. 989, pp. 65-100, Springer, Singapore, March 2023.

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- ▶ Dr. R. Vimal Samsingh, ASP/Mech, Dr. S. Esther Florence, ASP/ECE, and Mr. K. Aditya, Mr. S. Akash, Mr. A. Ashwin, Mr. R. Gautam filed a patent on their invention titled “**Wearable Self-Balancing, Configurable Mobility Assistance Apparatus**” bearing application number 202241026270 on 17.03.2023.
- ▶ Dr. M. Gulam Nabi Alsath & Dr. S. Kirubaveni, ASPs/ECE filed the FER response to IPR, Guindy for the patent application number 202241063131 on 28.03.2023.
- ▶ A patent (No.430222) for the application entitled “**A System, Device and Method for Plant Disease Detection and Alert**” got granted on 27.04.2023 with effect from 01.11.2020. The inventors are Dr. S. Radha, VP/SSN CE, Dr. R. Selvarajan, Director/NICE, Dr. R. Hemalatha, ASP/ECE and Dr. S. Aasha Nandhini, AP/SRMIST.

JOURNAL PUBLICATIONS

- ▶ Mr. S. Johanan Joysingh, RS/SSN, Dr. P. Vijayalakshmi, Prof & Head/ECE, Dr. T. Nagarajan, Prof & Head/CSE/SNU Chennai published a paper titled **“Quartered Spectral Envelope and 1D-CNN-Based Classification of Normally Phonated and Whispered Speech”** in the journal Circuits, Systems and Signal Processing, December 2022 (Published online) DOI: 10.1007/s00034-022-02263-5.
- ▶ Dr. C. Annadurai, ASP/ECE, Dr. I. Nelson, ASP/ECE, Dr. K. Nirmala Devi, Faculty/Kongu Engg. College, Dr. R. Manikandan, Faculty/SASTRA, Dr. Amir H. Gandomi, Prof/ University of Technology Sydney published a paper titled **“Image Watermarking Based Data Hiding by Discrete Wavelet Transform Quantization Model with Convolutional Generative Adversarial Architectures”** in MDPI Applied Sciences, vol. 13 (2), 804, pp. 1-16, January 2023.
- ▶ Mr. J. Joannes Sam Mertens, Dr. N. Edna Elizabeth, Prof/ECE, Dr. P. Kaythry published a paper titled **“On-Board Diagnostics Based In-Vehicle Monitoring System Using Internet of Vehicles”** in Gradiva Review Journal, vol. 9 (1), pp. 504-509, January 2023.
- ▶ Ms. M. J. Anitha, Faculty/CPT, Dr. R. Hemalatha, ASP/ECE published a paper titled **“Efficient Crack Severity Level Classification Using Bilayer Detection for Building Structures”** in Computer Systems Science and Engineering, vol. 46 (1), pp. 1183-1200, January 2023.
- ▶ Ms. K. Bhuvaneswari, RS/ECE, Dr. S. Radha, VP/SSN CE, Dr. B. S. Sreeja, ASP/ECE, Dr.G. Palanisamy/SSN RC, Dr. T. Pazhanivel, Periyar University published a paper titled **“Study of the morphological, structural and photophysical properties of surfactant modified nano-zero valent iron: electrochemical determination of metal ions and photocatalytic degradation of organic dye”** in Journal of Materials Science: Materials in Electronics, vol.34:277, pp.1-13, January 2023.
- ▶ Ms. K. Bhuvaneswari, RS/ECE, Dr. B. S. Sreeja, ASP/ECE, Dr. S. Radha, VP/SSN CE, Dr. J. Saranya, Faculty/REC, Dr. G. Palanisamy/SSN RC, Dr. M. Srinivasan/SSN RC, Dr. T. Pazhanivel, Periyar University published a paper titled **“Facile assembly of effective carbon quantum dots and multiwall carbon nanotubes supported MnO₂ hybrid nanoparticles for enhanced photocatalytic and anticancer activity”** in Inorganic Chemistry Communications, vol. 148, 110250, pp. 1-10, February 2023.
- ▶ Dr. S. Hanis, ASP/ECE, Dr. R. Amutha, Prof/ECE published a paper titled **“Extended logistic map for encryption of digital images”** in the International Journal of Nonlinear Sciences and Numerical Simulation, vol. 23 (7-8), pp. 985-1000, December 2022
- ▶ Ms. R. Kiruthika, RS/ECE, Dr. S. Radha, VP/SSNCE, Dr. S. Kirubaveni, ASP/ECE, Ms. V. Shyamala, RS/ECE, Dr. G. Iyappan, Dr. R. Govindaraj, SSNRC published a paper titled **“Experimental validation of TiO₂ shielded ZnO nanorods synthesized via low temperature**

solution-based method for sewage system (Gas (CO and CH₄) and acceleration sensing)” in the Journal of Vibration Engineering & Technologies, December 2022 (Published Online), pp. 1-4.

- ▶ Dr. R. Swathika, AP/IT, Dr. N. Radha, ASP/IT, Dr. K. S. Vishvaksenan, ASP/ECE published a paper titled **“Miniaturized Multi-Spectral Perfect Metamaterial Absorber for THz Sensing, Imaging and Spectroscopic Applications”** in the journal Plasmonics, pp. 1-9, January 2023 (Published Online).
- ▶ Ms. R. Kiruthika, RS/ECE, Dr. S. Radha, VP/SSNCE, Dr. S. Kirubaveni, ASP/ECE published a paper titled **“Development of Eco-Friendly TiO₂ Doped ZnO Nanorods Based Dual Functional Sensor for the Sewage System Monitoring”** in IEEE Transactions on Nanotechnology, vol. 22, pp. 45-51, January 2023.
- ▶ Mr. B. G. Parveez Shariff, MAHE-MIT, Ms. Pallavi, R Mane, RS/MAHE - MIT, Dr. Pradeep Kumar, Prof/University of KwaZulu-Natal, Durban, Dr. Tanweer Ali, ASP/MAHE-MIT, Dr. M. Gulam Nabi Alsath, ASP/ECE published a paper titled **“Planar MIMO antenna for mmWave applications: Evolution, present status & future scope”** in the journal Heliyon, vol. 9 (2), pp. 1-32, e13362, February 2023.
- ▶ Dr. S. Karthie, ASP/ECE & Ms. SL. Manibala published a paper titled **“Novel fractal-based dual-mode quasi-elliptic microstrip band-pass filter for WLAN applications”** in the journal Applied Physics A, vol. 129 (3), pp. 1-10, February 2023.
- ▶ Dr. N. Edna Elizabeth, Prof/ECE, Ms. R. Priyanka, Ms. M. M. Muni Priya Darsni, UG-ECE 2018-2022 Batch students published a paper titled **“Prevention of Road Accidents Using Machine Learning”** in Journal for Basic Sciences, vol. 23 (2), pp. 93-101, February 2023.
- ▶ Mr. R. Amrish, K. Bavapriyan, V. Gopinaath, UG-ECE 2018-2022 Batch students, Dr. A. Jawahar, Prof/ECE, Dr. C. Vinoth Kumar, ASP/ECE published a paper titled **“DDoS Detection using Machine Learning Techniques”** in the Journal of IoT in Social, Mobile, Analytics, and Cloud, vol. 4 (1), pp. 24-32, March 2022.
- ▶ Dr. V. Kannagi, Faculty/RMK College of Engg. & Tech, Dr. A. Jawahar, Prof/ECE, Dr. Vijay Nath, Faculty/BIT-Mesra published a paper titled **“A Novel Design of Epidermal Flexible Antenna on Supraorbital Nerve to Correlate Diabetes and Anemia”** in IETE Journal of Research, pp.1-11, December 2022 (Published Online) DOI:10.1080/03772063.2022.2150694.
- ▶ Ms. S. Harika, RS/EEE, Dr. R. Seyezhai, Prof/EEE, Dr. A. Jawahar, Prof/ECE published a paper titled **“High Linear Voltage Gain in QZNC Through Synchronizing Switching Circuits”** in the journal Intelligent Automation & Soft Computing, vol.36 (1), pp. 895-910, 2023.
- ▶ Ms. A. Gowthami, RS/ECE, Dr. B. S. Sreeja, ASP/ECE, Dr. S. Radha, VP/SSN CE published a paper titled **“Design, analysis and fabrication of solid polymer microneedle patch using CO₂ laser and polymer molding”** in the Drug Delivery and Translation Research, vol. 1, pp. 1-15, February 2023 (Published Online), DOI: 10.1007/s13346-023-01296-w

- ▶ Dr. S. Hanis, ASP/ECE published a paper titled **“A new sine-ikeda modulated chaotic key for cybersecurity”** in Intelligent Automation & Soft Computing, vol. 36 (1), pp. 865-878, March 2023.
- ▶ Ms. N. Kavitha, RS/ECE, Dr. M. Gulam Nabi Alsath, ASP/ECE, Dr. S. Kirubaveni, ASP/ECE published a paper titled **“Design and analysis of single layer Ku/K band integrated element reflectarray antenna”** in the International Journal of Microwave and Wireless Technologies, pp. 1-10, March 2023 (Published Online), DOI: 10.1017/S1759078723000132
- ▶ Mr. L. B. Thamil Amudhu, RS/Mech, Dr. R. Vimal Samsingh, ASP/Mech, Dr. S. Esther Florence, ASP/ECE and Dr. B. Sakthi Abirami, Faculty/Amrita Vishwa Vidyapeetham University published a paper titled **“Low-Profile Polymer Composite Radar Absorber Embedded with Frequency Selective Surface”** in IEEE Transactions on Components, Packaging and Manufacturing Technology, pp. 1-4, March 2023 (Published Online).
- ▶ Dr. P. Nirmala, Faculty/VIT Chennai, Dr. R. Kishore, ASP/ECE, Dr. J. Florence Gnana Poovathy, Faculty/VIT Chennai, Mr. Yeshwant Santhanakrishnan Premanand, Rochester Institute of Technology, USA, Mr. Sanjeeve Raveenthiran Mallichetty, Northeastern University, Boston, USA and Mr. Pramod Kumar, VIT Chennai published a paper titled **“Pixel Intensity Resemblance Measurement and Deep Learning Based Computer Vision Model for Crack Detection and Analysis”** in MDPI Sensors, vol. 23 (6): 2954, pp. 1-19, March 2023 (Published Online).
- ▶ Dr. P. Saravanan, ASP/EEE, Dr. M. Anbuselvi, ASP/ECE, Mr. H. Gokul, Mr. Akshay Kumar published a paper titled **“Low Cost and Compact Electrostatic Precipitator Model Controlled by Smoke Detector”** in the IOP Conf. Series: Earth and Environmental Science, vol. 1100, pp. 20-29, March 2023.
- ▶ Ms. A. Gowthami, RS/ECE, Dr. B. S. Sreeja, ASP/ECE, Dr. S. Radha, VP/SSN CE published a paper titled **“Effect of hollow microneedle geometry structure on mechanical stability and microfluidic flow for transdermal drug delivery applications”** in Microfluidics and Nanofluidics, vol. 27, 25, March 2023 (Published Online), DOI: 10.1007/s10404-023-02636-5.
- ▶ Ms. K. Bhuvaneswari, RS/ECE, Dr. S. Radha, VP/SSN CE, Dr. B. S. Sreeja, ASP/ECE, Dr. P. Senthil Kumar, Prof/Chem published a paper titled **“Development of in-situ electrochemical heavy metal ion sensor using integrated 1D/0D/1D hybrid by MWCNT and CQDs supported MnO₂ nanomaterial”** in Environmental Research, vol. 225, 115570, May 2023.
- ▶ Ms. A. Jasmine Vijithra, RS/ECE, Dr. M. Gulam Nabi Alsath, ASP/ECE, Dr. S. Sangeetha, AP/VIT published a paper titled **“A four-port wideband filtering monopole MIMO array for sub-6 GHz 5G communications”** in the International Journal of Microwave and Wireless Technologies, pp. 1-10, April 2023 (Published Online), DOI: 10.1017/S1759078723000375
- ▶ Ms. A. Jasmine Vijithra, RS/ECE, Dr. M. Gulam Nabi Alsath, ASP/ECE published a paper titled **“A novel filtering monopole antenna for 5G communications”** in COMPEL :The International Journal for Computation and Mathematics in Electrical and Electronic Engineering, pp. 1-10, April 2023 (Published Online), DOI: 10.1108/COMPEL-12-2022-0435

- ▶ Dr. K. S. Vishvakshan, ASP/ECE, Dr. R. Kalidoss, ASP/ECE, Dr. B. Partibane, ASP/ECE, Ms. E. Nivetha, published a paper titled **“Broadband Multiple input Multiple output antenna for sub 6 GHz 5G communications”** in the International Journal of communication systems, pp. 1-11, April 2023 (Published Online), DOI: 10.1002/dac.5506
- ▶ Dr. M. Akila, Dr. K. T. Selvan, Prof/ECE published a paper titled **“On the effect of array size on the radar cross section reduction bandwidth of checkerboard metasurfaces”** in the journal Frequenz, vol.77, pp.273-279, May 2023.
- ▶ Dr. G. Padmalaya, CEWAR/Chemical, Dr. K. Krishna Kumar, CEWAR/Chemical, Dr. P. Senthil Kumar, Prof/Chemical, Dr. B. S. Sreeja, ASP/ ECE, Ms.A. Sanchali Bose, RS/Chemical published a paper titled **“A recent advancement on nanomaterials for electrochemical sensing of sulfamethaoxole and its futuristic approach”** in Chemosphere, vol. 290, p. 133115, March 2022.
- ▶ Dr. P. Senthil Kumar, Prof/Chemical, Dr. G. Padmalaya, CEWAR/Chemical, Dr. N. Elavarasan, CEWAR/Chemical, Dr. B. S. Sreeja, ASP/ECE published a paper titled **“GO/ZnO nanocomposite - as transducer platform for electrochemical sensing towards environmental applications”** in Chemosphere, vol. 313, p. 137345, February 2023.
- ▶ Dr. B. Ashvanth, Faculty/Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Dr. B. Partibane, ASP/ECE published a paper titled **“Terahertz Metamaterial Absorbers With Fixed, Controllable, and Tunable Multiband Characteristics”** in the Journal of Optoelectronics and Advanced Materials, vol. 25, issue 3-4, pp. 112-120, April 2023.
- ▶ Ms. K. Bhuvaneswari, RS/ECE, Dr. S. Radha, VP/SSN CE, Dr. B. S. Sreeja, ASP/ECE, Dr. P. Senthil Kumar, Prof/Chem published a paper titled **“Development of in-situ electrochemical heavy metal ion sensor using integrated 1D/0D/1D hybrid by MWCNT and CQDs supported MnO₂ nanomaterial”** in Environmental Research, vol. 225, 115570, April 2023.
- ▶ Dr. S. Aasha Nandhini, AP/SRMIST, Dr. R. Hemalatha, ASP/ECE, Dr. S. Radha, VP/SSNCE, Ms. Shreya Gaur, UG-ECE 2017-2021 Batch, Dr. R. Selvarajan, Director/NRCB published a paper titled **“A smart agriculturing IoT system for banana plants disease detection through inbuilt compressed sensing devices”** in Multimedia Tools and Applications, pp. 1-21, May 2023 (Published Online).
- ▶ Ms. N. Kavitha, RS / ECE, Dr. M. Gulam Nabi Alsath, ASP / ECE, Dr. S. Karthie, ASP/ECE published a paper titled **“Development of Bandwidth Enhanced X-Ku Band Reflectarray Antenna Using a Novel Design Strategy”** in the International Journal of Communication Systems, May 2023 (Published Online).
- ▶ Dr. J. S. Mertens, University of Catania, Prof. A. Panebianco, University of Catania & University of Palermo, Ms. A. Surudhi, University of Washington, Dr. N. Prabagarane, ASP/ECE, and Prof. L. Galluccio, University of Catania published a paper titled **“Network intelligence vs. jamming in underwater networks: how learning can cope with misbehavior”** in the Frontiers in Communications and Networks, vol.4, pp. 1-16, May 2023.

CONFERENCE PUBLICATIONS

- ▶ Dr. K. J. Jegadish Kumar, ASP/ECE, Mr. Lakshmana Nainar Sundar presented a paper titled **“Investigation of Breast Cancer using Hybrid Segmentation and Enhancement Method”** in the National Conference on Innovation in Engineering and Technology organized by Velammal College of Engineering and Technology during November 24-25, 2022.
- ▶ Mr. G. Karthik Sriram, UG-ECE 2020-2024 Batch student, Dr. M. Anbuselvi, ASP/ECE presented a paper titled **“Machine Learning Approaches for Battery Range Prediction in EVs”** at the 4th International Conference on Power and Embedded Drive Control (ICPEDC 2023), organized by Dept. of EEE, SSNCE during January 24-25, 2023.
- ▶ Dr. M. Anbuselvi, ASP/ECE, Dr. P. Saravanan, ASP/EEE presented a paper titled **“Material Analysis of Wireless-Power-Transfer-Coil Design for Bioimplants”** at the 4th International Conference on Power and Embedded Drive Control (ICPEDC 2023), organized by Dept. of EEE, SSNCE during January 24-25, 2023.
- ▶ Ms. S. Balambal, Ms. S. Dhivya, Ms. R. Daphnie Ritika, UG-ECE 2019-2023 Batch students, Dr. C. Vinoth Kumar, ASP/ECE presented a paper titled **“Feature Fusion Based Face Image Retrieval”** in the Eighth National Conference on Information and Communication Technologies (NCICT 2023) organized by Department of ECE, SSN CE on 17.03.2023.
- ▶ Ms. V. Ramya, Mr. V. Narendiran, Ms. R. Vishali, Dr. C. Vinoth Kumar, ASP/ECE, Dr. A. Jawahar, Prof/ECE presented a paper titled **“Non-invasive Monitoring of Breathing Patterns from the Neck-Pit Region”** in the Eighth National Conference on Information and Communication Technologies (NCICT 2023) organized by Department of ECE, SSN CE on 17.03.2023.
- ▶ Mr. J. V. Jebin Jose, PG-CS 2021-2023 Batch student, Dr. S. Karthie, ASP/ECE presented a paper titled **“Design of Microstrip Bandpass Filter with a Notch for wideband applications”** in the Eighth National Conference on Information and Communication Technologies (NCICT 2023) organized by Department of ECE, SSN CE on 17.03.2023.
- ▶ Dr. P. Kaythry, ASP/ECE presented a paper titled **“Enhanced Visual Cryptosystem Using BLAKE 2 Hash Algorithm”** in the Eighth National Conference on Information and Communication Technologies (NCICT 2023) organized by Department of ECE, SSN CE on 17.03.2023.
- ▶ Dr. P. Kaythry, ASP/ECE, presented a paper titled **“A smart Building based on WOT paradigm”** in the Eighth National Conference on Information and Communication Technologies (NCICT 2023) organized by Department of ECE, SSN CE on 17.03.2023.

- ▶ Mr. M. Abiisek, Ms. S. Gayathri, Ms. N. Jesline, UG-ECE 2019-2023 Batch students, Dr. G. Durga, ASP/ECE participated and presented a paper titled “**Performance Analysis and Optimization of FinFET based Biosensor**” in the Eighth National Conference on Information and Communication Technologies (NCICT 2023) organized by Department of ECE, SSNCE on 17.03.2023.
- ▶ Mr. B. Girish Babu, Ms. Keerthana Reddy, UG-ECE 2019-2023 Batch students, Dr. G. Durga, ASP/ECE participated and presented a paper titled “**Novel Design of FinFET Based Reconfigurable FET (RFET)**” in the Eighth National Conference on Information and Communication Technologies (NCICT 2023) organized by Department of ECE, SSN CE on 17.03.2023.
- ▶ Dr. R. Amutha, Prof/ECE presented a paper titled “**A novel image encryption algorithm based on chaotic map**” in the 5th International conference on Electrical, Computer and Communication technologies organized by Velalar college of Engineering and Technology during February 22-24, 2023.
- ▶ Dr. M. Anbuselvi, ASP/ECE presented the paper entitled “**Choice of Wireless Charging Circuitry for Medical Implants**” in the International Conference on Renewable and Sustainable Energy Technologies (RESET-2023) organized by the Department of EEE, Bannari Amman Institute of technology during March 22-23, 2023.
- ▶ Dr. N. Prabagarane, ASP/ECE presented a paper titled “**ML-Aided Dynamic Classification and Clustering of UEs as VBSs in D2D Communication Networks**” in the International Conference WiPSNET 2023 held at SSNCE on 29.03.2023.
- ▶ Dr. V. Sherlin Solomi, Faculty/HITS, Mr. Swaroop Naidu Rajana, Mr. Madhan Mohan Kolluri, Students of HITS, Dr. W. Jino Hans, ASP/ECE presented the paper titled “**Deep Learning Based Opinion Mining on YouTube**” in the International Conference on Smart Grid and Electric Vehicle organized by Hindustan Institute of Technology & Science, Padur during April 3-4, 2023.
- ▶ Dr. C. Annadurai, ASP/ECE, Dr. I. Nelson, ASP/ECE, Ms. R. Nandhana, UG-ECE 2019-2023 batch student presented the paper titled “**Development of AntiCollision System in Ashok Leyland Chassis Assembly**” on 28.04.2023 in the PECTEAM 2K23 - IConIC International Conference organized by Panimalar Engineering College, Chennai during April 28-29, 2023.
- ▶ Dr. C. Annadurai, ASP/ECE, Dr. I. Nelson, ASP/ECE, Ms. S Abitha, Ms. K. Brindha UG-ECE 2019-2023 batch students presented the paper titled “**Left Ventricular Diastolic Dysfunction and Heart Disease Prediction**” on 28.04.2023 in the PECTEAM 2K23 - IConIC International Conference organized by Panimalar Engineering College, Chennai during April 28-29, 2023.

- ▶ Mr. S. Karthik, Ms. K. Nethra Prakash, Ms. A. Shafiya Sidrath, UG-ECE 2019-2023 batch students, Dr. B. Ramani, ASP/ECE presented the paper titled **“Classification of Steel Wire Ropes using Signal Processing and Machine Learning”** on 28.04.2023 in 6th International Conference on Intelligent Computing (IConIC) organized by Panimalar Engineering College, Chennai during April 28-29, 2023. They also won the Best Paper Award.
- ▶ Ms. M. Emimal, RS/ECE, Dr. W. Jino Hans, ASP/ECE, Dr. T. M. Inbamalar, Dr. Mahiban Nesaian, Mr. N. V. Tejas, Mr. T. R. Sri Sudarsan, Mr. B. Surya Prakash, UG-ECE 2020-2024 batch students presented a paper titled **“Classification of EMG Signals for Myoelectric Prosthesis with Feature Images”** in the 4th International Conference for Emerging Technology (INCET) organized by Jain College of Engineering, Belagavi during May 26-28, 2023.

CONSULTANCY

- ▶ 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.1,06,200/- was generated as revenue from Dec 2022 - May 2023.



STUDENT PROJECTS

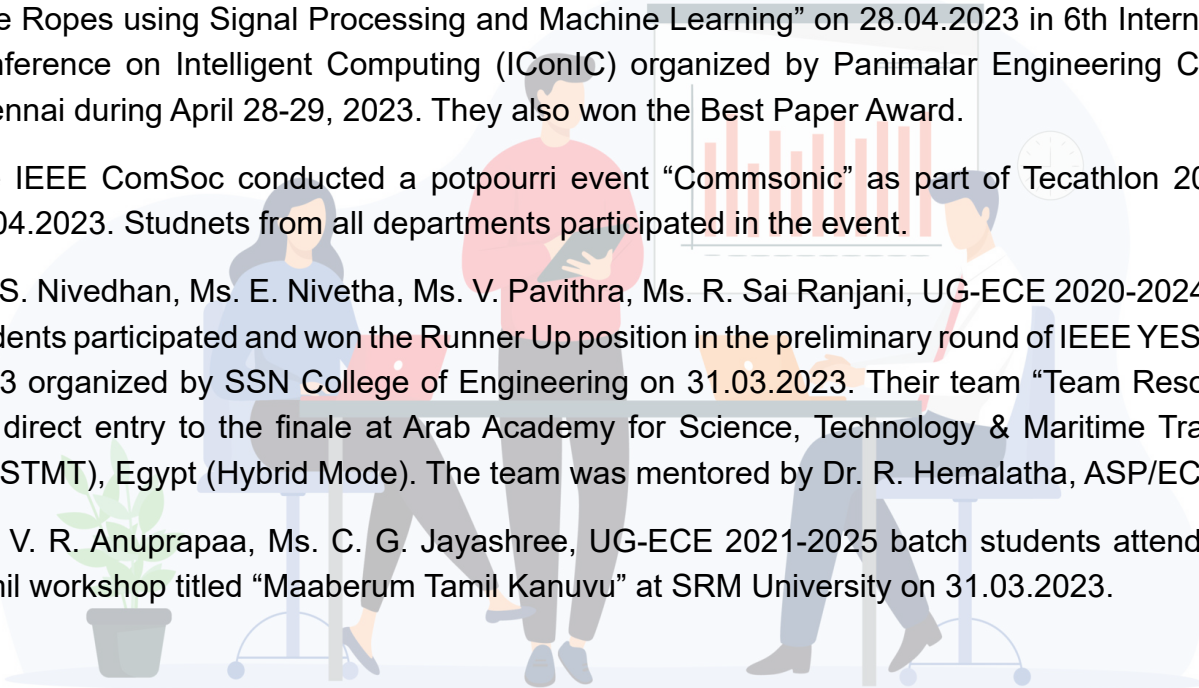
- ✎ Ms. P. Saraswathy Priya & Ms. V. Srinithi, UG 2023-2027 batch students under the guidance of Dr. B. S. Sreeja, ASP/ECE submitted a project proposal titled “Electrochemical sensor for detection of Uric acid” for student internal funding.
- ✎ Ms. Preetha, PG-CS 2021-2023 batch under the guidance of Dr. M. Gulam Nabi Alsath, ASP/ECE received the IFSP grant of Rs. 25,000/- for the project titled “Design of Electromagnetic Risorber for Millimeter Wave Radar Application”.
- ✎ Mr. D. Y. R. Anish Kumar, Mr. M. Arunaramanan, Mr. M. R. Manoj, Mr. R. Mukund, UG-ECE 2021-2025 Batch students under the guidance of Dr. V. Vaithianathan, ASP/ECE received the IFSP grant of Rs. 7500/- for the project titled “Piezoelectric Shoes”.
- ✎ Mr. S. Abishek, Ms. D. K. Lakshana, Mr. S. Shalom Rooban, Mr. V. Vibucharan UG-ECE 2021-2025 batch students under the guidance of Dr. Esther Florence S, ASP/ECE and Dr. Vimal Samsingh R, ASP/Mech received the IFSP grant of Rs. 25,000/- for the project titled “Tongue operated novel sensor framework to control bionic arms”.
- ✎ Mr. V. Swarun, Mr. V. Sai Varun, UG-Mech 2021-2025 Batch, Mr. G. Ravi Rajan, UG-ECE 2021-2025 batch students under the guidance of Dr. R. Vimal Samsingh, ASP/Mech and Dr. S. Esther Florence, ASP/ECE received the IFSP grant of Rs. 26,000/- for the project titled “Development of adaptive lower limb exoskeleton with novel sensor for rehabilitation”.
- ✎ Ms. S. T. Jenisha, PG-AE 2021-2023 batch under the guidance of Dr. S. Kirubaveni, ASP/ECE & Dr. S. Radha, VP/SSN CE received the IFSP grant of Rs. 25,000/- for the project titled “Heterojunction BaTiO₃/ZnO sensor for detecting toxic gases”.
- ✎ Ms. S. Sivaranjani, Ms. A. Swarnalalitha, Ms. P. Raja Dharshini & Mr. S. P. Tushar Balaji, UG-ECE 2021-2025 batch students under the guidance of Dr. W. Jino Hans, ASP/ECE and Dr. P. Vijayalakshmi, Prof & Head/ECE received the IFSP grant of Rs. 20,000/- for the project titled “Design of a robotic arm for a smart wheelchair for elderly people and paralytic patients”.
- ✎ Mr. N. S. Hrishekesh Jagannathan, Mr. N. Lohith, Mr. A. Athmaaram, Mr. G. Sanjay, UG-ECE 2020-2024 batch students under the guidance of Dr. M. Anbuselvi, ASP/ECE & Dr. P. Saravanan, ASP/EEE received the IFSP grant of Rs. 17,000/- for the project titled “IoT based smart insoles with haptic feedback”.
- ✎ Mr. Surya Jothimurugan, UG-EEE 2020-2024 batch, Mr. S. G. Someshvar, Mr. S. Subishram, UG-ECE 2020-2024 batch students under the guidance of Dr. P. Saravanan, ASP/EEE & Dr. M. Anbuselvi, ASP/ECE received the IFSP grant of Rs. 24,000/- for the project titled “Design and analysis of coil geometry for wireless power transfer”.
- ✎ Mr. V. Saairithvik, Mr. P. Rahul, UG-Mech 2021-2025 students under the guidance of Dr. S. Sakthivel Murugan, ASP/ECE & Dr. G. Satheesh Kumar, ASP/Mech received the IFSP grant of Rs. 28,000/- for the project titled “Amphibious water body and beach cleaning BOT”.

- ✎ Mr. A. Siyan Ananth, Mr. R. Sonu, UG-EEE 2020-2024 batch students under the guidance of Dr. P. Saravanan, ASP/EEE & Dr. M. Anbuselvi, ASP/ECE received the IFSP grant of Rs. 26,000/- for the project titled “Design and development of an adaptive battery management system for electric vehicle”.
- ✎ Ms. Achanta Sree Rama Shriya, Ms. K. B. Jeevaharini, Ms. S. Krishna Lakshmi, Ms. B. Krithika, UG-ECE 2021-2025 Batch students under the guidance of Dr. R. Hemalatha, ASP/ECE received the IFSP grant of Rs. 15,000/- for the project titled “An effective water quality monitoring of RO purifiers”.
- ✎ Ms. S. Anusharaj, Ms. M. Benasir, Ms. J. Mithila, Ms. M. Namratha, UG-ECE 2020-2024 batch students under the guidance of Dr. C. Vinoth Kumar, ASP/ECE & Dr. A. Jawahar, Prof/ECE received the IFSP grant of Rs. /- for the project titled “Asthmatic wheeze detection through mobile application”.
- ✎ Ms. K. Swetha, PG-CS 2022-2024 Batch student under the guidance of Dr. P. Vijayalakshmi, Prof & Head/ECE received the IFSP grant of Rs. 34,000/- for the project titled “Imagined speech recognition in bilingual speakers using EEG signals”.
- ✎ Mr. H. J. Anselm Nicholas, PG-VLSI 2022-2024 batch under the guidance of Dr. B. S. Sreeja, ASP/ECE received the IFSP grant of Rs. 25,000/- for the project titled “In vitro and In vivo testing of insulin-coated microneedle patch on Sprague Dawley rats”.
- ✎ Mr. D. Prasanna, PG-AE 2022-2024 batch under the guidance of Dr. W. Jino Hans, ASP/ECE received the IFSP grant of Rs. 15,000/- for the project titled “Design and Fabrication of Automatic Pet Monitoring and Feeding using IoT”.
- ✎ Ms. R. Biancaa, UG-ECE 2022-2026 batch under the guidance of Dr. S. Kirubaveni, ASP/ECE received the IFSP grant of Rs. 20,000/- for the project titled “Analytical approach of the effect of surfactant on mixed metal oxide materials (ZnO/NiO) to enhance the sensitivity of a humidity sensor”.
- ✎ Mr. Vijayadityan, UG-ECE 2022-2026 batch under the guidance of Dr. B. S. Sreeja, ASP/ECE received the IFSP grant of Rs. 25,000/- for the project titled “Printed sensors for continuous glucose monitoring”.

CO CURRICULAR ACTIVITIES

- ✎ Ms. J. Haritha, UG-ECE 2021-2025 Batch has successfully completed a Java Programming course by Great Learning Academy.
- ✎ Ms. Ananya Prabhu, UG-ECE 2020-2024 Batch has participated in the SSN IEEE Ideate for Women's Entrepreneurship Day with MERAKI on 28.11.2022 and presented an IOT based project “Smart Glucose Door Handle” to combat diabetes.
- ✎ Mr. R. Shreyas Sai, UG-ECE 2021-2025 Batch along with 3 members from SSN CE and Shiv Nadar IoE, Noida won the Third place at the UNLEASH Hacks for their Idea, “RECONNECT” and were awarded a cash prize of Rs. 10,000. The three days national event was conducted during November 04-06, 2022 at the Shiv Nadar IoE, Noida.

- ✎ A project titled “Minimally Invasive Microneedle patches based Insulin Delivery system” involving Mr. R. Naveen Jai Krishna, Ms. C. Shanmukha Priya, UG-ECE 2020-2024 Batch students under the guidance of Dr. B. S. Sreeja, ASP/ECE has been shortlisted for final evaluation of possible IEEE Student Project funding by IEEE Madras Section.
- ✎ Ms. Ananya Prabhu, UG-ECE 2020-2024 Batch has been shortlisted as finalists in the TN SDGC Women’s competition for SDG, at Ethiraj College of Women (11.2 - Sustainable Communities and Cities) by presenting an IoT based project, the “Energy Managed Building” held on 18.02.2023.
- ✎ Ms. R. Vinu Abinayaa, UG-ECE 2019-2023 batch presented a paper titled “Analysis of millimeter wave path loss prediction using machine learning techniques” co-authored by Ms. G. Varshini, Ms. Swathi Ramanathan, UG-ECE 2019-2023 batch students and Dr. K. Muthumeenakshi, ASP/ECE in the International Conference on Wireless Communications Signal Processing and Networking conducted by the department of ECE, SSN College of Engineering during March 29-31, 2023.
- ✎ Department of ECE and IIC have organized a project contest for final year students on 23.03.23. Mr. C. Naveenkumar Functional Safety Expert and Mr. Sandeep Sunil, Principal Engineer from Valeo India Private Limited, Mr. Logaraj Sugumar, Solution Architect and Mr. Ramesh Madhavan, Senior Solution Architect from Nokia Siemens and reviewed the project presented by final year students.
- ✎ The ECE Association, IEEE Communications Society and Tech Club of ECE Department coordinated an interdepartmental technical event CONVOLVE on 28.03.2023.
- ✎ An expert talk on “3D prototyping - Process, Design and Development” was organized by Dr. V. Rajini, Prof & Head/EEE, IIC member, Dr. S. Ramprabhu, ASP/ECE and Dr. S. Tamilselvi, ASP/EEE to make students understand the process involved in 3D prototyping on 29.03.2023.
- ✎ Mr. S. Karthik, Ms. K. Nethra Prakash, Ms. A. Shafiya Sidrath, UG-ECE 2019-2023 batch students under the guidance of Dr. B. Ramani, ASP/ECE presented the paper titled “Classification of Steel Wire Ropes using Signal Processing and Machine Learning” on 28.04.2023 in 6th International Conference on Intelligent Computing (ICoNIC) organized by Panimalar Engineering College, Chennai during April 28-29, 2023. They also won the Best Paper Award.
- ✎ The IEEE ComSoc conducted a potpourri event “Commsonic” as part of Tecathlon 2023 on 25.04.2023. Students from all departments participated in the event.
- ✎ Mr. S. Nivedhan, Ms. E. Nivetha, Ms. V. Pavithra, Ms. R. Sai Ranjani, UG-ECE 2020-2024 batch students participated and won the Runner Up position in the preliminary round of IEEE YESIST’12 2023 organized by SSN College of Engineering on 31.03.2023. Their team “Team Resolution” got direct entry to the finale at Arab Academy for Science, Technology & Maritime Transport (AASTMT), Egypt (Hybrid Mode). The team was mentored by Dr. R. Hemalatha, ASP/ECE.
- ✎ Ms. V. R. Anuprapaa, Ms. C. G. Jayashree, UG-ECE 2021-2025 batch students attended the Tamil workshop titled “Maaberum Tamil Kanuvu” at SRM University on 31.03.2023.



EXTRA-CURRICULAR ACTIVITIES

1. Mr. S. Jaswandt Raja, UG-ECE 2019-2023 Batch presented a paper titled “A wideband Low Noise Amplifier for 5G Applications using 45nm CMOS Technology” in the International Conference on Advances in Electrical Measurements and Instrumentation, AEMI-2022 on 12.11.2022.
2. Mr. S. Manivannan, UG-ECE 2019-2023 Batch presented a paper entitled “Brain tumor segmentation using 3DResUNET34” in 2022 International Conference on Futuristic Technologies (INCOFT) organized by S. G. Balekundri Institute of Technology, Karnataka during November 25-27, 2022.
3. Mr. Nikhil Rajkumar, UG-ECE 2020-2024 Batch is a part of the SSN Music Club band that won First Prize at Tarang, Eastern Band event at IITM Saarang 2023.
4. Mr. Nikhil Rajkumar, UG-ECE 2020-2024 Batch is a part of the SSN Music Club band that won First Place at the Music Event at Loyola's Libazaar 2023.
5. Ms. V. Krishi Divya Dharshini, UG-ECE 2019-2023 Batch and Head of Arudhra, SSN Dance Community, delivered an Extra-Mural Lecture titled “How to gain control of your free time?”, as part of the SSN AID project on 16.02.2023.
6. Mr. T. R. Nikhil, UG-ECE 2020-2024 Batch bagged first prize in the Eastern band competition called ‘Aakriti’ in Vibrance’23 organized by VIT Chennai. He played drums in the college band - 120dB.
7. Ms. V. R. Anuprapaa, UG-ECE 2021-2025 Batch and Mr. B. Sanjay, UG-ECE 2020-2024 Batch participated in the 7 days NSS Annual Camp in Thandalam village from 12.03.2023 to 18.03.2023.
8. Mr. P. Vijayaraghavan, UG-ECE 2019-2023 Batch student received the Best NSS Volunteer Award from Anna University. The award was handed over by Honourable Minister for Youth Affairs and Sports Development, Mr. Udhayanidhi Stalin.
9. Ms. Ananya Prabhu, UG-ECE 2020-2024 Batch student won First place in intra college Mock Placements conducted by ECE Department of SSN CE during Convolve 2023 held on 28.03.2023.
10. Mr. T. R. Nikhil, UG-ECE 2020-2024 Batch student bagged First prize in the Eastern band competition called “Synchrotune- Eastern Battle of Bands” in Kuruksastra’23 organized by SASTRA University on 29.04.2023.
11. Mr. T. R. Nikhil, UG-ECE 2020-2024 Batch student bagged First prize in the band competition called “Battle of Bands” in MITAFEST’23 organized by Madras Institute of Technology, Chennai.

WORKSHOP AND TRAINING

1. Ms. A. J. Bhuvaneshwari, RS/ECE attended two days National Conclave on "Clinical Intelligence: A High End Exploration of Healthcare Predictive Analysis using AI and Data Analytics Tool" organized by the Department of Artificial Intelligence and Data Science, Mepco Schlenk Engineering College (Autonomous), Sivakasi during February 03-04, 2023.
2. Ms. K. Vijayalakshmi, RS/ECE, Ms. A. J. Bhuvaneshwari, RS/ECE attended the workshop "Sensors for Industrial IOT" organized by Department of ECE, SSN CE from February 10-11, 2023.
3. Ms. A. J. Bhuvaneshwari, RS/ECE attended the 3-day workshop on "Intel FPGAs for Embedded, AI/ML and Heterogeneous Computing Applications" at SSN CE during February 9-11, 2023.
4. Ms. D. Suganya, RS/ECE successfully completed the Data Analytics Master Class (30 days) at Pantech Prolabs India Pvt limited from 05.01.2023 to 30.01.2023.
5. Ms. D. Suganya, RS/ECE attended the 3 days workshop on "INTEL FPGAs for Embedded, AI/ML and Heterogeneous Computing Applications" organized by Department of ECE, Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam during February 9-11, 2023.
6. Ms. N. Kavitha, RS/ECE won first prize for her presentation "Reflectarray Antennas" in the event "My Research in Art Form" held as a part of the 6th Research Scholars' Day of IITDM Kancheepuram on 28.02.2023.
7. Ms. K. Vijayalakshmi, RS/ECE attended the one day National workshop on "High resolution scanning transmission electron microscopy (HRSTEM)" organized by Advanced Characterization facility, Sathyabama Centre for Advanced Studies, Sathyabama Institute of Technology on 24.03.2023.
8. Mr. D. Sundaravadivel, Ms. V. Metha Devi, Mr. S. Murugan, Technical Assistants of ECE attended the Hands-on Training on "Measurement Possibilities using Microwave Analyzer" organized by Dept. of ECE, SSN CE on 29.04.2023.
9. Mr. S. Murugan, Technical Assistant/ECE was involved in the RF & EMC Consultancy work for Mr. SD. Sairam, RS/ECE of National Institute of Technology, Tiruchirappalli on 19.04.2023.
10. Mr. S. Murugan, Technical Assistant/ECE was involved in the RF & EMC Consultancy work for Dr. A. Rajesh, ASP from SASTRA University on 11.05.2023.
11. Mr. D. Sundaravadivel, Ms. V. Metha Devi, Mr. S. Murugan, Ms. T. Brundhadevi, Mr. B. Rajasekaran, Technical Assistants of ECE attended the Hands-on Training on "RF Device characterization using VNA" organized by Dept. of ECE, SSN CE on 13.05.2023.
12. Mr. S. Murugan, Technical Assistant/ECE was involved in the Radiation Pattern measurement work for Dr. A. Rajesh, ASP from SASTRA University on 11.05.2023.
13. Mr. S. Murugan, Technical Assistant/ECE was involved in the Radiation Pattern measurement work for Mr. E. Aravindraj from Puducherry Technological University on 27.05.2023.
14. Ms. D. Suganya, RS/ECE attended the 2 days National virtual workshop on "Machine Learning: An Ice Breaker between Material Research and Data Science" organized by SSN Research Centre, SSN Institutions, Chennai during April 12-13, 2023.
15. Ms. D. Suganya, RS/ECE has successfully completed NPTEL online certification course on "Machine Learning" during Jan-March 2023 (8 weeks course) with a consolidated score of 56%.

CLUB REPORT

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AECE

Race Around



The Association of Electronics and Communication Engineers (AECE) organised the event Race Around on 28th March 2023, as a part of CONVOLVE '23. The event had nearly 75 registrations and began with 26 teams with students across all departments. The first round of the event required the students to solve riddles, whereas the second round was a treasure hunt requiring the students to go around to solve riddles where they found different parts of a circuit.

A total of 6 teams were shortlisted for the second round. The winners, Sathyaprakash R, Harish A, Saravanakumar M (EEE, 3rd year) were given the prize money of INR 1500.

Mock Placements

The AECE conducted the event Mock Placements, in collaboration with IEEE ComSoc and Tech Club SSN. Mock Placements is one of the three events conducted by the ECE Department for CONVOLVE '23. The event witnessed nearly 50 participants, all individuals, no teams. It consisted of three rounds, first a MCQ test, then a technical interview followed by an HR interview. The first round involved a pen-paper MCQ test in which the participants were required to answer twenty questions in twenty minutes. The questions ranged from general aptitude related to domain related. The various domains included ECE core, Coding and Management. Out of the 46 participants, 25 qualified for the second round. A technical interview based on the domain of choice of the participant was held for about 20 minutes each. Out of the 25, 14 qualified for the final round. It was an HR interview round, common to all finalists. The winning prize pool was INR 1000 and INR 500 for the runners-up, for each domain.



IEEE COMSOC

Junkyard Jumble

The IEEE chapter of the Electronics and Communication Engineering department, the IEEE ComSoc were the organisers of the event Junkyard Jumble, one of the three events of CONVOLVE '23 which was held on 28th March 2023. There were a total of 72 participants from various departments, participating in pairs.



In the two rounds held, the first one involved a quiz in which the participants were given images related to each question and a pile of words. The participants had to frame questions using the given words and answer them. The second round was a round of dumb charades and pictorial crossover. In this round, a team member had to make his/her team understand the question and a correct guess would score the team points.

The team with the maximum cumulative score was awarded the winning prize. The prize pool involved INR 1000 for the winners and INR 500 for the runners-up. During the entire course of the event, the participants enjoyed the events thoroughly and had a great experience and the seminar hall overflowed with joy and enthusiasm.



Guest Lecture - Mr. C Namachivayam

On the 17th of March 2023, the IEEE ComSoc organised a guest lecture featuring Mr. C Namachivayam, Senior Consultant, Antares Consultancy Services on the topic “Production Process of Electronic PCB Assemblies”. The lecture was aimed at the second and third years of the Electronics and Communication Engineering department. The lecture was very informative and interactive with inquisitive students getting their thirst of curiosity satiated. Mr. C Namachivayam gave the students an insight into the industry with his valuable experience. The talk ended with a Q&A session. Certificates were provided to all the attendees.



Commsonic

On the occasion of Techathlon '23, the IEEE ComSoc organised the event Commsonic on 25th April 2023. A total of 20 students, from various departments participated in the event. The event consisted of a quiz and crossword on the theme telecommunication. The quiz was conducted through Google Forms and the participants were given 15 minutes to solve it. Then the teams were presented with a crossword with a time limit of 15 minutes. The teams proceeded on to participate in the other events organised as a part of Techathlon '23.

The winners were then declared based on the team with the maximum score, cumulatively calculated taking all the events into consideration. The entire duration of the event, from 10:30 am to 11:45am, the ECE seminar hall witnessed participants with zeal and enthusiasm written all over their faces.

TECH CLUB

HACKINFINITY

Date: 1st December, 2022 and 2nd December, 2022

The 7th edition of Invente, featured Tech Club's flagship event Hackinfinity. Hackinfinity provides a platform for problem solving enthusiasts to tackle real world issues. It encourages them to conceptualize and rapidly prototype a solution that is both practical and economically viable to solve real life problems, all in 24 hours. This year's hackathon saw many projects from Cyber Security, Medical and Healthcare, Assistive Technology, Education, Fintech and Agritech and also gave a choice for student innovation. The event's title sponsor was TMB bank and powered by SATTVA Logistics Group. The event was organized from 1st December, 2022 to 2nd December, 2022



Winners and awards:

1st - Team Technozats

Members: Sri hari hara sudhan M, Sing Valliappan, Subash V

College: Sri Venkateswara college of engineering

2nd - Team IoT FXians

Members: Gladson Joel Raja J, Sam Charles J, Thangavel M, Donal A

College: Francis Xavier Engineering College

3rd - Team Ethic Electronics

Members: Hemanth Kumar M, Gowtham Kumar P

College: Adhi College of Engineering

TECH CLUB TALKS:

A initiative by Tech Club to organize workshops and seminars on various number of topics to help junior and sophomore students. They help students identify useful opportunities for internships and help them with every aspect of the application process. The following five talks are part of this series:

• **A guide to crack NTU internship**

Date: 21st January, 2023

Speakers: Akshet Patel, pursuing his MSc in Robotics and Computation at UCL London and Bharath Vishal G, Fourth year ECE and Research intern at NTU,Capgemini

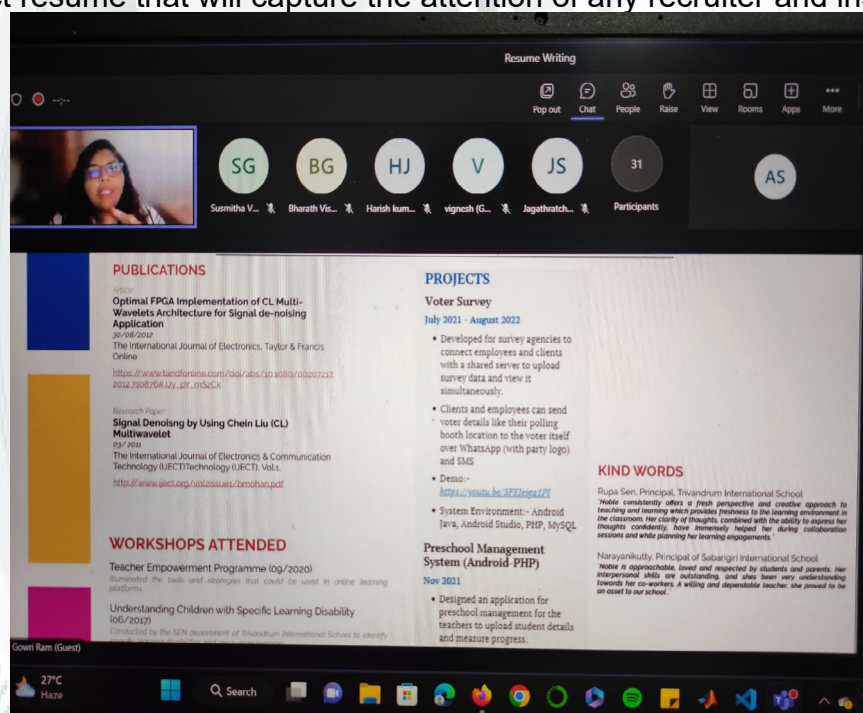
This talk focused on the application process of research internships like NTU-Singapore, Research internship program at Capgemini, and Cold mailing professors. This session was conducted to brief the students about research internship opportunities that help improve the profile for students applying for Masters programs.

• **Resume Masterclass**

Date: 28th January,2023

Speaker: Gowri ram, Resume writing expert and founder of Career Alchemy

Every great journey begins with a single Step, Well a single document to be more precise; a condensed receptacle of all your achievements, skills and experiences that you will wear throughout your life as your professional identity. Tech Club conducted a resume-building workshop by inviting Gowri Ram, expert in resume building and founder of Career Alchemy, who step-by-step guided to crafting the perfect resume that will capture the attention of any recruiter and institution



• **Take-off!!**

Date: 4th February,2023

Speaker: Srinithyee S K, software development engineer 2 at Walmart

This talk focused on pre-final and final-year students as the air around them must be buzzing with talks of internships and placements. As they delve deeper into the hiring season, the Tech Club helps to give students best shot to every job/internship application. And sometimes, that best shot could be one you direct all by yourself. Off-campus placements have time and again proven to be one of the most enterprising and smart ways to land your dream role provided you play your cards right. Srinithyee S K, software development engineer 2 at Walmart guided us with her off campus placement experience and encouraged the students to give it a chance.

- ***The art of getting research internship***

Date: 18th February ,2023

Speaker: Shree Varshini N, Third year ECE and Research intern at DRDO

Irrespective of the domain it is a fact that people wish to do an internship at Defence Research and Development Organization (DRDO), the defence R&D hub which develops defence technologies, systems or products that are required for Indian Armed Forces . So,Tech Club organised a talk on the art of getting Research internship in DRDO. This talk focused on the detailed application process to get into research internships like DRDO, Cold mailing scientists of establishments. Shree Varshini shared some Resume, cold mail and cover letter templates with students. This session was conducted to brief the students about research internship opportunities that help improve the profile for students applying for Masters programs.

- ***Get, Set, Open source (GSOC)***

Date: 18th March,2023

Speaker: Manas Sivakumar (GSOC'22) and Dhiganth Rao P (Graduate student USC)

The Google Summer Of Code is an opportunity that can be a GAME CHANGER to not only your profile but your life too. Dhiganth Rao and Manas Sivakumar, two Google Open Source contributors that made use of this contest to make significant impact to the open source community, shared their stories of success fuelled by GSOC.They shared their GSOC experience to guide fellow juniors.

CONVOLVE'23

Date: 28th March,2023

- ***Mock placements***

The mock placement was conducted in conjunction with AECE and IEEE ComSoc. The participants were divided into three domains - core, management and coding. The first round of Mock placements involved testing basic aptitude. The second round was a technical interview, students were questioned on their resumes as well as asked to solve questions asked by interviewers live. The final round was an HR round, where students were asked about their expectations and were judged based on their attitude and enthusiasm to work in the company.

Winners:

Core - Amaan Meer, EEE (1st), Hariharan A, ECE (2nd)

IT - Vishwajith S,IT (1st), Abdullah Sheriff, AI&DS SNUC (2nd)

Management - Ananya Prabhu, ECE (1st), N S Hrishikesh Jagannathan, ECE (2nd)

Winners were awarded with a prize pool of Rs.1000 and runners were awarded with Rs.500.

- ***Auction3000***

The participants have to bid for the electronic components in the auction and should come up with the circuit with the components that they have bought in the auction to earn points. The team with maximum points will be awarded as the winner.

Winners:

1st - Team 'Spark in the Dark' (Members: Jeevaharini, Achanta Shree Rama Sriya, Krithika, Krishna Lakshmi)

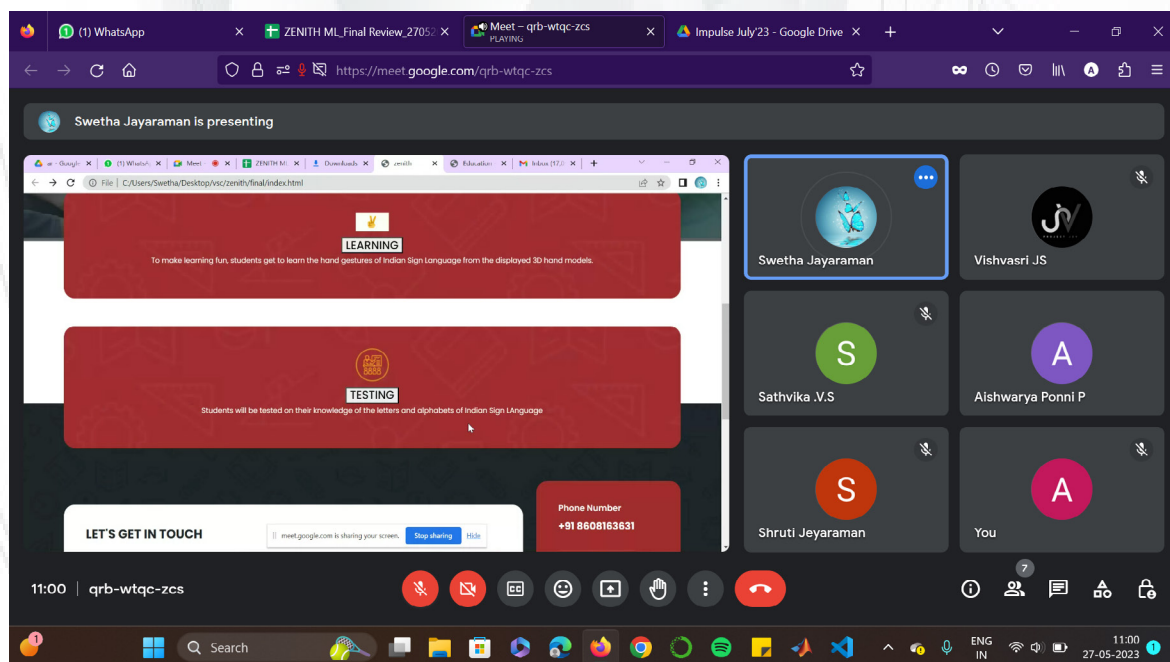
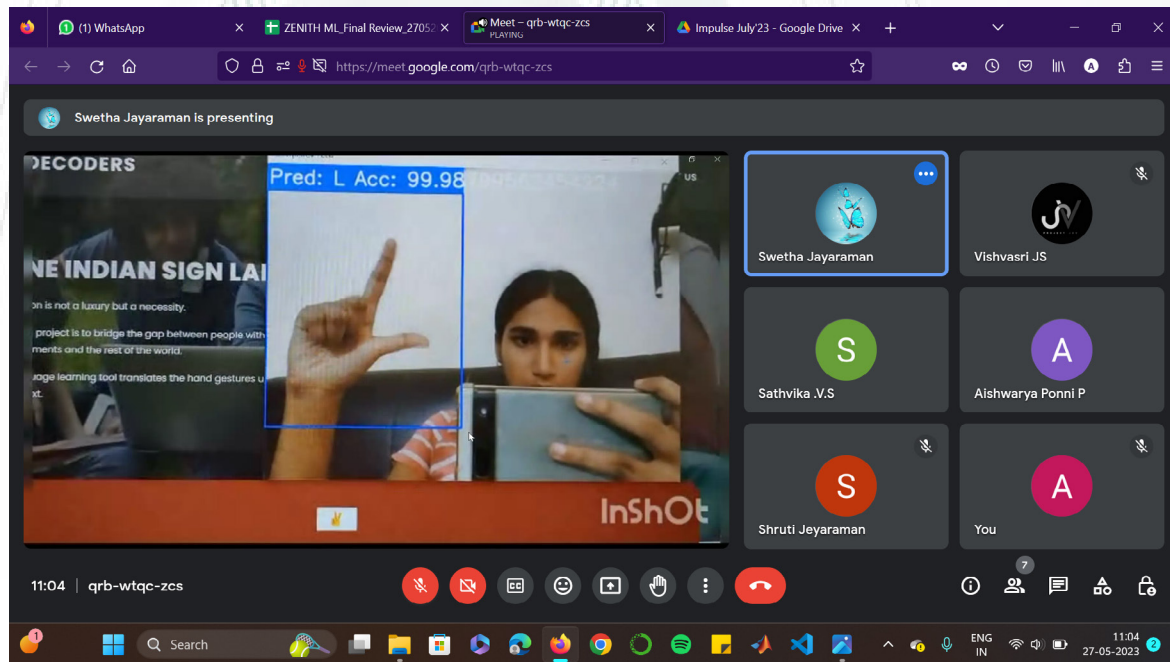
2nd - Team 'Bloody Sweet' (Members: Naresh E, Sabarinathan A, Prasanna Karthikeyan G, Natarajan S)

ZENITH:

The Tech club of SSN ECE conducted Zenith Hackathon, which started on 25th April 2023. It is series of ultimate hackathon on various core topics in the domains of machine learning, Internet of things, VLSI and web development, Analog IC, Blockchain.

Winners:

- 1st - The One and Only (Members: Ananthakrishnan K)
- 2nd - SK (Members: Srikanth Saravanan , Karthikeyan A)
- 3rd - Cope with Code (Members: Vishal K)



PROJECT - DIGILAB++

In an exclusive interview, we sit down with Hariharan A and Balaji S from 3rd year, who have recently completed an impressive project called 'DigiLab++'. Their innovative work not only showcases their technical prowess but also offers valuable insights into the cutting-edge advancements being made in their field. Read on to know more about their work.

► **Can you briefly explain your project and provide some background information about the same?**

Balaji S and Hariharan A: Our project, named "DigiLab++" is a Digital Electronics learning platform. It consists of a simulator that can simulate digital circuits that are constructed using Logic gates and a Logic Minimizer that can output a minimized SOP (Sum of Products) and a POS (Product of Sum) boolean expression for the specified Logic-1 and don't care minterms. The simulator accepts the structural model of a digital logic circuit in a simple SPICE-like node programming syntax and produces a timing waveform for the given input source and timing specifications. Most widely used logic components such as multiplexers, Flip-flops are readily available in our simulator as sub circuit components, which can then be used to construct larger circuits.

► **What problem does it aim to solve or what goal does it aim to achieve?**

Hariharan A: This website, hosted at <http://digilabpp.pythonanywhere.com/> can be exclusively used by beginners to Digital System Design to build circuits parallelly to gain in-depth knowledge.

Balaji S: In the below example, a case of a D-Flip flop is taken. Only the structure of a level triggered D-latch with 5 gates as in the figure below is shown in most sites on the internet and syllabus. But often the Edge triggered D-Flip flop is left as a black box. The Edge Triggered D-Flip flop can be implemented using 6 NAND gates with race-free asynchronous design methods. It can be designed and its working can be verified using our simulator at once. The syntax for designing is easy and the design can be regenerated easily from the code. Hence using our simulator can be a great learning experience.

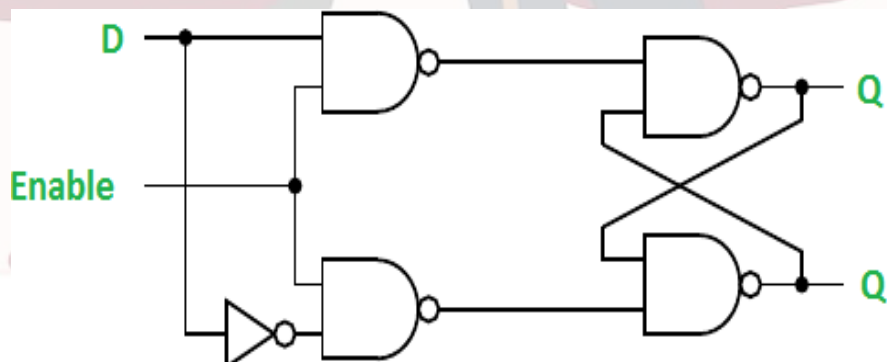
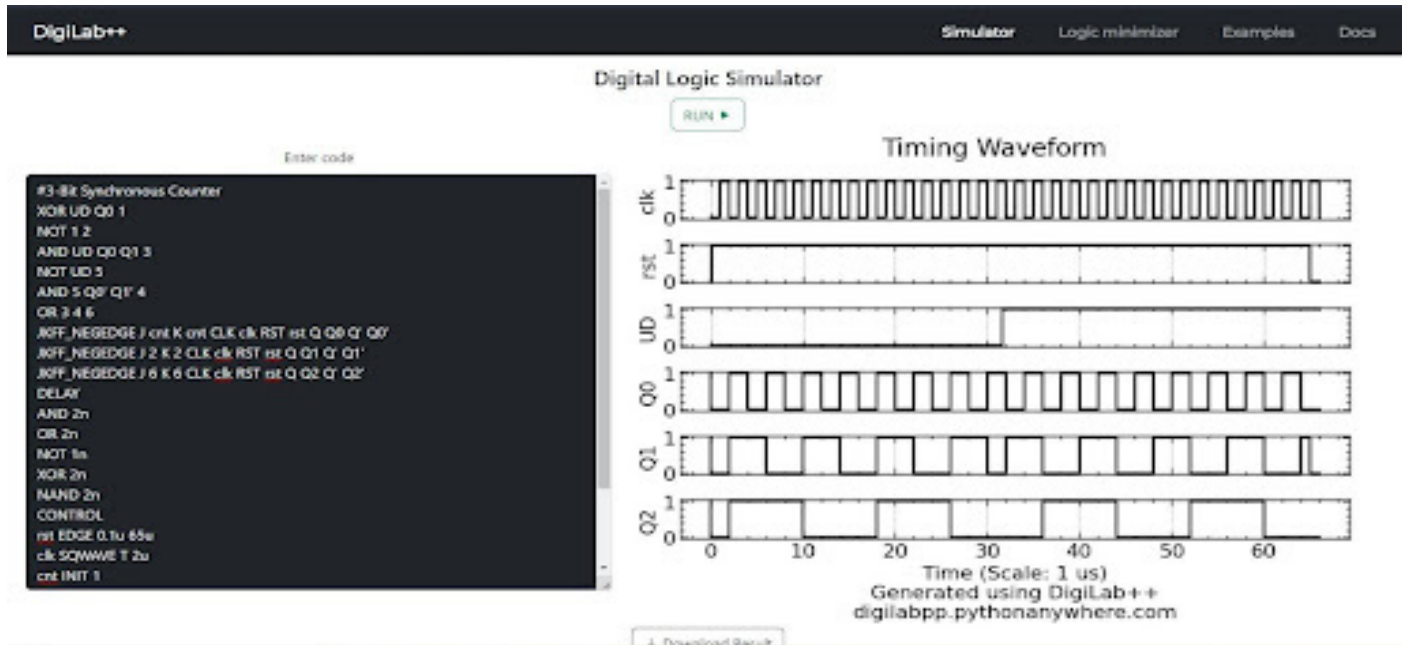


Image Courtesy: GeeksForGeeks



► What motivated you to choose this particular project?

Balaji S: We had good interest in Digital System design, and tried building a program that can perform Logic minimization on given minterms, which is now the Logic minimizer in DigiLab++. We were also learning VHDL in our course. But there were only a few simulators for VHDL and also as beginners we wanted to learn the working of small circuits easily. At that time, we were also learning Object Oriented Programming and Data Structures in C++ as a course. So using the knowledge gained from that course we tried to build a new beginner-friendly simulator, which became DigiLab++ simulator.

► How did you approach the project? Can you describe the process or methodology you followed?

Balaji S: The Logic minimizer of DigiLab++ was built using the Quine-McCluskey algorithm. For this purpose, we learnt this algorithm in depth from Morris Mano's Digital Design book.

Hariharan A and Balaji S: This simulator is built using Python and C++. Python is used for receiving user input (code), parsing it to a basic gate level structural model (technically called netlist). C++ is used for building and simulating the circuit as per this netlist provided by Python. Object-Oriented Programming is used in C++ for representing the logic gates and simulating the overall circuit. There was indeed a great learning during the making of this simulator.

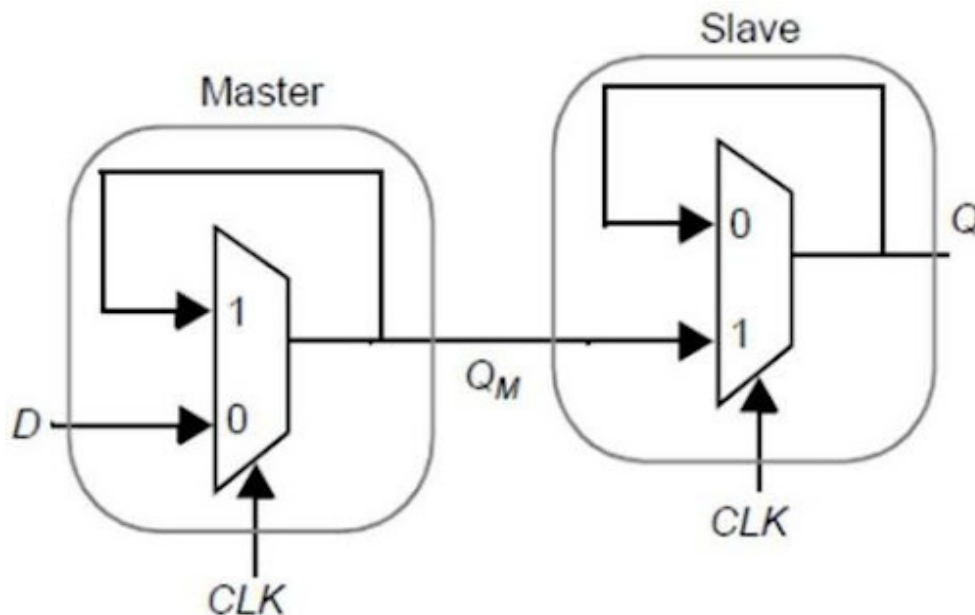
► What were the main challenges that you encountered during the project? How did you overcome those challenges?

Hariharan A: Since two different languages, Python and C++ were used, we were searching for a way to bind them both and we found Ctypes. Ctypes is an in-built python module that can be used to access objects and run functions which are exposed in source object files. Hence, the GNU C++ compiler was used to compile the C++ source code to a source object file by exposing the required functions.

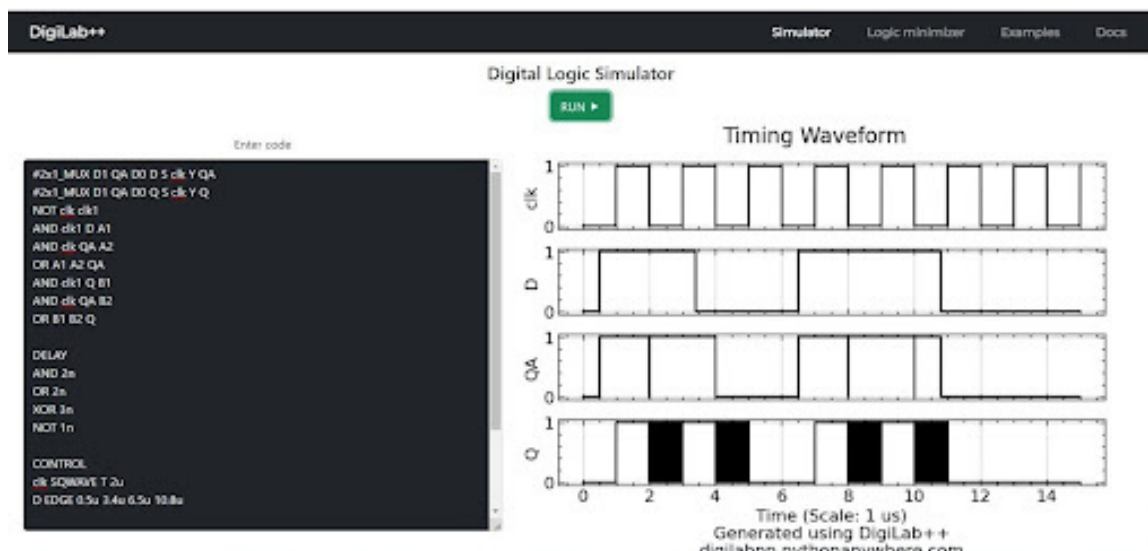
There are some limitations in the current version, as we need to define a fixed buffer size (which is dynamic for every different circuit) for input and output operations. Also, the Ctypes module is mainly used to access C (99 and above) compatible standard functions and objects. So, we are exploring new ways to improve the performance of this input and output operation by using other types of binding modules such as PyBind11 which is developed for accessing C++11 compatible functions and objects. We used flask as a backend for both the simulator and the documentation. To save the precious server usage that is offered for free at pythonanywhere, we converted the documentation site to a static site using frozen-flask as this enables us to host the documentation in GitHub pages for free. The documentation for this project can be viewed at <https://digilabpp.github.io/Docs-Digital-Logic-Simulator/index.html>.

► What were the key findings or outcomes of your project?

Balaji S: The simulator can be extensively used to learn Digital Electronics with simulation support, and to test digital circuits at a basic level. For example, setup time and hold time of a flip flop can be visualized using DigiLab++. When designing an asynchronous sequential circuit, the racing factor must be considered. For example, considering the same edge triggered D-flip flop, a Master-Slave design using a pair of multiplexers (as shown in the figure below) is proposed.



But this design has a racing problem. We found that out and inferred that using DigiLab++. The output was as below.



From this we understand the need of race free asynchronous designs. Similarly, hazard-free designs are also of great need. For example, we thought of a basic design for a Dual edge-triggered D-Flip flop involving a Positive edge triggered D-Flip flop, a Negative edge triggered D-Flip flop and a multiplexer but we found out from DigiLab++ that the design consisted of static hazards. We then found an alternative design for the same from the internet and simulated it in DigiLab++ and found that it was hazard-free.

DigiLab++

► Do you have any plans for further development or expansion of your project?

Balaji S: Yes, we are planning to include analog signals and interfaces in DigiLab++. We thought of simulating an ADC (Analog to Digital Converter) using this project but our simulator is able to build circuits that contain only digital elements like gates, flip flops etc., and some important elements of an ADC such as an analog comparator and a DAC (Digital to Analog Converter) are not yet included in this project. So we are working on including analog interfaces, and DigiLab++ will be upgraded with these features soon. Also, We are planning to bring in behavioral modeling of widely used circuits such as flip-flops and adders, as this allows for lesser memory and computation requirements.

Hariharan A: As far as the website is concerned, the current implementation is done using the usual request-response method, which has a down-side of being slow. To address this, we are planning to use client side execution techniques such as using Web-assembly for running the core simulator that was built using C++. Once this is successfully implemented, we could technically host our web application as a static site in github which would help in eliminating the need for hosting.

Balaji S and Hariharan A: Check out our GitHub page <https://github.com/DigiLabPP> for further updates on the project and website. The syntax for coding and various other features of DigiLab++ can be learnt from DigiLab++ documentation in the website itself.

-Rahul Ramu
III year, ECE- B

INTERNSHIP AT DRDO

DRDO(Defence Research and Development Organization) is the R&D wing of the Ministry of Defence, Government of India, whose vision is to empower India with cutting-edge defence technologies and a mission to achieve self-reliance in critical defence technologies and systems. This organization is the largest research organization in India. It has a network of laboratories engaged in developing defence technologies covering various fields, like aeronautics, armaments, electronics, land combat engineering, life sciences, materials, missiles, and naval systems.

One of the most significant part of this organization, for the students are ,they provide internships and job opportunities to the graduates. This year , N. Shree Varshini, a prefinal year undergrad in ECE has completed her internship in DRDO.

I had an opportunity to interview her and in this article, I will be covering about the insights of the application process and her experience working there.

◆ How did you apply for this internship?

There are many branches of DRDO throughout the India. We can apply to any of the branch/laboratory of DRDO in India. Coming to the application process, we have two ways: one is online and the other is offline. If we are choosing to apply through offline, then we have to go to the corresponding DRDO labs, fill out the application and also submit the required hardcopy of documents. I applied to Combat Vehicles Research and Development Establishment Lab which is at Avadi through the online mode. The first step was to cold mail the professors of DRDO a month before the commencement of the internship along with all the necessary documents

- » Resume
- » College id
- » Bonafide Certificate from college
- » Cover letters and Transcripts(optional)
- » Individual Photographs
- » Specify the tentative dates for the Internship

◆ How can we get the professor's mail id?

We can get the Professor's mail id from the DRDO website, or explore using the LinkedIn application.

◆ When will we be notified about our selection and are there any entry-level tests or interviews kept for selection ?

If you are selected, then you will be notified by DRDO through the mail having details regarding under which scientist you will be working. I received a mail for my selection after 3 weeks of applying. Once you get notified about your selection, then you have to submit the hardcopy of all the documents that you have submitted through the mail and you can join on the date according to your flexibility. I believe there can be interviews after the selection process and that depends on the branches we choose. I did not have any interviews.

◆ Can you share your experience working there?

I was working under the testing domain of EMI/EMC for military systems. The testing which I performed was

- » CS(Conducted Susceptibility)
- » RE(Radiated Emissions)
- » CE(Conducted Emissions)

The environment is very strict there. Phones are not allowed inside, and there will be no internet connection for students inside the lab. We can refer to the books/journals/articles which are available inside the organization. Also, we are allowed to enter only certain places inside the lab. At the end of the internship, we have to give a presentation about the project that we have done during the internship.

◆ Your ideas/thoughts on getting these kinds of research internships?

I would recommend students to pursue research internships as they are a better way to gain more knowledge and experience about the subject and one will get a lot of exposure and have a chance to interact with professionals/scientists from those domains.

**-R Sai Ranjani,
III year, ECE-B**



ACM WOMEN'S HACKATHON

Ananya Prabhu and Tejaswi S are current third year students. They won Third price in ACM Women national level hackathon organized by ACM-W (Women chapter), which is exclusively held for women to increase their participation in the field of computer science.



DIFFERENT STAGES OF THE HACKATHON:

The hackathon was divided into three stages:

- 1st stage** – Idea submission for the given problem statement.
- 2nd stage** – Present the same as a team to a diverse panel of judges
- 3rd stage** – A 24-hour physical hackathon with a new problem statement.

Teams were expected to give an abstract on the problem statement in the 1st stage and most of the topics were related to goals that can be achieved in 2050. Top 20 teams were shortlisted for 2nd stage and this time they had to present their idea in front of a panel of judges. Top 10 teams were shortlisted for the 3rd stage which was conducted in PCCE college, Goa.

In the third stage, teams were randomly given a new problem statement and were expected to work on it from scratch to provide a working prototype within 24 hours and their topic was Clean and Green Energy. Participants were given separate working space and had limited resources with them.

They had 3 reviews in this stage, first review was 4 hours after the announcement of the topic and it was an presentation round. In the second review they have to present 50% of their prototype. The final presentation of the working prototype was on the next day morning. As expected the 3rd stage wasn't a cakewalk for them. They had many ideas pouring into them but they took one which could be completed within 24 hours and which was unique from the usual ideas. This made them to work on reducing carbon foot print. They made a portal to manage carbon footprint in an environment.



HANDLING PRESSURE

Actually, it was supposed to be a team of three but unfortunately one of the team member wasn't able to attend the competition so they had to compete with other teams which had three members and still managed to pull it off. They had very limited resources and was restricted to a single room. At one point of time they were not happy with their performance and felt low. After sometime they let it go loose and continued working. They became more productive when they worked on things which was under their control and didn't worry much about winning the competition. This made them feel better.

THE ART OF PRESENTING YOUR IDEA

During presentation you should be good at selling your project. They took up a particular novelty and a unique selling point and stressed on that to stand out of the crowd. Their project had minimum number of sensors, a basic website and was simple. So The idea need not be very complex if it could make a change. They explained it clearly which gave judges a clarity on what their project is about. Their project needed physical hardware for better implementation which they didn't have at that time. This led them to the third place. Judges mentioned that their presentation skills are of the chart and convincing enough for them.



THE JOURNEY OF LEARNING

During the notification of the final hackathon they got a list of domains which the students are expected to be familiar with. They made sure that they had a basic understanding in every domain which they might need in this hackathon. The topic which they chose was well in line with the knowledge they previously had. Otherwise it is all about integrating ideas and bringing them into reality within the given constraints.



They never thought they would win this competition and was surprised by the result. They would like to thank Dr.N.Edna Elizabeth mam for guiding them through stage 1 and stage 2, Dr.P.Kaythry mam for giving inputs in the 3rd stage and accompanying them. They participated in many other hackathons conducted by our college and other colleges which gave them experience.

At the end, The Attitude of learning, Positive mindset and Perseverance will help you reach your goals. Congratulations to Ananya Prabhu and Tejaswi S on winning ACM-W hackathon and All the best for your future endeavours.

“Winners are not those who never fail but those who never quit”-Edwin Louis Cole.”

-G M Deyanesh Krishna
II year, ECE-A

MASTERS SURVEY

Kruthi Rajeshwar



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✉ **LinkedIn:** <https://www.linkedin.com/in/kruthi-rajeshwar-12a45b212/>

✉ **What was your UG CGPA at the time of your application?**
9.37

✉ **If you took up the GRE, how much was your score in the QUANT section?**
162/170

✉ **If you took up the GRE, how much did you score in the VERBAL section?**
149/170

✉ **If you took up the GRE, how much did you score in the AWA Section?**
4/6

✉ **If you took up the TOEFL, what was your score on the test?**
NA

✉ **If you took up the IELTS, what was your overall band?**
8/9

✉ **Through the course of your undergrad, you would have done various projects in many areas. In bullet points, please list out the domains of the projects you had done during the time of your application and a short description of them if possible.**

→ Mathematics, Image Processing, Machine Learning: Application of Graph Energy in Glaucoma detection using Machine Learning Techniques: Development of a glaucoma detection system using the Concept of Energy of Graphs.

→ Robotics, Image Processing, Machine Learning: Unmanned drone for Flood Detection: Simulated an unmanned drone that using its camera could detect the regions of flood in a disaster-hit region.

→ Data Science, Machine Learning: Anomaly Detection in time series data: Developing a model which can detect and correct anomalies in multivariate time series data in real time.

→ Machine Learning: Advertisement Recommendation System based on User's Browser History: Using a single user's browser history a model was built which suggested what genre of advertisements would the user prefer.

→ Microwave Engineering and Antennas: Fabrication of Microstrip patch Antennas Using Dye Doped Triglycine Sulfate Single Crystals For 5G Communication: Synthesis of Triglycine Crystals to aid fabrication of Microstrip patch antennas.

→ Internet of Things: Automated Traffic Control System: Developed an automated traffic control system integrated with an alarm system to identify defaulters and alert the police.

→ Internet of Things: Automated Water Irrigation System: Developed an automated water irrigation system integrated with an alarm system to identify the shortage of water in the fields and alert the farmer.

→ Machine Learning, Internet of Things: Fertilizer predictor: Developed a fertilizer predictor, revenue predictor, and crop predictor using IBM Watson Studio and developed a web application as well.

Internships are goldmines of technical and real-world learning that you must have encountered during your undergrad. In bullet points, please list out the companies/institutions you did internships at and the roles/domains you worked in

CSIR-CEERI, Chennai: Research Intern (Part-time): Worked on Plastic Segregation using Raman Scattering and Machine Learning.

If you published any papers during your undergrad degree, please mention how many and a description of where you had them published (name of conference or journal, etc.).

1 paper: (Under Review) Application of Graph Energy in Glaucoma Detection using Machine Learning Techniques: International Journal of Applied and Computational Mathematics

Which countries did you apply to for your Masters?

United States of America, Singapore, Germany

Which Universities along with the departments did you apply to for your Masters?

→ University of Texas at Dallas (CE)

→ North Carolina State University (EE)

→ National University of Singapore (EE)

→ University of Erlangen–Nuremberg (CE)

Which Universities did you receive the admit letters from?

→ University of Texas at Dallas (CE)

→ North Carolina State University (EE)

→ National University of Singapore (EE)

→ National University of Singapore (CE)

Which University did you choose?

North Carolina State University (EE)

What were the reasons for your choice?

Better career prospects.

What is your area of specialization in your current PG program?

Machine Learning and Data Science

Do you have any specific advice write the LORs and SOPs?

Don't exaggerate too much and keep it simple and concise. Try not to read too many samples of SOPs as you'll end up following the same for yours and you'll end up losing originality.

Do you have any specific advice write the admission process (deadlines, application windows, any agencies or services you used, how you kept track of the dates, etc.)?

Maintain a spreadsheet and try noting down all details in that. If you and your friends are applying together then try to keep track of deadlines and requirements together. If you feel you'll find it difficult to keep track of everything you can always approach a higher education consultant as they'll help you out with everything starting from shortlisting to your visa.

Do you have any specific advice on preparing for/taking up qualifying exams like GRE, TOEFL, IELTS, etc.?

Prepare constantly for GRE (mainly verbal) and make sure you learn at least 75-80% of the vocabulary required for the GRE.

Yash Tated



✎ **Email:** y.tated0407@gmail.com

✎ **LinkedIn:** <https://www.linkedin.com/in/yash-tated-/>

✎ **What was your UG CGPA at the time of your application?**
9.25

✎ **If you took up the GRE, how much was your score in the QUANT section?**
160/170

✎ **If you took up the GRE, how much did you score in the VERBAL section?**
157/170

✎ **If you took up the GRE, how much did you score in the AWA Section?**
4.5/6

✎ **If you took up the TOEFL, what was your score on the test?**
101/120

✎ **If you took up the IELTS, what was your overall band?**
NA

✎ **Through the course of your undergrad, you would have done various projects in many areas. In bullet points, please list out the domains of the projects you had done during the time of your application and a short description of them if possible.**

- Machine Learning
- Image Processing
- Cyber Security
- Server Hacking

✎ **Internships are goldmines of technical and real-world learning that you must have encountered during your undergrad. In bullet points, please list out the companies/institutions you did internships at and the roles/domains you worked in**
Adiroha Solutions- Cybersecurity and ethical hacking internship

✎ **If you published any papers during your undergrad degree, please mention how many and a description of where you had them published (name of conference or journal, etc.).**
NA

✎ **Which countries did you apply to for your Masters?**
United States of America

✎ **Which Universities along with the departments did you apply to for your Masters?**

- University of Texas at Dallas (Naveen Jindal School of Management)
- Arizona State University (W.P Carey School of Business)
- American University (Kogod School of Business)
- Stevens Institute of Technology (Stevens School of Business)
- Northeastern University (D'Amore-McKim School of Business)
- University of Massachusetts at Boston (College of Management)

🎓 Which Universities did you receive the admit letters from?

- University of Texas at Dallas
- Arizona State University
- American University
- Stevens Institute of Technology
- University of Massachusetts at Boston

🎓 Which University did you choose?

University of Texas at Dallas

🎓 What were the reasons for your choice?

A vast variety of electives for different professional tracks to choose from depending on the future role one wants to take up.

🎓 What is your area of specialization in your current PG program?

Business Analytics

🎓 Do you have any specific advice write the LORs and SOPs?

Consider collaborating with professors who have a lot of publications and try figuring out the content for the LOR at the earliest as you will be the one writing all the LOR so if you have projects with your professors then it is easier to talk around the same in your LOR so that things won't be repetitive. Try connecting your life and the instances that you have had, that lead you to choosing the specific course you plan on applying. If it is out of scope from the courses that you have done, then do certified courses regarding the same to bridge your gap towards the program. The earlier you start the better.

🎓 Do you have any specific advice write the admission process (deadlines, application windows, any agencies or services you used, how you kept track of the dates, etc.)?

I used Shiksha.com. It's a free service that helps you right from college shortlisting to refining your SOPs and LORs. They complete your applications for you after you have submitted all the required documents to them.

their drawback is that they will only suggest to you the colleges that they have a tie-up with and depending on the course that can be limited at times. make sure you do your research to shortlist universities not based on the overall ranking but based on the department that provided your course.

🎓 Do you have any specific advice on preparing for/taking up qualifying exams like GRE, TOEFL, IELTS, etc.?

TOEFL is relatively easier if you were good during the ASLs in school. More or less the same things with moderate difficulty and you can look up mock papers on YouTube and try out a few and you should be good to go.

Tejesh Kumar V S



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🎓 **LinkedIn:** <https://www.linkedin.com/in/tejesh-kumar-v-s-69a93221a/>

🎓 **What was your UG CGPA at the time of your application?**

9.1

🎓 **If you took up the GRE, how much was your score in the QUANT section?**

NA

🎓 **If you took up the GRE, how much did you score in the VERBAL section?**

NA

🎓 **If you took up the GRE, how much did you score in the AWA Section?**

NA

🎓 **If you took up the TOEFL, what was your score on the test?**

NA

🎓 **If you took up the IELTS, what was your overall band?**

7.5/9

🎓 **Through the course of your undergrad, you would have done various projects in many areas. In bullet points, please list out the domains of the projects you had done during the time of your application and a short description of them if possible.**

→ Artificial intelligence: A novel method for handwritten digit recognition system - created a system that will recognize handwritten numbers using artificial intelligence

→ Microwaves and Antennas: Microwave non-destructive testing of additively manufactured materials - designed a planar sensor to detect defects in 3D printed materials.

→ Machine learning: sign language recognition - created a CNN model that can recognize hand gestures using machine learning

→ Internet of Things: IoT-based water management system - designed a system using an ultrasonic sensor that will measure water levels in real-time and trigger alerts to the user based on the level of the water.

🎓 **Internships are goldmines of technical and real-world learning that you must have encountered during your undergrad. In bullet points, please list out the companies/institutions you did internships at and the roles/domains you worked in**

NA

🎓 **If you published any papers during your undergrad degree, please mention how many and a description of where you had them published (name of conference or journal, etc.).**

NA

🎓 **Which countries did you apply to for your Masters?**

United States of America

🎓 **Which Universities along with the departments did you apply to for your Masters?**

→ University of Massachusetts, Dartmouth (CS)

→ University of Northern Arizona (CS)

→ Drexel University (CE)

→ Cleveland State University (IS)

→ George Mason University (CS)

🎓 **Which Universities did you receive the admit letters from?**

→ University of Massachusetts, Dartmouth (CS)

→ University of Northern Arizona (CS)

→ Drexel University (CE)

→ Cleveland State University (IS)

Which University did you choose?

University of Massachusetts, Dartmouth

What were the reasons for your choice?

Better ranking than the other colleges which gave me an offer and better job opportunities upon completion of the course.

What is your area of specialization in your current PG program?

No particular specialization

Do you have any specific advice write the LORs and SOPs?

Make sure to ask for LORs from faculties with whom you've done projects (which relate to the program you are applying to)

Keep the SOP simple and "to the point". My suggestion is to get samples from the seniors who have gotten admissions to the same course that you wish to apply.

Do you have any specific advice write the admission process (deadlines, application windows, any agencies or services you used, how you kept track of the dates, etc.)?

I cannot stress this point enough. APPLY AS EARLY AS POSSIBLE. Using agencies can be helpful but ultimately it all comes down to you. The most important thing is to keep in touch with other students who are opting for masters, your seniors, and other alumni using Alma Connect. Prepare all the required documents before admissions open and start applying as soon as possible.

Do you have any specific advice on preparing for/taking up qualifying exams like GRE, TOEFL, IELTS, etc.?

Again, take these qualifying exams as soon as possible. Preferably when you are still in the third year. The simplest yet best advice anyone can give is "Keep practicing". Time yourself when writing practice tests and find out ways in which you can improve yourself. Practice learning lots of new and complicated English words which will help you in the verbal section of the GRE. Make sure you understand the pattern, the rules, and the blueprints of the exams well beforehand. Lastly, from personal experience, do not take the Speaking part of IELTS lightly. It's just as important as others. Practice by talking to another person, understand what kind of questions will be asked, and be calm and speak clearly.

Gayathri S



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LinkedIn: <https://www.linkedin.com/in/gayathri-s-b17b571b8/>

What was your UG CGPA at the time of your application?

9.067

If you took up the GRE, how much was your score in the QUANT section?

NA

If you took up the GRE, how much did you score in the VERBAL section?

NA

If you took up the GRE, how much did you score in the AWA Section?

NA

If you took up the TOEFL, what was your score on the test?

NA

If you took up the IELTS, what was your overall band?

8/9

 **Through the course of your undergrad, you would have done various projects in many areas. In bullet points, please list out the domains of the projects you had done during the time of your application and a short description of them if possible.**

→ Performance Analysis of FET-based Bio-sensors (Journal Publication on the process): Designed FET-based devices to detect biomolecules required for medical purposes using Sentaurus TCAD. (Presented at the 8th National Conference on Information and Communication Technologies 2023.)

→ Secure wireless controller for hand-held remote operation of Traffic signals in peak hours: Developed a Project for the Hardware Edition of Smart India Hackathon 2022 using Sensors, RF Antennas, and Cryptographic Algorithms.

→ AI-Assisted Farming and Agriculture: Developed a Project for AI-Assisted Farming and Agriculture for the IBM Hack Challenge 2021 using IBM cloud services, A user interface (with Multilingual Capabilities and Speech-to-Text Conversions) created with Node-Red Platform connected to a Machine Learning Model built in IBM Cloud.

→ IoT Based Hardware Projects - (Hardware and Raspberry): Deployed an Innovative model for Smart Water Management System to Reuse and Recycle Water for Domestic Purposes. Deployed a model for Smart Parking Systems using real-time sensor data.

 **Internships are goldmines of technical and real-world learning that you must have encountered during your undergrad. In bullet points, please list out the companies/institutions you did internships at and the roles/domains you worked in**
NA

 **If you published any papers during your undergrad degree, please mention how many and a description of where you had them published (name of conference or journal, etc.).**
Performance Analysis of FET-based Bio-sensors (VLSI Backend). Presented at the 8th National Conference on Information and Communication Technologies 2023 (March 2023).

 **Which countries did you apply to for your Masters?**
Germany

 **Which Universities along with the departments did you apply to for your Masters?**

- TU Hamburg - Microelectronics and Microsystems
- TU Dortmund - Automation and Robotics
- TU Munich - Communication and Electronics Engineering
- FAU - Advanced Signal Processing and Communication
- University of Freiburg - Microsystems Engineering
- Offenburg University - Communication Engineering
- Saarland University - Embedded Systems Engineering

 **Which Universities did you receive the admit letters from?**

- TU Hamburg
- Offenburg University
- Few universities are yet to process!

 **Which University did you choose?**
TU Hamburg

What were the reasons for your choice?

Technical University and my desired course!

What is your area of specialization in your current PG program?

Microelectronics, VLSI, Embedded Systems

Do you have any specific advice write the LORs and SOPs?

Write your own SOP! Make a rough draft from scratch 3-4 times and enhance them. Approach well knows people for LORs rather than for namesake.

Do you have any specific advice write the admission process (deadlines, application windows, any agencies or services you used, how you kept track of the dates, etc.)?

I did everything on my own and application periods for Germany start from February and go on till June. The course starts in October. It is better to shortlist universities and make an Excel sheet with all the requirements and your opinions about the particular University/course. Give your exams well in advance to avoid stress (In the month of Sept-Oct).

Do you have any specific advice on preparing for/taking up qualifying exams like GRE, TOEFL, IELTS, etc.?

IELTS - There are numerous free resources to take up mock tests and practice for yourself. IELTS is comparatively easier. Consistent efforts are important!

Anjali Anand



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LinkedIn: <https://www.linkedin.com/in/anjali-anand-359886230/>

What was your UG CGPA at the time of your application?

8.91

If you took up the GRE, how much was your score in the QUANT section?

161/170

If you took up the GRE, how much did you score in the VERBAL section?

150/170

If you took up the GRE, how much did you score in the AWA Section?

4/6

If you took up the TOEFL, what was your score on the test?

NA

If you took up the IELTS, what was your overall band?

8.5/9

Through the course of your undergrad, you would have done various projects in many areas. In bullet points, please list out the domains of the projects you had done during the time of your application and a short description of them if possible.

→ Machine Learning

→ Biomedical-related projects

Internships are goldmines of technical and real-world learning that you must have encountered during your undergrad. In bullet points, please list out the companies/institutions you did internships at and the roles/domains you worked in

NA

If you published any papers during your undergrad degree, please mention how many and a description of where you had them published (name of conference or journal, etc.).

NA

 Which countries did you apply to for your Masters?

United States of America, Netherlands

 Which Universities along with the departments did you apply to for your Masters?

- TU Delft (EE)
- University of Texas Austin(bioECE)
- University of Southern California (BE)
- Boston University (BE)
- North Eastern University (Bioengineering)
- North Carolina State University (EE)

 Which Universities did you receive the admit letters from?

- TU Delft (EE)
- University of Southern California (BE)
- Boston University (BE)
- North Eastern University (Bioengineering)
- North Carolina State University (EE)

 Which University did you choose?

TU Delft

 What were the reasons for your choice?

Wanted to study in the Netherlands, cheaper and better for research

 What is your area of specialization in your current PG program?

Biomedical Devices profile

 Do you have any specific advice write the LORs and SOPs?

SOPs are very important, do allot a good amount of time for this. I know the start is very intimidating but try and answer these questions: Why are you choosing that course, Why are you choosing that college, What is motivating you to pursue the course?

 Do you have any specific advice write the admission process (deadlines, application windows, any agencies or services you used, how you kept track of the dates, etc.)?

Honestly, the best thing to do is to create an Excel sheet containing: the college, course, deadline, requirements(GRE/IELTS/TOFEL/No of LORs req), fee, pros, and cons(Not needed), the link to the portal, and if required the password to log in (Many different portals had different pw requirements so it was hard to keep track of it all).

 Do you have any specific advice on preparing for/taking up qualifying exams like GRE, TOEFL, IELTS, etc.?

For GRE vocab use this:

<https://docs.google.com/spreadsheets/d/1PsOjn4WOALEujMvNlcNvSwB0LLvALTgl/edit#gid=2021787092>

The best way to practice is by taking the practice test and seeing where you need to improve. Dedicated prep of 1-2 months is enough. Don't, stress out too much while writing.

Jaswandt Raja S



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✉ **What was your UG CGPA at the time of your application?**

8.8

✉ **If you took up the GRE, how much was your score in the QUANT section?**

157/170

✉ **If you took up the GRE, how much did you score in the VERBAL section?**

149/170

✉ **If you took up the GRE, how much did you score in the AWA Section?**

3/6

✉ **If you took up the TOEFL, what was your score on the test?**

101/120

✉ **If you took up the IELTS, what was your overall band?**

NA

✉ **Through the course of your undergrad, you would have done various projects in many areas. In bullet points, please list out the domains of the projects you had done during the time of your application and a short description of them if possible.**

→ Radio Frequency Integrated Circuits: Designed a low noise amplifier in the frequency range of 28 to 32 GHz. Performed S parameter analysis, noise analysis, and Power analysis.

→ Cloud-based project: A Machine Learning (ML) based model was built and deployed in the cloud and then integrated into a website to predict a student's admission chances to a university.

→ Machine Learning: Built an ML model which identifies current weather conditions using an image recognition system.

✉ **Internships are goldmines of technical and real-world learning that you must have encountered during your undergrad. In bullet points, please list out the companies/institutions you did internships at and the roles/domains you worked in**

NA

✉ **If you published any papers during your undergrad degree, please mention how many and a description of where you had them published (name of conference or journal, etc.).**

1 paper, Hinweis Research International Conference on Advances in Electrical and Electronics Engineering Scopus Indexed.

✉ **Which countries did you apply to for your Masters?**

United States of America

✉ **Which Universities along with the departments did you apply to for your Masters?**

→ Arizona State University (ECE)

→ Northeastern University (ECE)

→ Ohio State University (ECE)

→ North Carolina State University (ECE)

→ University of Colorado Boulder (ECE)

- University of Southern California (ECE)
- Purdue University (ECE)
- University of Texas at Austin (ECE)
- Georgia Institute of Technology (ECE)
- University of Illinois Urbana-Champaign (ECE)

Which Universities did you receive the admit letters from?

- Arizona State University
- Northeastern University
- Ohio State University
- North Carolina State University
- University of Colorado Boulder
- University of Southern California

Which University did you choose?

University of Southern California

What were the reasons for your choice?

California is the best on my list of admits, Coursework, and labs.

What is your area of specialization in your current PG program?

Analog, Mixed-Signal, and Radio-frequency Integrated Circuits

Do you have any specific advice write the LORs and SOPs?

Stick with standard organization and maintain sequence. Don't use complex English.

Do you have any specific advice write the admission process (deadlines, application windows, any agencies or services you used, how you kept track of the dates, etc.)?

Don't waste your money on agencies. Instead, you can apply to more colleges. Ideally, I would suggest 8-10 colleges. If you want to get into a top college apply early, and try to be done with all the processes at least by October end.

Do you have any specific advice on preparing for/taking up qualifying exams like GRE, TOEFL, IELTS, etc.?

Again, don't waste your money on agencies. For TOEFL the official material from ETS is more than sufficient. Of all the colleges I applied only one college (UIUC) asked for GRE scores universities are moving away from GRE so don't put much pressure on it.

Sam Devavaram Jebaraj



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What was your UG CGPA at the time of your application?
8.763

If you took up the GRE, how much was your score in the QUANT section?
NA

If you took up the GRE, how much did you score in the VERBAL section?
NA

 **If you took up the GRE, how much did you score in the AWA Section?**

NA

 **If you took up the TOEFL, what was your score on the test?**

101/120

 **If you took up the IELTS, what was your overall band?**

7.5/9

 **Through the course of your undergrad, you would have done various projects in many areas. In bullet points, please list out the domains of the projects you had done during the time of your application and a short description of them if possible.**

→ My ROI was ML. So, most of my projects, IFP, FYP as well as my internships and self-interested ones were aligned towards ML.

 **Internships are goldmines of technical and real-world learning that you must have encountered during your undergrad. In bullet points, please list out the companies/institutions you did internships at and the roles/domains you worked in**

Healthcare Technology Innovation Centre, IITM Research Park

Under Neos HealthTech Pvt limited, I was an ML Intern, assigned to study and implement modified Transfer models such as various versions of ResNet50 and DenseNet and evaluate their performances in localizing and classifying 14 types of thoracic abnormalities in the lung.

Other work experience:

Video Editor - TedEx Talks, a collab with NIT Trichy

Video Editor - Freelancing for clients around UK and USA

 **If you published any papers during your undergrad degree, please mention how many and a description of where you had them published (name of conference or journal, etc.).**

NA (Post Application- did one in IEEE CONIT 2023)

 **Which countries did you apply to for your Masters?**

United States of America, Switzerland, Finland, Sweden, Netherlands

 **Which Universities along with the departments did you apply to for your Masters?**

→ Carnegie Mellon University, USA, ECE (ML Specialization)

→ EPFL, Switzerland, DS

→ University of Southern California, USA, ECE (MLDS Specialization)

→ Aalto University, Finland, AI&ML

→ University of Washington, USA, MLDS

→ KTH, Sweden, MLDS

→ UMich USA, MLDS (Statistics Department)

→ University of Amsterdam Netherlands (AI&ML)

→ Penn State University, (Data Analytics)

 **Which Universities did you receive the admit letters from?**

→ Penn State University, USA, Data Analytics

→ Aalto University, Finland, AI&ML

→ University of Southern California, USA, ECE (MLDS Specialization)

Which University did you choose?

University of Southern California, USA, ECE (MLDS Specialization)

What were the reasons for your choice?

Though Cali is an expensive option, among the admits, it had a relatively higher rank as well as is located near Silicon Beach. The return on Investment would be higher and quicker as compared to other options. Penn State was more of a safe school, moreover, each campus and research institute is scattered across the route between Pitt and Philadelphia. However, I was initially more in favor of Aalto University due to my very first impression of the European lifestyle. USC offers nice jobs and research facilities compared to Aalto, also the weather is similar to Chennai, except for the Summers :/ (Compared to Helsinki's biting cold)

Cumulatively, USC felt better in terms of comfort, job opportunity, and most importantly, my broad major, that is 'MLDS under ECE' rather than purely specific 'Data Analytics' and 'AI&DS'

What is your area of specialization in your current PG program?

ML and Data Science

Do you have any specific advice write the LORs and SOPs?

To be honest, most faculties ask you to pen a draft, so make sure you boast about yourself but as professionally as possible. PLEASE HAVE AN INDUSTRIAL LOR with two Academic LORs. Some European Unis did ask these specifically.

I'd say, get the first LOR from a faculty whom you know for the longest (this faculty can vouch for your discipline, activeness, and extracurricular). I prefer this category to be given to your student mentor or project guide because it makes more sense.

For the second LOR, I highly recommend getting from a faculty who taught the specialization. In my case, I approached the faculty who taught me Machine Learning in the fifth semester and luckily I attended numerous labs and courses under the same. Therefore, could vouch for my strength in research for this field.

There are a few exceptions, if you are a member of the core committee, you can ask the respective faculty-in charge. LOR from other departments is possible, but make sure you made a significant impact while being with these faculties.

Do you have any specific advice write the admission process (deadlines, application windows, any agencies or services you used, how you kept track of the dates, etc.)?

Finish everything before Nov 25 if applying for the US Fall season. Go for the early admissions and seal your success. The use of agencies is a waste of money!

Do you have any specific advice on preparing for/taking up qualifying exams like GRE, TOEFL, IELTS, etc.?

According to me, GRE preparation needs time. Vocab is hard and you need to bring those quick-solving skills for Quants. Math is simple, like 11th-grade max, but several questions that you can attend per min are what is needed. Note that some Universities demand that you cross a specific score in quants/vocab/both rather than just a generalized cut-off.

To choose between IELTS and TOEFL to show your language authority, please choose IELTS. The exam fee is 15k. You have to send the scores to the university through the IETLS website.

The problem with TOEFL is that each send is 20 USD, which is 1.6k whereas for IELTS is 250rs. And IELTS is easier and has more of a structural format exam. If you know the structure and grammar, you can get an easy 7 band. I got 7.5 out of 9 bands. Most Unis require a 6.5 or 7 overall and 6.5 in each section of Reading, listening, writing, and speaking.

TOEFL, you have to talk to the mic on pc rather than speaking to a person in IELTS. But the problem is everyone in the test center would speak at the same time, it would be super disturbing.

Note that specific Universities like Stanford ask for TOEFL scores only. So, please do your research.

R.M.Harish



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What was your UG CGPA at the time of your application?
8.55

If you took up the GRE, how much was your score in the QUANT section?
162/170

If you took up the GRE, how much did you score in the VERBAL section?
159/170

If you took up the GRE, how much did you score in the AWA Section?
3.5/6

If you took up the TOEFL, what was your score on the test?
109/120

If you took up the IELTS, what was your overall band?
NA

Through the course of your undergrad, you would have done various projects in many areas. In bullet points, please list out the domains of the projects you had done during the time of your application and a short description of them if possible.

→ Image processing - Quantifying relative turbidity in water samples

→ Natural Language Processing - Stock market price prediction

→ Computer Vision/ Image processing - Visual odometry for trajectory estimation

Internships are goldmines of technical and real-world learning that you must have encountered during your undergrad. In bullet points, please list out the companies/institutions you did internships at and the roles/domains you worked in

→ IIT-Indore, remote intern working in sentiment analysis

→ NIOT - worked to estimate turbidity and enhance turbid images

If you published any papers during your undergrad degree, please mention how many and a description of where you had them published (name of conference or journal, etc.).
IEEE INCOFT 2022

Which countries did you apply to for your Masters?
United States of America

Which Universities along with the departments did you apply to for your Masters?

→ University of Washington - MS EE

→ University of California San Diego - MS ECE

→ University of California Irvine - MS ECE

→ Georgia Tech - MS ECE

→ Arizona State University - MSE EE

→ University of Minnesota - MS ECE

→ Purdue University - MS ECE

🎓 **Which Universities did you receive the admit letters from?**

→ UC Irvine

→ ASU

→ UMN

🎓 **Which University did you choose?**

UC Irvine

🎓 **What were the reasons for your choice?**

Reputation and location

🎓 **What is your area of specialization in your current PG program?**

Signal Processing/ Image processing

🎓 **Do you have any specific advice write the LORs and SOPs?**

Customize it, don't make it too much about yourself and talk about why you would be a good fit. Visit writeivly blog to get an understanding of how this works.

🎓 **Do you have any specific advice write the admission process (deadlines, application windows, any agencies or services you used, how you kept track of the dates, etc.)?**

Do not procrastinate. You don't really need any agency. I wasn't very efficient in this area so I can't really comment.

🎓 **Do you have any specific advice on preparing for/taking up qualifying exams like GRE, TOEFL, IELTS, etc.?**

Please do not join any coaching center, you can do well without it. Practice speaking (TOEFL) and improve your reading comprehension (GRE).

Rohith Ram A



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🎓 **What was your UG CGPA at the time of your application?**

8.4

🎓 **If you took up the GRE, how much was your score in the QUANT section?**

160/170

🎓 **If you took up the GRE, how much did you score in the VERBAL section?**

154/170

🎓 **If you took up the GRE, how much did you score in the AWA Section?**

3/6

🎓 **If you took up the TOEFL, what was your score on the test?**

112/120

🎓 **If you took up the IELTS, what was your overall band?**

8/9

🎓 **Through the course of your undergrad, you would have done various projects in many areas. In bullet points, please list out the domains of the projects you had done during the time of your application and a short description of them if possible.**

→ RISC V32I processor using Verilog: Part of the Maven Silicon internship was creating a RISC V processor.

Internships are goldmines of technical and real-world learning that you must have encountered during your undergrad. In bullet points, please list out the companies/institutions you did internships at and the roles/domains you worked in

- RISC V Design Internship /Training at Maven Silicon
- FPGA Intern at Xyma Analytics Pvt Ltd

If you published any papers during your undergrad degree, please mention how many and a description of where you had them published (name of conference or journal, etc.).
NA

Which countries did you apply to for your Masters?
United States of America

Which Universities along with the departments did you apply to for your Masters?

- Stanford University (ECE)
- University of California, Berkeley (EECS)
- The University of Michigan, Ann Harbor (EECS)
- Georgia Institute of Technology (ECE)
- University of Southern California (EE)
- Texas A&M University (CE)
- University of California, Irvine (ECE)
- Arizona State University (CE)
- Drexel University (ECE)

Which Universities did you receive the admit letters from?

- University of Southern California
- Texas A&M University
- Arizona State University
- Drexel University

Which University did you choose?
University of Southern California

What were the reasons for your choice?

Proximity to Industry. Well-constructed courses. A good place to stay. Higher Rankings.

What is your area of specialization in your current PG program?
VLSI/Computer Arch

Do you have any specific advice write the LORs and SOPs?

Be realistic in writing your SOPs; that should be enough to get through right to the professors. As for LORs get it from staff that you have done your work with.

Do you have any specific advice write the admission process (deadlines, application windows, any agencies or services you used, how you kept track of the dates, etc.)?

Try starting the process earlier so you don't keep missing materials that can boost your profile overall. I did use Manya for abroad services but they weren't super helpful in giving advice. But they did help in correcting SOPs, but there should be Reddit pages that help.

Do you have any specific advice on preparing for/taking up qualifying exams like GRE, TOEFL, IELTS, etc.?

Check with the corresponding universities you have shortlisted. If GRE is optional and you have an excellent CGPA it isn't necessary to send them afaik. But regardless it helps if you have all the exams written.

Nitheesh T



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 **What was your UG CGPA at the time of your application?**
8.93

 **If you took up the GRE, how much was your score in the QUANT section?**
NA

 **If you took up the GRE, how much did you score in the VERBAL section?**
NA

 **If you took up the GRE, how much did you score in the AWA Section?**
NA

 **If you took up the TOEFL, what was your score on the test?**
NA

 **If you took up the IELTS, what was your overall band?**
7/9

 **Through the course of your undergrad, you would have done various projects in many areas. In bullet points, please list out the domains of the projects you had done during the time of your application and a short description of them if possible.**

→ INTELLIGENT NPCs IN GAMES: A combination of Deep-Q Learning concept and Rapidly Exploring Random Trees Star algorithm was used to spawn intelligent Non-playable Characters in 3D games. The Non-playable Characters, if attacked repetitively, ambushed the main player when the player's health dropped to low levels. The results were demonstrated in the game, Middle Earth: Shadow of War.

→ SMART IRRIGATION SYSTEM USING IoT: Interfaced various sensors such as Soil Moisture sensor, Electrochemical sensor, etc. with Raspberry Pi. Monitored humidity, soil moisture, and composition for optimized irrigation and quantity of fertilizer to be used. Amount of moisture, and levels of Nitrogen, Phosphorus and Potassium were documented in ThingSpeak.

→ MACHINE LEARNING FOR TRANSMISSION MODE SELECTION IN V2V COMMUNICATION: Implementation of a ns3 simulating network with a centralized trained model and devices are trained and updated by the trained model with the use of LTE ProSE. An approach that the devices will select by themselves the best transmission mode resulting in sum rate increment and power consumption decrement, is being investigated.

 **Internships are goldmines of technical and real-world learning that you must have encountered during your undergrad. In bullet points, please list out the companies/institutions you did internships at and the roles/domains you worked in**

Research Intern - 'FM Receiver using GNU Radio'

Indian Institute of Technology Indore (Supervisor - Dr. Vimal Bhatia) - Remote

Designed a Frequency Modulated Receiver using Software Defined Radio technology. Worked with HackRF One SDR with antennas and constructed a suitable flowgraph in the GNU Radio software development toolkit. The signal processing blocks in the flowgraph were used to process the incoming signal received by the receiving antenna. Emphasis was given to the software part rather than the hardware analog components. The advantage of this radio protocol is that it can adapt to changing radio protocols.

 **If you published any papers during your undergrad degree, please mention how many and a description of where you had them published (name of conference or journal, etc.).**

NA

Which countries did you apply to for your Masters?

Sweden, France, Italy

Which Universities along with the departments did you apply to for your Masters?

- Lund University - Wireless Communications
- KTH Royal Institute - Communication Systems
- Linköping University - Communication Systems
- Chalmers University of Technology - Information and Communication Technology
- Eurecom Research Institute - Intelligent Communication Systems
- University of Catania - Communications Engineering

Which Universities did you receive the admit letters from?

- Lund University
- Eurecom Research Institute
- University of Catania

Which University did you choose?

Lund University

What were the reasons for your choice?

Sweden, being a hub for the development of telecommunication technologies, was my first preference. Lund University offers education for a nominal fee, and I felt the curriculum of my selected programme to be convincing.

What is your area of specialization in your current PG program?

Telecommunications

Do you have any specific advice write the LORs and SOPs?

I did not require the help of any agency to compose my SOPs and LORs. One can ask for help from any English professor working in our college, and that is basically what I did. Build up a list of necessary points that will make up the SOP, and structure them accordingly. I made use of a website (writeivvy.com) and I revised my SOP with an English professor in our college. SOP or LOR, brevity is the key. The website helped me and getting help from any agency is something I won't recommend.

Do you have any specific advice write the admission process (deadlines, application windows, any agencies or services you used, how you kept track of the dates, etc.)?

Talking with respect to the countries I applied in, I did not require the aid of any agency. Although keeping the deadlines in mind, before beginning to apply is a starter.

Do you have any specific advice on preparing for/taking up qualifying exams like GRE, TOEFL, IELTS, etc.?

I would recommend anyone to take up an online class and train for a month before attempting any of the mentioned exams.

Aaryan Siddharthan



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What was your UG CGPA at the time of your application?

8.9

If you took up the GRE, how much was your score in the QUANT section?

NA

If you took up the GRE, how much did you score in the VERBAL section?

NA

 **If you took up the GRE, how much did you score in the AWA Section?**

NA

 **If you took up the TOEFL, what was your score on the test?**

NA

 **If you took up the IELTS, what was your overall band?**

8/9

 **Through the course of your undergrad, you would have done various projects in many areas. In bullet points, please list out the domains of the projects you had done during the time of your application and a short description of them if possible.**

→ Developed an app for realtime monitoring system of construction equipment

→ Research on Industrial AI/IoT

→ Sentiment Analysis

→ Image/Video Processing

 **Internships are goldmines of technical and real-world learning that you must have encountered during your undergrad. In bullet points, please list out the companies/institutions you did internships at and the roles/domains you worked in**

→ Project Intern at Daloft Aerospace, IITM

→ Project Intern at Nastel Technologies

→ Research Intern at TenzAI

→ Project Intern at Radiare Software Solutions

 **If you published any papers during your undergrad degree, please mention how many and a description of where you had them published (name of conference or journal, etc.).**

NA

 **Which countries did you apply to for your Masters?**

Unites States of America

 **Which Universities along with the departments did you apply to for your Masters?**

All Electrical and Computer Engineering

→ Purdue University (Bioengineering also)

→ University Of Southern California

→ Arizona State University

→ North Carolina State University

→ Columbia University

→ Northeastern University

→ Boston University

→ Carnegie Mellon University

→ University of Florida

 **Which Universities did you receive the admit letters from?**

→ Purdue University

→ University Of Southern California

→ Arizona State University

→ North Carolina State University

- Northeastern University
- Boston University
- Carnegie Mellon University
- University of Florida

 Which University did you choose?

University Of Southern California

 What were the reasons for your choice?

Highest in ranking for the course of my choice. Flexible curriculum and course work

 What is your area of specialization in your current PG program?

ML/SP

 Do you have any specific advice write the LORs and SOPs?

Make sure all the writeups you submit are coherent with one another. This is the most important factor. Don't hesitate to have repetitions in content in different letters, but don't overdo it too

 Do you have any specific advice write the admission process (deadlines, application windows, any agencies or services you used, how you kept track of the dates, etc.)?

If you have a good profile already, apply before the priority deadline. If not, use the extra 1 or 2 months and add things that stand out, and then apply accordingly. Earlier the better. Latest by Jan end.

 Do you have any specific advice on preparing for/taking up qualifying exams like GRE, TOEFL, IELTS, etc.?

IELTS saves you money while sending scores and it's easy. To be honest, no prep is required if you are pretty good with English to start with.

Aim high in GRE, it's simple but don't lose concentration. 4.5 hours is long. But the new regulations have brought it down and changed the format. Look into it, should be easier?



INDUSTRY INSIGHT

Adobe is a multinational software company renowned for its extensive range of creative and multimedia software products. With flagship applications such as Photoshop, Illustrator, InDesign, Premiere Pro, and After Effects, Adobe has become synonymous with professional-grade tools for image editing, graphic design, page layout, video editing, and motion graphics. Its software suite, known as Creative Cloud, offers a subscription based model that provides users with access to the latest versions of Adobe's applications, regular updates, cloud storage, and collaborative features. Adobe's software is widely used by professionals and creative enthusiasts alike, empowering them to bring their ideas to life and achieve stunning visual results.

As a part of the content writing team we got the opportunity to interview Shwetha Somasundaram, who graduated SSN in 2022. She is currently working at Adobe as a research associate. Here are a few excerpts from the interview.

1. How did you get the opportunity to work at adobe?

I got the adobe women in technology scholarship for Indian students. As part of the benefits of the scholarship I was allowed to interview for a research intern. I got the internship and was given a pre placement offer based on my performance during the internship.

2. How was your experience as an intern in adobe?

In Adobe's research internship, we had two research scientists who were in charge of the team. Each team also had research associates who usually had one year experience and two to four research interns. We were given an idea about the problem statement. So, for the first couple of weeks it was mostly just brainstorming, coming up with the problem defense and looking at the different ways in which the problem was tackled. Once we came up with the final idea we had to work really hard to put it all together.

3. What all skills do you think helped you get the research internship?

When I was interviewing I had done an internship in iisc which I had done in my second year. So I had a very good project that I could talk about since I had written a 20 page report on it. When the interviewer was asking me questions I could point to the report and explain what I had done. I think that really helped. As long as you have a solid standalone project that you have worked on, it'll let the interviewer know that you have sound technical knowledge. So I think that is something you need to communicate in an interview. Other than that, it is also important to use very precise language in the resume and not be very ambiguous. I was on top of all the things I had put in my resume, I think that helped the most.



4. How do you like working in Adobe now ?

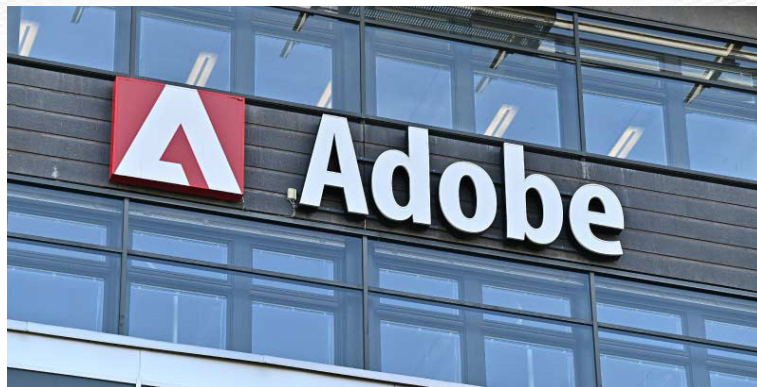
The landscape has changed significantly, especially after GenAi. I work in natural language processing and it has literally changed the way we work here. It's pretty nice to be working here. We usually don't witness such drastic change, so it's really fun.

5. What are your day to day responsibilities?

As a research associate I have two aspects of my role. I have to figure out which use cases will be useful. That is a very important part of my job where I engage in discussions with product managers, engineers and other departments. We all try to understand if the problems that we work on in the lab are relevant. The other more interesting aspect of my work is the part where we work on things that are more tied to reality and real world use cases.

6. Do you think CGPA is very important?

I think cgpa's are important in the sense that it should be more than the ballpark figure. But then again you're not going to be judged solely on your cgpa. So ideally you should be a well rounded person, that is you should be a part of clubs, participate in hackathons and other extracurricular stuff. For placements, it depends on the company. I think ideally it should be above 8.5. 8.5 to 9 is pretty good because it'll help even if you want to go for masters. It serves as a filtering system and a convenient metric so it's better to be on the safer side and maintain a cgpa that is more than the ballpark figure.



7. Did you find any difference between working at Adobe as an intern and working there as a research associate?

Yeah, definitely there is a difference. When you're an intern the only thing that is expected of you is to work on a single project and that's all you spend your time on. But when we get into an actual job, I think this holds true for any job, we have a lot more things on our plate and those are

pretty important too; like the meetings mentioned. So meetings with product managers help us understand if the technology that we're building is useful for the product. And the second thing when we talk to engineering we get a lot more insight about the infrastructure. In academia we make a lot of assumptions but we can't do that in production. So these are all parts of the job that you start getting involved in when you start a full time job.

8. What are the skills that one should have garnered when appearing for placements?

If you're going to sit for placements for any type of tech role, it goes without saying you do need to be good at coding, that is your basics should be good in at least one programming language. Other than that I think you should have good problem solving skills. The most important is communication skills, you should know how to put your thoughts across clearly and sort of sell yourself.

9. Have you ever considered doing masters?

After coming to this job. I'm realizing that I would like to be close to the actual implementation. I'm "I'll get my hands dirty with the code" kind of person. I'd like to stay in the industry for a couple more years and then maybe master. I haven't decided if I want to do masters or phd. Higher is still an option but at least for the next year I'll be in the industry.

10. Any advice for your juniors?

Once placement season starts, people start feeling the pressure and start comparing themselves with others. They keep thinking about how far they are from what they want to be, but the thing is you need to give it time and nothing's going to happen overnight. My advice is to enjoy college as much as you want but at the same time also try to figure out what you want to do and work towards it.

-C Shanmukha Priya
III year, ECE-B



WASSUP ?

Attending conferences is a huge learning experience. It's a great platform to showcase your work to renowned professionals, get insightful feedback, learn about the newest technological advancements and meet people of similar interests. Here's a consolidated list of upcoming conferences in different universities across the country that you budding engineers, scientists and researchers can take part in!

International Higher End Workshop on Electric Vehicle Intelligent Technologies(EVIT-23)

VENUE: Vellore Institute of Technology, Vellore
DATE: 8th-12th July 2023
TYPE: International Workshop
WEBSITE: [EVIT-23](https://www.evit-23.com)



40th International Symposium on Automation and Robots in Construction

VENUE: IIT Madras Research Park, Chennai, India
DATE: 3rd-9th July 2023
TYPE: International Symposium
WEBSITE: [ISARC2023](https://www.isarc2023.org)

International Conference on Smart Technology, Artificial Intelligence and Computer Engineering (ICSTAICE)

VENUE: Hotel Sonas Inn, Chennai, India
DATE: 19th July 2023
TYPE: International Conference
WEBSITE: [ICSTAICE](https://www.icstaice.com)

Registrations open till 10 July 2023



IEEE WINTECHCON 2023: Emerging Technologies from Silicon to Software for a Sustainable Future

VENUE: The Leela Palace, Bangalore
DATE: 21st September 2023
TYPE: International Conference
WEBSITE: [WINTECHCON2023](https://www.wintechcon2023.org/)

Registration opens by July



IEEE Asian Conference on Innovation in Technology (ASIANCON 2023)

VENUE: Pune, India
DATE: 25-27th August 2023
TYPE: International Conference
WEBSITE: [ASIANCON23](https://www.asiancon2023.org/)

Paper Submission open till 10th July 2023

2023 IEEE International Conference on Distributed Computing, VLSI, Electrical Circuits and Robotics(Discover)

VENUE: Sahyadri College of Engineering and Management, Managaluru India
DATE: 13-14th October 2023
TYPE: International Conference
WEBSITE: [IEEE DISCOVER 2023](https://www.iiitdiscovery.org/)

Registration Open till 18th September 2023



International Conference on Electrical and Electronics Engineering (ICEEE)

VENUE: Hotel Sonas Inn, Chennai, India
DATE: 17th July 2023
TYPE: International Conference
WEBSITE: [ICEEE](http://ICEEE.org)

Registration open till 4th July 2023



19th Asia Pacific Conference on Circuits and Systems (IEEE APCCAS 2023)

VENUE: Hyderabad, India
DATE: 19-22nd November 2023
TYPE: International Conference
WEBSITE: [APCCAS 2023](http://APCCAS2023.org)



GADGETS AND GIZMOS

Optical Computers - The Next Revolution in Computing

We are amid the rapidly advancing digital era. In this era, the highest priority is given to enhancing the currently available technologies and to make them advanced as well as accessible. With an exponential increase in the number of devices connected to the internet and automation in real time applications, there is a need for accelerated processing, efficient storage, and transmission of data.

Evolution of Computing

Computers became an inevitable device to carry out our day-to-day tasks. Computing is the process of using computer technology to manage, process and communicate information. It encompasses design and development of both hardware and software. ENIAC (Electronic Numerical Integrator and Computer) was the first computing system designed in the early 1940s. It consisted of 18,000 buzzing electronic switches called vacuum tubes. In 1947, transistor was invented at Bell Laboratories. Jack Kilby and Robert Noyce invented Integrated Circuit and the latter in 1968 co-founded Intel Electronics company. From then onwards the several technological improvements are made in transistor designs to improve the computation speed, reduce power consumption and miniaturising the devices.

Disadvantages of classical computing

- Heat generation leading to overheating thereby reducing the processor clock speed
- Propagation delay introduced by internal inductance and capacitance
- Inefficient use of electrical energy due to dissipation in the form of heat and electromagnetic radiation during transmission
- These are the issues which are persisting in classical computers.

What is Optical Computing?

A particularly appealing future technology that has a greater potential to overcome all the challenges of classical electron-flow based computing is Optical Computing. As the name suggests Optical computers use packets of light quanta in order to process data instead of using electrical energy. Optical computing is the use of photons in computation. Photons, effectively massless and incredibly fast, are generated using diodes or lasers.

What makes up an optical computing system?

- VCEL (Vertical Cavity Surface Emitting Micro Laser) is a Micro Laser Diode that produces light in a vertical direction which essentially transforms an electrical signal into an optical signal.
- Spatial Light Modulators to modulate the optical beam's intensity and phase.
- Optical logic gates made up of optical switches that manage light beams.
- Smart Pixels to assist the high-level electronic signal processing optical systems.

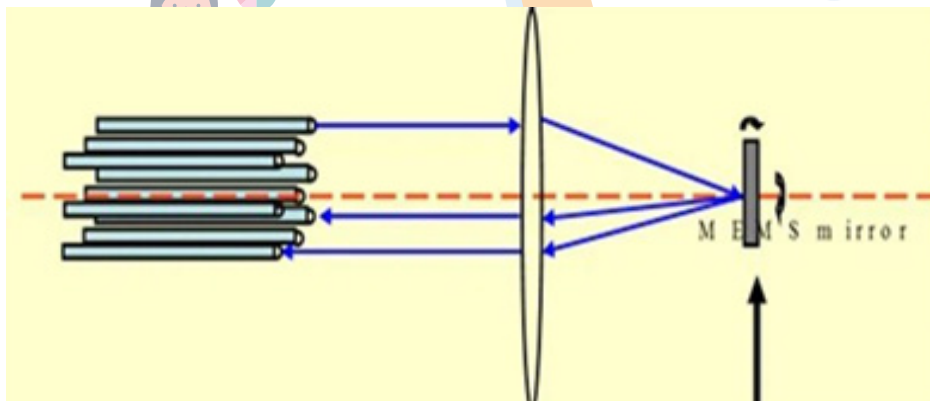
Do we exploit the true potential of photons?

The photons take the place of electrons in more traditional computers and are used to represent the flow of data. Lacking the size limitation of electrons, photon-based transistors can be incredibly small which increases potential computing power. Unlike electrons, photons (which are electrically neutral) can cross each other's paths without interacting, so glass fibres can handle many simultaneous signals in a way that copper wires cannot. An optical computer could likewise do lots of calculations at the same time thus enabling parallel processing. Using photons reduces power consumption, too. Electrical resistance generates heat, which wastes energy. The passage of photons through transparent media is resistance-free.

Now, what is preventing this technology from coming to market?

- The price of the optical computers is expensive and the size is greater compared to traditional computers
- The parallelism of the optical computing system necessitates a new architecture for its construction

It is challenging to fabricate optical elements that are very small; hence most laboratory systems are bench-top-sized, instead chip-sized. However, several new techniques have been developed to implement such elements. We should also remember the size of the first ever classical computer designed late back in the 1940s.



MEMS comes to rescue Optical computing!

The Micro-electromechanical systems based optical switch is one such device developed which engraves several tiny mirrors on the silicon crystal. The microarray is rotated by electrostatic force or electromagnetic force to change the propagation direction of the input light, thereby realising the on and off function of the light path. Likewise, other elements can also be designed and developed using MEMS.

Initially, electron-flow based technology is used for both processing and transmission. Later, photons took the job of transmitting data in the form of fibre-optic cables. But the developments in Optical Computing shows that, its potential is not only limited to transmitting the data, but also in processing the data.

Science is a vast ocean, how much ever faster and deeper we explore, there is always a portion that exists untouched. Young engineers like us have the key to explore these regions. Let us come together and reveal the secrets of this ocean.

THE EYE-SENSING LIGHT FIELD DISPLAY BY SONY R&D

(Delivers realistic 3D images to the naked eye)

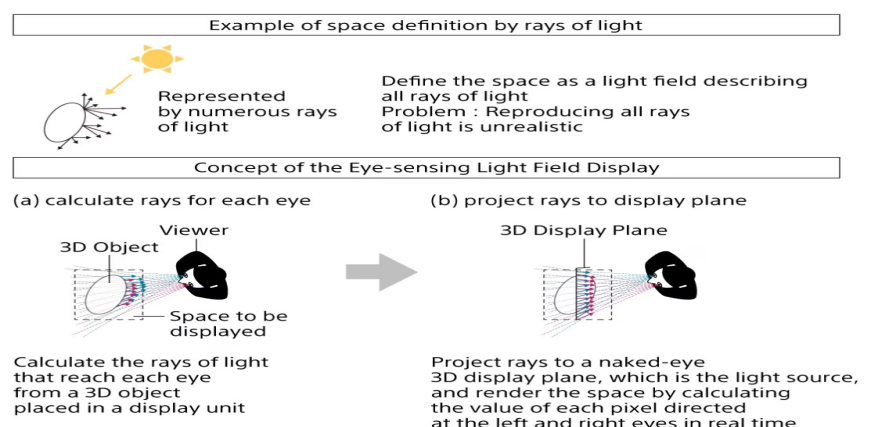
The Eye-sensing Light Field Display is an entirely new kind of display that Sony has created by exploring human visual characteristics. There have been a number of technologies developed for 3D representation, such as a stereo 3D TV using special glasses and a naked-eye 3D display. One appealing feature of the Eye-sensing Light Field Display is its superb power of expression that outperforms all those technologies.

RESEARCHERS (SONY R&D):

- Koji Aoyama (SONY R&D)
- Shihhao Wen (SONY R&D)
- Masamoto Horikawa (SONY R&D)
- Ruri Oya (SONY R&D)

The Eye-sensing Light Field Display reproduces a realistic 3D image in space and allows the user to view the 3D space from any desired angle. Besides high spatial resolution, the elements of depth representation and spatial fusion are added, making the user feel as if the displayed object is actually in front of him or her. This feature sets this display far apart from conventional 3D display units. However, there are so many light rays in the space that it is impractical to develop a display that reproduces all those rays. For the Eye-sensing Light Field Display, therefore, we have developed a system that selects the light rays necessary for the viewer from a massive amount of light ray information and reproduces only the selected light rays. This allows a high-precision light field to be viewed from any desired angle.

A system that selects and reproduces only necessary rays and three core technologies to realize this system

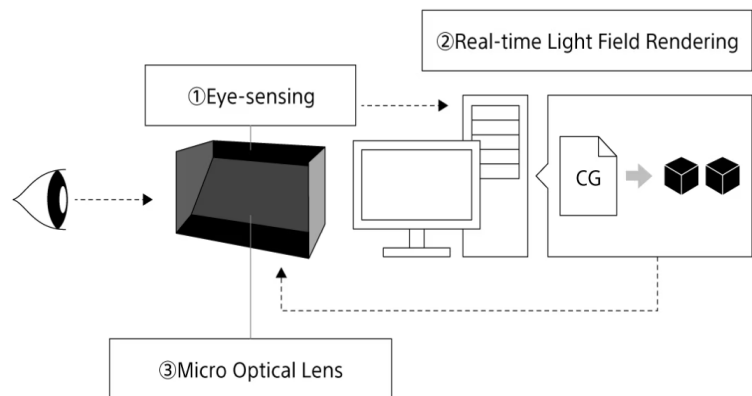


► FUNDAMENTAL TECHNOLOGICAL PRINCIPLE OF THE EYE-SENSING LIGHT FIELD DISPLAY

The system first decides on the space to be displayed and then selects only the light rays that reach the viewer's eyes from there. This requires a sensor that detects the positions of the viewer's eyes quickly with high accuracy and tracks the movement of the eye positions. Next, the system projects the selected rays to a naked-eye 3D display plane and renders the space by calculating the value of each pixel of the display directed at the left and right eyes in real time. By selecting the rays that reach the viewer's eyes correctly in real time, the system reproduces a 3D space realistic enough to make the viewer feel as if it is actually there.

They are developing the following three core technologies to deliver a natural, comfortable viewing experience.

1. Eye-sensing
2. Real-time Light Field Rendering
3. Micro-optical lens

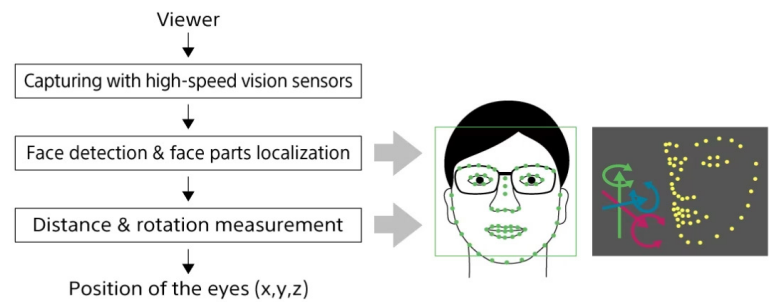


► EYE SENSING

In order to make the viewer feel as if an object is really there, it is necessary to continuously display a viewpoint image that is correct when seen from the viewer's eyes. To meet this challenge, we use Sony's high-speed vision sensor, as well as the Eye-sensing system employing high-accuracy face recognition algorithms, for continuously detecting the positions of the viewer's eyes with accuracy and tracking their movement in real time.

The high-speed vision sensor captures an image for every few milliseconds to detect the position of the face and identify facial feature points such as eyes and facial contour. By estimating the 3D shape of the face from this feature point information, the system calculates not just the distance to the face but the rotational direction of the face as well, tracking the various movements of the viewer. By continuously analyzing the facial movements and updating the position and rotation of the face, the system can provide real-time tracking of the viewer's actions.

The camera system including the imaging lens is optimized, enabling viewing from any desired viewpoint within a range spanning from 50 degrees horizontally to 60 degrees vertically while achieving a natural, smooth motion parallax.



The whole process from imaging to rendering is executed with low latency, which minimizes crosstalk between viewpoint images as well as the image delay that can cause motion sickness. We have developed face detection algorithms using deep neural network (DNN) technology and optimized them to suit high-speed vision sensors. This ensures a comfortable and stable viewing experience insusceptible to noise during imaging and blurs due to the lighting condition. Moreover, the viewer's face can be detected normally even when he or she is wearing a face mask.

► REAL-TIME LIGHT FIELD RENDERING

A light source image emitted from the display panel is reproduced in real time based on the viewer's eye position information. Reproducing the light rays limited to the viewer's viewpoint position as a perspective projection image according to the above-mentioned fundamental technological principle allows the 3D space to be viewed from any desired angle as with the real space.

While this perspective projection image output on the display plane is distorted, it is presented so that it looks undistorted from the viewer's position, creating some sort of illusion. This is one of the visual effects that makes the viewer feel as if what he or she sees is really there without being conscious of the display. In recent years, there have been significant improvements in the rendering quality of game

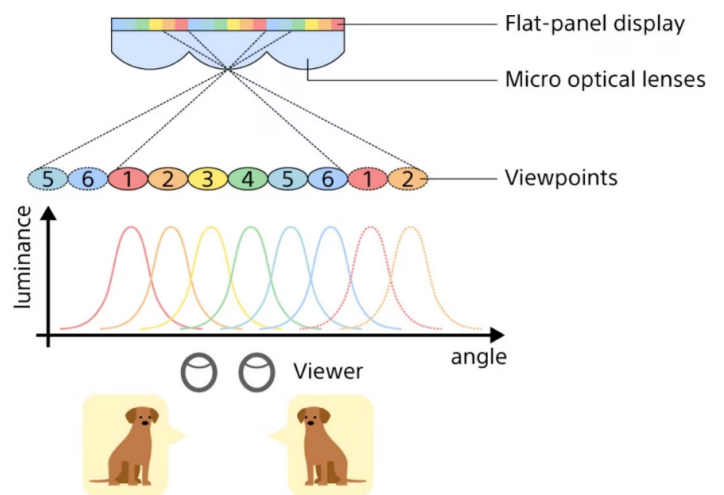


Their highly realistic expressions have come to be appreciated not just in the game industry but also in other fields where realistic image representation is required, such as video production and architectural design. These engines enable real-time rendering of realistic 3D images. In addition, since creators and designers can work with familiar tools in familiar environments, the game engines are also expected to promote the use of existing contents and spread to new applications.

► MICRO-OPTICAL LENS

A unique micro-optical lens is used to deliver images generated in real time to both eyes, allowing for a natural, high-definition naked-eye 3D viewing experience. Conventional naked-eye 3D displays using a lenticular lens or parallax barrier need to present many viewpoints to cover a wide viewing range, resulting in degradation in resolution and decrease in image quality due to crosstalk between viewpoint images. By contrast, our micro-optical lens assumes viewpoint position sensing and real-time light ray reproduction algorithms, which enables optical design dedicated to image generation for the two left and right viewpoints. Also, degradation in resolution and crosstalk between viewpoint images can be minimized by providing sufficient pseudom viewpoints and exerting control to selectively display images for the two left and right viewpoints.

This display control does not work if the micro-optical lens and the flat panel display become misaligned when they are stuck together. We have therefore developed a manufacturing technique for sticking these devices together to an accuracy of several tens of micrometers, as well as an adjustment system for detecting slight misalignments after manufacturing. Misalignments are corrected during the real-time image processing based on the adjustment information, which further improves the quality of the 3D image



► APPLICATIONS

Applicable not only in entertainment but also in education, business and healthcare

The Eye-sensing Light Field Display is also expected to be applied not only in the field of entertainment, such as games and films, but also for many other professional purposes including education, business and healthcare. Since it enables an intuitive grasp of the spatial layout, this technology is projected to be useful in business settings as well as for presentations. Furthermore, we think that, when combined with real-time 3D video capturing and transmitting technologies, Eye-sensing Light Field Display will make it possible to communicate and work with people at remote locations as if speaking with them in person.

- TARUN V
II year, ECE-B

INTRIGUE

“I’ve come to the personal conclusion that while all artists are not chess players, all chess players are artists.” – Marcel Duchamp

Meet Benasir, a 3rd-year student and an exceptional chess player. With her profound expertise in the game, she has reached the pinnacle of national-level chess.

Boasting an impressive record, she has secured gold medals in the CBSE national chess championship for three consecutive years and earned a bronze in the U-17G national schools chess championship in 2018-2019. Her accolades extend to being crowned U-19G Chennai district champion in 2018 and achieving the second runner-up position in the U-19G Tamil Nadu State chess championship in 2019-2020. She is also a recipient of the SSN sports scholarship and recently, she emerged victorious as the first-place winner in the SSN trophy team chess tournament of 2023.



Benasir’s unwavering enthusiasm and determination shine through her remarkable achievements. Sriya Pavani, a second year student, had a chance to interview Benasir. Read on to be inspired by this brilliant chess champion.

► When did you learn to play chess and how?

When I was around 12, as a person who is very enthusiastic about competitions, I participated in a school-level chess tournament, which was my first time playing chess. I used to play chess with my mum and grandpa before the age of 12. I found myself placing second in my first tournament, which made me very eager to learn chess properly. And that’s how my journey in chess began!

► What is your favourite aspect of the sport?

First and foremost, have you heard people say that losing teaches you a lesson? Well, chess proves it to be true. It teaches you that losing is not a reflection of your inability to win; rather, it indicates the need for more effort and hard work to achieve victory. It makes you realize that winning is not the sole purpose of life. Chess has taught me to handle losses as valuable lessons, strengthening my mental fortitude. I have learned to rise above anything that brings me down. Moreover, I have also learned to deal with criticism. When people said that I joined the field of chess late or that I couldn’t balance studies and chess after the 8th grade, I transformed these negative comments into positive challenges. I proved everyone who criticized me wrong by excelling in both chess and academics.

Furthermore, chess imparts numerous life lessons, such as handling criticism and losses, discovering your true potential, embracing individuality, respecting others, enhancing IQ, and fostering humility and modesty. These valuable lessons are what I cherish most about this beautiful sport.

► How does your routine before a big game look like?

My confidence and preparation always take precedence before analysing my opponent. Once I reach the stage of studying my opponent, I typically examine their playing style. Consequently, I watch some of their past games, paying particular attention to their preferred style and opening moves.

► You have participated in so many championships and achieved numerous accolades. Which has been your most memorable or challenging game so far?

To be honest, every game I have played up till now is memorable to me and has made me appreciate myself. However, if I have to pick one specific event, it would be my participation in the U-19G state championship. Although I aimed for the first-place position, I ultimately secured third place. Despite this, I managed to qualify for the nationals. In the second to last round, I had a winning advantage, but unfortunately, I made a single move that led to my defeat. Had I emerged victorious in that match, I would have returned home as the state champion! This tournament remains one of the most memorable experiences in my chess journey.

► Do you have a role model or someone that you look up to in the field of chess?

I would list out so many! But the two players that I look up to the most are Susan Polgar and Bobby Fischer.

► What are your future aspirations?

I want to play tournaments to my heart's content after I'm settled with my studies. My only dream, with respect to chess, is to continue enjoying this sport until the end of my life!

► What would be your personal advice to aspiring players out there?

Focus on playing for your own happiness, as winning or losing shouldn't hold the utmost importance. Brush off people's opinions and play for yourself. Remember, this sport will teach you many things. Just enjoy the process!

This would be my advice for upcoming players.

-Sriya Pavani V
II Year, ECE-B

STUDY CORNER

Professional development has always been a vital aspect for individuals seeking success and growth in their careers. Yet, many people remain unaware of its significance and the benefits it brings. To shed light on this crucial topic, Aditi Kannan, a third year student from ECE-A had the opportunity to interview Dr. K.T. Selvan (Professor, ECE department) to share his expertise and provide valuable insights on different aspects of professional development and uncover the secrets to unlocking personal and professional success.

What is professional development?

Professional development is the continuous focus on improving one's knowledge, skill set, and relationships in a particular field or profession. It involves activities and efforts aimed at enhancing expertise, staying current with advancements, and fostering personal growth. It is the process of "climbing the career ladder".



What steps one can take to stay updated and relevant in one's field or in industry?

It is essential to embrace lifelong learning if you want to stay current and relevant in your profession or industry. This involves attending workshops, conferences, and seminars specific to your industry to learn about the latest trends and best practices. Enrolling in online courses can help you acquire new skills and expand your knowledge base. Learning from experienced professionals through mentorship or networking opportunities can offer valuable insights and advice. Reading industry literature, books, and journals, as well as following industry thought leaders, keeps you informed of industry news and emerging trends. Joining professional associations and communities provides access to resources and networking events. Embracing continuous learning, being curious, and actively seeking new challenges are vital for staying ahead in a rapidly evolving work environment. By consistently engaging in these activities, you can remain updated, broaden your expertise, and ensure your professional relevance. Lifelong learning is a key driver of continuous growth and adaptation in your field or industry.

How does one identify necessary strengths and work on them?

Consider your interests and aspirations in the field of engineering and reflect on setting a goal. Goal-setting involves making a choice of what you want to do. Learn about the different choices available by attending seminars, lectures, career fairs and panel discussions, talking with a mentor, doing an internship, and so on. Any opportunity you have to talk with a working engineer gives you a chance to explore all these possibilities by yourself. The next step should be to identify the set of competencies necessary for each of the possible goals.

Then work toward these goals with the help of short-term planning. For example, if the goal was to join a core engineering industry after graduation, pursuing this will require a strong foundation in relevant subjects and an awareness of industry trends along with the previous generic skills you may have learnt. Thus, it will naturally help you identify your strengths and areas of improvement and work on it.

What can one do to gain confidence in their professional journey?

At what stage does one feel confident enough to embark on a task?

“While there may not be a straightforward answer to this question, we may consider the following situation to develop an understanding. Let’s say I want to learn to swim. Do I directly plunge into a deep pool?”

Naturally, the answer is no.

“Usually what I would do is to theoretically understand some fundamental ideas of swimming, and then to try swimming in a shallow pool. If, on the other hand, I think that I should perfectly understand all aspects of swimming before I enter a pool, could I ever actually swim? By contrast, if I thought that I could easily swim and just jumped into a deep pool, what might happen then?”

So, we all need adequate preparation before showcasing a new skill and then by using the said skill, it starts to improve gradually but with certainty.

How does one get a strong recommendation letter?

Students and employed graduates have completely different considerations when it comes to a letter of recommendation. For an undergraduate student, doing exceptionally well in assessments alone is hardly sufficient to obtain a strong letter of recommendation from a faculty. Grades stated in the transcripts and would be redundant in a reference letter. The letter should contain the strengths of the student as personally observed by the referee in their interactions. In order to get strong references, it is important to be an active student in the class and to make use of presentation and volunteering opportunities. Getting involved in faculty directed research and projects could be another effective way of developing the professional relationship that leads to a great recommendation letter.

How can one pursue professional development while working in an organization?

Being fully committed to one’s work is a quality that will lead to both personal satisfaction and professional respect in the long run. Sometimes, the organizational goals may show some inconsistency with your professional goals (due to various reasons). What can be done in this situation? “While this is a difficult question to address, one way out might be to see that your professional actions are consistent with organizational and professional goals.”

How to develop a good network of colleagues?

Membership in professional societies can greatly help in developing a network, provided one is an active member of the society. To be an active member means you volunteer to be on committees that focus on your areas of interest, contribute to the activities assigned to you during the course of your being on the committee, write journal / conference papers and attend conferences. It also means you provide inputs and ideas that can help the committee do better.

How to seek mentorship in our professional journey?

Mentoring involves helping people manage their own learning in order to maximize their professional potential and it requires a trusted and a meaningful relationship between the mentor and the mentee. It is common to have more than one mentor, and to choose them based on the skill sets you are trying to develop. A “matrix” of mentors can help identify and guide areas where you might prioritize your professional development efforts. Consider what you want to learn, and then reach out to people you observe with that skill. Ensure that you have a solid plan for what kind of mentoring you are seeking, and communicate that with the mentor. Do your homework and some of your own research before any meeting with your mentor(s). Don’t forget to thank your mentor and update them on how whatever you tried went.

Afterword

Confronting and conquering challenges and setbacks and acknowledging that you are not alone in your struggles is integral to personal and professional development. Cultivating qualities such as introspection, self-motivation, and genuine passion for your work creates a positive mindset, enabling the formation of a strong support network. Having good intentions, giving your utmost effort, and maintaining a sense of faith, while preparing for potential setbacks, form a powerful recipe for advancing your professional journey. By embodying these principles, you equip yourself to overcome obstacles and achieve growth and success in your chosen path

**-Aditi Kannan,
III year, ECE-A.**



WRITER'S ENCLAVE

WHAT'S YOUR AQ?

All of us must've experienced a mixture of emotions, moments before our team is called inside for project review. The amount of time, research, efforts put in since deciding the topic of the project, then reading papers to making the prototype and building the final model should've been bountiful. With all the courage, nervousness and anxiety, you get inside the hall, place your model on the table, open the ppt, and turn towards the panel of experts. You've started speaking and amidst the presentation, when it is the time to showcase the working of the model, you realize the model is not working! You try again and again and again, but all in vain. Your hands start trembling, you can feel drops of sweat on your forehead and all of your professors' eyes is on YOU. What would you do? How would you handle this situation? This is where Adversity Quotient (AQ) comes into picture. Let me explain.

All of us as engineers, know how our intelligence plays a huge part in our day-to-day life. Our Intelligence Quotient (IQ) is something that travels with us in every domain. But since a decade, we have also realized not only IQ but also Emotional Quotient (EQ) is important to survive in any job or position that you are holding. This means that the level of emotional connect, empathy, selflessness and the heart to appreciate, lift others up (in this case, colleagues or friends) and stand for them and by then in times of highs and lows play a major role apart from your ability to be highly proficient and skilled in the job that you are doing. Recently, one other quotient called the Adversity Quotient (AQ) has come into picture and this, seems to top both IQ and EQ. To start off, what is an adversity? Its literal meaning is a difficult or an unpleasant situation. Adversity Quotient is the ability to accommodate and overcome the problem and adapt to new ways of performing our role.

The world we live in is not similar to the world where our father and grandfather lived. Our generation is being exposed to a lot of intense competition, mental instability, feeling of loneliness and the feeling of being pushed down, every time we try to climb up in every phase our life. Considering all this, we are more prone to face a lot of adverse situations, to be frank, even more frequently. Hence it is important for all of us to lay emphasis on developing our Adversity Quotient (AQ). Now, it is natural for us to ask, are there ways and techniques to develop our AQ? Dr. Paul Stoltz, the person who coined the term Adversity Quotient, in his book "Adversity Quotient: Turning Obstacles Into Opportunities", emphasizes on focussing on our CORE which stands for Control, Ownership, Reach and Endurance.

Control means to focus on those facets that we could potentially influence rather than wasting time on things and people whose actions we cannot control. Ownership means to step up to make the most immediate and positive difference in whatever you are doing.

Ownership means to step up to make the most immediate and positive difference in whatever you are doing.

Reach means to devise ways to minimize any potential fallout or downside and to maximize the potential upside of the adversity.

And lastly, endurance means to step back and think how to get past this adversity as quickly as possible.

Following these four dimensions, has significantly proven to help professionals deal with adversities. To put all of this in a nutshell, an adversity can make or break a person. And a person with a high level AQ is trusted more deeply, followed more loyally because he/she is at him/her best potential even during the worst situations. Sit back and think aloud how you would like to handle an adverse situation, if at all it occurs!

**-S J Varshaa,
II year, ECE-B**



A Summertime Reverie

Summer's air, sweet and fleeting,
Cotton candy's taste, no longer appealing.
Once I soared, shouting, owning the world,
Now a future untold, dreams unfurled.

Innocence gone, understanding unclear,
Lost joy in small things, once held dear.
Memories rose-tinted, vivid or contrived,
Growing pains, an unreliable guide.

A childlike wonder once filled my days,
Perpetual curiosity, an enchanting maze.
Easily amused by the simplest of things,
Doubtless optimism, like the wind's gentle wings.

Gone are the days of carefree bliss,
Of chasing rainbows, sealed with a kiss.
A world once painted in shades of delight,
Now hazy recollections, a fading light.

Within the walls of my childhood home,
Whispers of laughter and stories roam.
Through sepia photographs, moments endure,
Captured smiles, a testament pure.

Nostalgia whispers, a half-forged story,
Seeking solace in the echoes of glory.
Childhood's embrace, longed for once more,
In my mind, fragments of the past I explore.

Amidst the echoes of bygone days,
I hold tight to memories, like the sun's fading rays
For in the tapestry of time, they forever reside,
Childlike wonder and doubtless optimism side by side.

So let the summer's air be sweet and fleeting,
Let cotton candy's taste no longer be appealing.
For within me lies a spirit, eternally young,
Infused with wonder, where dreams are sprung.

In innocence lost and understanding unclear,
I'll navigate life's labyrinth, with courage and cheer.
And as memories rise, both vivid and contrived,
I'll hold onto the magic, for it keeps me alive.



-Sriya Pavani V
II year, ECE-B