# REDEEEM

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# FROM THE HOD DESK

I am much delighted to share the July '23 edition of Redeem!!!

My best wishes to the new editorial team for changing the trajectory. They have collated various activities so wonderfully.

This edition brings various events from April 2023 to June 2023, with interesting line up of faculty and student activities, contributions, events conducted, industrial visits, student placement and higher studies update, student articles. The alumni corner features Ms. Deekshita, of 18-22 batch, sharing her experience at SSN and beyond. It is also interesting to see students sharing their internship experience, technical articles and their artistry.

The NBA team visited the department to accredit the ME Power Electronics and Drives program. All the faculty have demonstrated their dependable services to showcase the program. I thank everyone.

My best wishes to all the students for their semester examinations.

I hope you will enjoy reading this edition.

# EDITORIAL

You seem to be doing all the right things, but yet you still feel unfulfilled. So, what's wrong? There are many examples of the ways in which mental activity can change brain structure. So, this mental experience of stress, especially if it's chronic and moderate to severe, gradually changes the structure of the brain, so we become progressively more sensitive to stress. The mind can change the brain to change the mind. Knowing this is valuable because inner strength: happiness, positive emotion, determination, feeling love, confidence, virtues, the executive functions, are all built out of the brain. To get these positive experiences into our brains, we have to overcome the brain's hard-wired negativity bias. The brain is very good at learning from bad experiences but bad at learning from good ones. In other words, good experiences kind of bounce off the brain meanwhile, bad experiences sink right in. Let's say ten things happen in a day with a person. Five of them are positive, four are neutral, and one is negative. Which is the one we tend to think about as we go to sleep? Good experiences are short-lived but bad experiences stay longer. How many times you have had great escapes from possible big accidents? But we feel a lot about the small accidents we experience. We have gained money in many ways, but we always worry about the little money we lost. We don't count our big blessings but complain over small things often. Our family and friends have done many good things, but we always evaluate them based on one bad thing they have done. Human beings are emotional and so they cannot be good all the time and eventually we have bad opinions about all. Research shows that we need to make a five-time effort to vanish feelings of bad experiences. The human mind has a huge negative power and a very tiny amount of positive power. That was not the way it was designed but that's the way we have made it over the years. That is the way our society, culture, and nature shaped it over generations.

We can learn to take in the good, to pop open this bottleneck in the brain, and gradually weave good experiences into the fabric of our brain and our life.

Good experience leads to great feelings, and we need to stay in this state to transfer these feelings from short-term memory to long time memory and you could sense that this experience is going into you, you're absorbing it. It's sinking into you, feeling loved, as you sink into it. A simple moment usually won't change our life. But bit by bit, it can make an enormous difference. When we have a good experience, we've got to activate it, we've got to get it going. Next, we need to enrich the experience. Help install this activated mental state into your brain as a neural trait. absorb it. Sense an intent that it's sinking into you. This will sensitize them, so they'll be more efficient at encoding the experience into neural structure, if you can stay strong with the positive, it will gradually associate with the negative and it will go into the negative to soothe it, ease it, even gradually replace it. We can use this method to heal old pain or neglect, even reaching down into young parts of ourselves. To kind of sum it up, we have four steps that become an acronym: HEAL. It's an easy way to remember it. Have it. Enrich the experience by installing it in your brain once it's activated in your mind. Absorb it, and, Link it so it becomes a part of you, Thus we take control of the brain's stone age bias of excessively focusing on the bad and over-worry about it. Any single time we do it isn't going to change our life. It's usually lots of little bad things that take us to a bad place. Also, lots of little good things that take us to a better one.

"Do not think lightly of good, saying, it will not come to me. Drop by drop is the water pot filled" Likewise, the wise one, gathering it little by little, fills oneself with good.

# FROM US TO YOU

Dear Readers,

Welcome to the first edition of our department magazine under the new team! We are thrilled to embark on this exciting journey and bring you a revitalized publication that reflects the spirit and vibrancy of our department community.

As the new editors of the magazine, we are committed to delivering engaging, informative, and thought-provoking content that resonates with each and every one of you. Our goal is to create a space where your voices are heard, your stories are shared, and your experiences are celebrated.

We understand that college is a transformative time in your lives, filled with challenges, opportunities, and countless unforgettable moments. With this magazine, we aim to be your trusted companion throughout this journey, providing you with valuable insights, practical advice, and a wealth of inspiration.

We encourage you, our readers, to actively engage with us. We want to hear your voices, opinions, and ideas. Whether it's through sharing your own stories, suggesting topics for future editions, or participating in our contests and giveaways, this magazine is a space for you to contribute, connect, and make your mark.

Finally, we would like to express our gratitude to the dedicated team of writers, photographers, designers, and editors who have poured their creativity, passion, and expertise into bringing this magazine to life. Their hard work and commitment are what make this publication possible, and we are immensely proud of the incredible talent that thrives within our college community.

So, without further ado, we invite you to immerse yourself in the pages of the first edition of this term. We hope that this magazine becomes a cherished companion throughout your college journey, inspiring you, informing you, and reminding you that you are an integral part of a vibrant community that is here to support you every step of the way.

With warmest regards,
Deepti, Chief Student Editor.

# FACULTY ACTIVITIES

## EXTERNAL RECOGNITION

### (Invited lectures and keynote speeches)

Dr.V.Thiyagarajan delivered a Keynote Speech titled, "Analysis of Multilevel Inverter Topologies", organized by Arasu Engineering College, Kumbakonam on 19/04/2023.

Dr.R.Arun delivered a Guest Lecture titled "Control choices & selection", organized by HCL on 03/04/2023.

Dr. V Rajini delivered a guest lecture on awareness regarding NAAC at SMK Fomra College of Engineering, Chennai on 10/04/2023.

Dr.V.Rajini attended a meeting with Drexel University, USA on 12/04/2023.

Dr. V. Rajini evaluated the Capstone project at VIT, Chennai on 12/04/2023.

Dr.R.Seyezhai delivered a Guest Lecture titled "Membership drive for IEEE-PELS" organized by IEEE-PELS, Madras Section on 31/05/2023.

Dr.Sajjan Kumar delivered a Guest Lecture titled "Application of IoT in Power Systems" by the Department of Electrical Engineering, Gargi Memorial Institute of Technology, Kolkata on 20/05/2023.

Dr.Mrunal Deshpande chaired a paper presentation session for the 4th International Conference of Emerging Technologies 2023 (INCET) which was Co-sponsored by the IEEE Bangalore section in Jain College of Engineering, Belagavi, Karnataka on 28/5/2023.

# RESEARCH ACTIVITY

## (National / International journal papers published)

M.Shanthi, R.Seyezhai, N.Ayyanar, M.S.Mani Rajan, "Optical Characteristics of Liquid-Infiltrated Elliptical Core Photonic Crystal Fiber" in International Journal Plasmonics (Springer Publications) April 2023.

S.Krishnaveni, "Influence of electrical process parameters to inactivate microorganisms in orange juice by PEF technology" in the International Journal of Agriculture and Food Science in April 2023, Volume 5, pp 126 -132, ISSN 2664-844X, DOI : https://doi.org/10.33545/2664844X.2023.v5.i1b.13.

A.Sheeba Angel and R.Jayaparvathy, "Fire accident risk assessment of high rise building based on fuzzy bow tie approach" in the International Journal, Intelligent and Fuzzy Systems April 2023, Volume 44, pp 7225-7242, DOI:10.3233/JIFS-223307, Impact factor 1.73 indexed in WOS/TR/SD ISSN 1064-1246.

A.Bharathi Sankar Ammaiyappan and Seyezhai Ramalingam, "Design, Development and Real-Time Demonstration of Supercapacitor Powered Electric Bicycle" in the International Journal, Springer Nature May 2023, Vol. No. 1, pp.125 - 134, ISSN : 2523 3440, impact factor 0.3. indexed in Scopus.

T.Vinoth, K.K. Nagarajan, "A Detailed Analysis of Air Pollution Monitoring System and Prediction Using Machine Learning Methods" in the International Journal on Recent and Innovation Trends in Computing and Communication June 2023, Volume 11, pp 5158, ISSN 23218169, DOI https://doi.org/10.17762/ijritcc.v11i2s.6028, Impact factor 0.9 indexed in Scopus.

Rajini V., Jassem M, Nagarajan V S, Sreeya Galla N V, Sai, and Jeyapradha R, "Neutral-point-clamped inverter based synchronous reluctance motor drive for solar pump application" in the International Journal of circuit world April 2023, DOI 10.1108/CW-05-2022-0138, WoS indexed, Impact factor 0.875

# CONFERENCE ACTIVITY

## (National / International conferences )

Anjana Ethirajan and Dr.R.Ramaprabha, "Hybrid System-based EV Charging Stations", in 2nd International Conference on Smart Grid and Electric Vehicle (ICSGEV-23) conducted by Department of EEE, Hindustan Institute of Technology and Science, Padur, Chennai on 04/04/2023.

Dr. V Thiyagarajan, ASSP/EEE, "Asymmetrical Multilevel Inverter with Fewer Switches and Less Voltage Stress: Design and Realization", in International Conference on Emerging Trends in Engineering and Technology ICETET 2023 conducted by St Joseph College of Engineering in Chennai on 20/04/2023.

D.Ragul, RS/EEE, Dr.V.Thiyagarajan, ASSP/EEE, "A Multilevel Inverter with Renewable Energy Sources and Electric Drives", at International Conference on Emerging Trends in Engineering and Technology ICETET 2023 conducted by St Joseph College of Engineering in Chennai on 20/04/2023.

S.Keerthana, M.Marutham Rathna Valli, A D Kaviya Malar, and Dr. S Krishnaveni, "Power Consumption Alert Through SMS To Manage the EB Tariff Slab", in International Conference on Smart Grid and Electric Vehicle conducted by Hindustan Institute of Technology and Science in Department of EEE, Padur, Chennai on 03/04/2023.

Ms. K Uthira Ramya Bala and Dr. S Krishnaveni, "A Simplified Mathematical Analysis of Bidirectional Dual Active Bridge DC-DC Converter for Electric Vehicle", in International Conference on Smart Grid and Electric Vehicle conducted by Hindustan Institute of Technology and Science in Department of EEE, Padur, Chennai on 04/04/2023.

Dr.V.Rajini, Radha Bai.C, Tejaswini.V, and Nishath Afroza.A, "Investigations On Triple Active Bridge Dc-Dc Converter", Third International Conference on Power conducted by Rajalakshmi Engineering College on 03/05/2023

B.Lakshmi Praba, Vidhu Priya.V, and Dr.R.Seyezhai, "Design, Simulation, and Analysis of DC-DC Cuk LED Drivers", fourth Electric Power and Renewable Energy Conference (EPREC-2023), conducted by the Department of Electrical Engineering, National Institute of Technology Jamshedpur, India conducted in Online on 26/05/2023.

Sridhar Makkapati, Chitrapavai.N, and Dr.R.Seyezhai, "Investigation on Modified Bridgeless SEPIC PFC Converter Topology for Battery Charging Application", fourth Electric Power and Renewable Energy Conference (EPREC-2023), conducted by the Department of Electrical Engineering, National Institute of Technology Jamshedpur, in Online on 26/05/2023.

Dr. Sajjan Kumar, Anirban Maity, and Pulok Pattanayak, "Hybrid Energy Initiative for University Campus: A Techno-Economic Case Study", International Conference on Advanced & Global Engineering Challenges (AGEC) – 2023, conducted by Aditya Engineering College, Surampalem on 23/05/2023.

Dr. Sajjan Kumar, Susmiita Sau, Sankar Narayan Patra, Debashis Sarkar, Subhash Ch.Panja, "Analysis of Axle Counter Performance: A Case Study of Kolkata Metro Railway", International Conference on Advanced & Global Engineering Challenges (AGEC) – 2024 conducted by Aditya Engineering College, Surampalem, on 24/05/2023.

Anirban Maity, Sajjan Kumar, and Pulok Pattanayak, "Hybrid Energy Initiative for University Campus: A Techno-Economic Case Study", in an IEEE International Conference on Advanced & Global Engineering Challenges (AGEC) – 2023, organized by Aditya Engineering College, Surampalem, AP in association with IEEE Vizag Bay Section on 24/06/2023.

Susmiita Sau, Sajjan Kumar, Sankar Narayan Patra, Debashis Sarkar, and Subhash Ch. Panja, "Analysis of Axle Counter Performance: A Case Study of Kolkata Metro Railway", at an IEEE International Conference on Advanced & Global Engineering Challenges (AGEC) – 2023, organized by Aditya Engineering College, Surampalem, AP in association with IEEE Vizag Bay Section on 24/06/2023.

# PROJECT NEWS

## (List of projects applied and projects sanctioned)

Dr. R Seyezhai & Dr.D.Umarani applied for an Externally funded project titled, "Eco-Friendly Solar Photovoltaic Pole for Multi-utility", and received the sanction order for the prototype development from ANIHEES, Anna University, Chennai, and the prototype will be installed at NLC.

Dr. R Ramaprabha as PI and Dr. M Balaji as Co-Principal Investigator applied for an Externally funded project titled, "Development of Controller for Hybrid Photovoltaic System to Enhance the Grid Resiliency" on 29/04/2023 to the funding agency CSIR-ASPIRE for 3 Years for a funding amount of 25.16 lakhs Rupees.

Co-Principal Investigator, Dr. R Deepalaxmi, Associate Professor, Department of EEE, SSN College of Engineering, and Principal Investigator Dr. C Vaithilingam, Associate Professor, School of Electrical Engineering, Vellore Institute of Technology (VIT), Chennai, were sanctioned an Externally funded project titled, "Design and Development of Replicable and Scalable Cyber-Physical Micro Grid System", from the funding agency DST, International Bilateral Co-operation Division (India-Serbia, Bilateral Scientific and Technological Cooperation) for a duration of 3 years for a funding amount of Rs. 15.3 lakhs.

Principal Investigator, Dr. R Deepalaxmi, Associate Professor, Department of EEE, SSN College of Engineering, Kalavakkam and Co-Principal Investigator, Dr. C Vaithilingam, Professor, School of Electrical Engineering, Vellore Institute of Technology (VIT), Chennai, Tamilnadu applied for an Externally funded project titled, "Predictive Maintenance of Induction Motors Using Hybrid Approach" on 01/04/2023 to the funding agency DST-SERB Core Research Grant scheme for a duration of 3 years for a funding amount of Rs. 58.7 lakhs.

Ayisha, Sameera, Janani, and Shivrupan obtained a project titled, "Design and Implementation of solar powered wireless charging", under the supervision of Dr. R.Deepalaxmi, Associate Professor, Department of EEE, SSN College of Engineering, Kalavakkam on 01/04/2023 funded by SSN Trust.

Three scholars under Dr. R. Ramaprabha's guidance applied for CSIR fellowship. The details are,
- The CSIR - SRF fellowship with research title "Development of PV Fed New Bi-directional High Gain Converter for IoT Based E-bike Charging Station" by Ms. Anjana Ethirajan.
- The CSIR - SRF fellowship with the research title "Design and Implementation of New High Step-up Hybrid Inverter for PV Interfacing" by Ms. S. Sangeetha.
- The CSIR - RA fellowship with the research title "Implementation of Embedded Switched Boost Multilevel Topologies using Modular H-Bridge network for Photovoltaic Applications" by Dr. T. Divya.

# WORKSHOPS AND WEBINARS ATTENDED

Dr. Sajjan Kumar attended five Day Faculty Development Program titled, "Emerging Trends and Research Opportunities in Electrical Engineering" organized by JIS College of Engineering, Kalyani, Nadia, WB (Online) on 10/04/2023.

Dr. Sajjan Kumar attended six Day Faculty Development Program titled, "Recent Advancement in Renewable Energy Technologies and Systems" organized by the Department of Electrical Engineering, SVSD, Malandighi, Durgapur (Online) on 24/04/2023.

Dr. P Saravanan attended a one-day workshop titled, "Motor Vikatan's Walk around the Workshop" organized by Mahindra Research Valley at Mahindra Research Valley, Maramalai Nagar on 14/04/2023.

Dr. R Arun attended a one-day workshop on HCL Collaboration organized by HCL at SNU Chennai on 06/04/2023.

Dr. V Rajini attended a one-day workshop on HCL Collaboration organized by HCL at SNU Chennai on 06/04/2023.

Dr. R Seyezhai attended a one-day virtual meeting titled, "Innovation Ambassadors" organized by the Ministry of Education's Innovation Cell, AICTE (Online) on 10/04/2023.

Dr. R Seyezhai attended a one-day virtual event, "Insights into PELS" to know the benefits and opportunities in IEEE PELS organized by IEEE-PELS, Bangalore Section (Online) on 10/04/2023.

Dr. Sajjan Kumar attended a one-day webinar titled, "IEEE PES Day Madras Chapter Program" on Legends of Power Webinar Series organized by IEEE PES, Madras Chapter (Online) on 22/04/2023.

Dr. R Seyezhai, Prof. EEE & Dr. V Thiyagarajan, ASSP/EEE organized an Innovative Competition "Amp It Up" as a part of Techalthon 2023, on 25/04/2023.

Dr. R Seyezhai, Prof. EEE, Dr. R Ramaprabha, ASSP/EEE and Dr. M Balaji, ASSP/EEE organized a Workshop (EEE & SSN-IIC) titled, "Prototype Development of Power Electronic Converters" on 27/04/2023.

Dr. R Leo attended five Day Faculty Development Program titled "Machine Learning for Data Analytics using Python: Hands-on approach" organized by Dr. B R Ambedkar National Institute of Technology at Jalandhar from 30/5/2033 to 03/06/2023.

Dr. R Rengaraj attended three Day Tutorials titled "Artificial Intelligence in Agriculture online training" organized by Steinbeis Research GmbH from 01/06/2023 to 3/3/2023.

# INDUSTRY COLLABORATION

Dr.R.Seyezhai, and Dr.N.B.Muthuselvan, had a discussion with C-tech, Technologies, Chennai for the consultancy work on a Bidirectional DC-DC converter for EV Charging on 11/04/2023. They obtained a consultancy grant of one lakh for a Solution Providing in Bidirectional Converter for EV charging for a period of 2 years on 25/04/2023.

Dr. M Balaji, Dr. R Ramaprabha & Dr. V Kamaraj obtained a consultancy grant of Rs. 2 lakhs for Solution Providing in "Solar Based Drive for Scrap Compaction" for a period of 2 years in the area of Solar PV Based Drives on 13/04/2023.

Dr. V Rajini interacted with Dr. Santhosh Kumar, Senior Manager of ABB for consultancy projects on 6th April 2023.

Dr. V Rajini, Dr. R Rengaraj and Dr. M Senthil Kumaran visited General Electric at Padapai, chennai for discussion on "possible consultancy in health monitoring of the spring system" on 10/05/2023.

An Industrial Visit to NIOT (National Institute of Ocean Technology) for the Second year EEE students was organized by Dr. Premanand Chandramani, Dr. Leo, Dr. M Senthil Kumaran, and Dr. M Pandikumar. Possible projects and consultancy work were explored along with the NIOT Scientists on 19/05/2023.

Dr. Sajjan Kumar visited CMD Precision Products PVT Ltd for Energy Auditing along with the members of the IEAC Cell of IIT Madras on 17/05/2023.

Dr. Sajjan Kumar visited Clastek Engineering PVT Ltd for Energy Auditing along with the members of the IEAC Cell of IIT Madras on 8/05/2023.

# OTHER ITEMS

Ms. P. Sharmila, a part-time research scholar of Dr. M Senthil Kumaran successfully defended her doctoral thesis on 28/04/2023.

Mr. S. Benish, a part-time research scholar of Dr. Murugesan successfully defended his doctoral thesis on 10/04/2023.

Dr. R Leo reviewed one article each in Thomson Reuters indexed "Renewable energy focus" and Sustainability, a MDPI Journal, during the month of April.

Dr. R Arun Reviewed a Journal paper in the Measurement and Control Journal.

Dr. Sajjan Kumar Reviewed a manuscript for the International Journal of Numerical Modelling: Electronic Networks, Devices, and Fields from WILEY International Publishers.

Dr. V Rajini arranged a placement and career guidance program under the S4S club of the EEE department on 20/04/23.

Dr. V Rajini delivered the inaugural address for the Ethnic day celebration of the EEE Department on 24/04/23.

Ms. Samyuktha under the guidance of Dr. R Seyezhai presented her project titled, "AI for Electric Vehicles" in the project display and valedictory program of SHAPE 2023 at CDC 2nd Floor, SSNCE on 05/05/2023.

Dr. R. Ramaprabha presented the NIRF analysis to the college president on June 08, 2023, in continuation of the NIRF2023 announcement on June 05, 2023, along with the NIRF team. In the 2021-22 NIRF ranking, our college has achieved 45th rank in the engineering category and 80th rank in the overall category.

NBA Accreditation team visited the department of EEE between 16/06/23 and 17/06/23 to accredit the "ME in Power Electronics and Drives" program. Dr. V Rajini made a PPT presentation to the NBA team to highlight and defend the program. This was followed by the evaluation of the criterion proofs presented by the coordinators and the concerned faculty.

Dr. Mrunal Deshpande reviewed a project proposal for SERB on 24.6.2023.

Dr. P Saravanan attented the Board of Studies meeting for the Department of Electrical and Electronics Engineering, Annamacharya Institute of Technology and Sciences, Tirupati on 1st June 2023.

Dr. R Leo reviewed three articles, one each from Thomson Reuters indexed Journal of Building Engineering, MDPI Applied Science, and IET Generation Transmission and Distribution during the month of July.

# STUDENT ACTIVITY

Under the guidance of Dr. P Saravanan and Dr. M Anbuselvi, a team of students Sathyapriya R, Supraja S, and Manigandan G Participated in the competition, AI Impact 23 Organized by IIT, Bombay.

Anand P, a third-year EEE student participated in RYLA 24.0 conducted by the Rotary Club of Virudhunagar and Punch Gurukulam sponsored by VVV & Sons edible oil and Arun ice cream. The event was to help students learn to become an entrepreneur and all the essential information to be known beforehand to start a company. The 3-day event was held in Tirunelveli. He participated and won the "best outstanding person", "best business plan", and "best brand poster " awards, and has been selected to fly to Singapore on a fully funded trip.

# Department EEEvents

## IEEE- PELS & PES STUDENT BRANCH CHAPTERS OF SSN COLLEGE OF ENGINEERING ORGANIZED "TECHATHLON - AMP IT UP!!

On 25th April 2023, the IEEE-PES and PELS Student Branch Chapters in association with the Department of Electrical and Electronics Engineering at SSN College of Engineering organized "AMP-IT-UP" as a part of the Techathlon conducted collectively by the student branch chapters of IEEE at SSN College of Engineering.

Techathlon is an innovative event that combines the excitement and competitiveness of athletic competitions with the creativity and problem-solving skills of technology challenges. These events allow participants to showcase their technical skills while also promoting teamwork, collaboration, and innovation.

It was a competition aimed at testing the technical skills of the students. The event saw enthusiastic participation from students of different semesters and different branches of study, and it proved to be a great platform for showcasing their technical prowess.

The event started at 2:00 PM at the EEE Seminar Hall. Round One consisted of a crossword puzzle that quizzed the students on basic knowledge of Electronics and Electrical Engineering.

14 teams participated enthusiastically and 7 teams qualified for the next round.

Round 2 consisted of circuit simulation on MATLAB ONLINE. The teams were asked to choose a number and they were given the questions accordingly.

The event was a great success, with the 60 participants displaying their technical skills and expertise.

# Workshop on "Prototype Development: Power Electronic Converters"

The Department of Electrical and Electronics Engineering in association with the Institution Innovation Council (IIC) organized a workshop on Prototype Development of Power Electronic Converters on 27.04. 2023.

Dr.S.Thamizharasan, Team-Lead, SK POWERCON FABRICATORS delivered the lecture. The workshop was attended by UG, PG students, and research scholars.

The design aspects of power electronic converters were discussed along with the programming aspects of FPGA for generating pulses for inverter circuit.

The speaker highlighted the importance of choosing proper circuit components with correct specifications for building the prototype.

The students interacted with the speaker to understand the design aspects.

# Visit to Renewable Energy Conversion Lab for Demonstrating the working of Electric Vehicle for the course on, *"Electric and Hybrid Vehicles."*

The II Semester M.E. students along with research scholars visited the Renewable Energy Conversion laboratory on 19.05.2023 and the following were demonstrated.

1. Solar-based Electric Trolley- Li-Ion battery and BLDC drive
2. Flexible solar panel-based Electric bicycle – 250W BLDC motor and 100W Flexible panel
3. Charging and discharging characteristics of Li-Ion battery – 12V, 20Ah
4. Power Converter for EV applications
5. Solar-based EV charger using Quasi Z-source DC-DC converter

# Mini Technical Tour for ME students by Dr. R. Ramaprabha, Associate Professor/EEE

M.E. Power Electronics and drives I-year/ Second semester students along with research scholars doing coursework for the subject PPE2223 – Design of Solar Photovoltaic Systems have been taken for mini- technical tour for two hours to get exposure on physical visualization &amp; working of rooftop on/off-grid solar systems, laboratory set-ups for carrying out additional experiments/research facilities available at Solar Energy research lab. This was arranged by the faculty who handled the subject, Dr. R Ramaprabha, Associate Professor/EEE, on June 19, 2023.



# PG – NBA Committee visit

PG NBA committee visited EEE Department for accrediting M. E. Power Electronics & Drives during June 16 -18, 2023.
Overall department coordinator: Dr. V. Rajini
PG NBA coordinators: Dr. R. Seyezhai, Dr. R. Ramaprabha & Dr. R. Deepalaxmi

# STUDENTS' CORNER

## WRITERS' POINT

### ETHNIC DAY

Kaviasri J, 2nd year

In the fast pace world of 2-minute noodles and Velcro shirts, we forget to think and appreciate our roots. They offer a window into the past, connecting us with the experiences and wisdom of those who came before us. Yet, in the rush of modernity, we tend to prioritize convenience and efficiency over reflection and preservation.

So, to cherish the valuable legacy left behind by our ancestors and honor our heritage, and ensure its enduring presence in the ever-changing landscape of our lives, AEEE organized Ethnic Day.

The students came dressed in traditional attire. The regal dhotis, neatly pressed shirts, and resplendent sarees were a sight to behold. The event commenced with Tamil Thai Vazhthu. Afterward, Dr. V. Rajini, HOD, took the stage and spoke on the importance of embracing and celebrating our culture. Following her Dr. V S Nagrajan and Kedhar Narayanan, President, AEEE and Suneeth from III year addressed the crowd.

Following the inspiring talks, the event transitioned into a moment of celebration as the attendees gathered for a cake-cutting ceremony. Continuing the evening, a captivating musical performance took the stage. The melodies filled the air, captivating the audience with their harmonious notes and rhythmic beats. Bringing the event to a lively and humorous conclusion, a delightful session of mimicry entertained the audience.

Overall, the event showcased the beauty and significance of our culture, weaving together moments of inspiration, joy, and laughter. It served as a reminder to cherish our traditions. We thank our HOD, DR V Rajini for permitting us to organize this event.

# ADVANCEMENTS IN POWER GRID TECHNOLOGY: ENHANCING EFFICIENCY AND RESILIENCE

Rashmika, 2nd year

Introduction:
Power grids are the backbone of our modern society, enabling the efficient transmission and distribution of electricity to homes, businesses, and industries. In recent years, significant advancements in power grid technology have garnered attention, driven by the increasing demand for clean and reliable energy, the integration of renewable sources, and the need for improved grid resilience. This article explores some of the notable developments in power grid technology, highlighting their impact on enhancing efficiency and resilience.

1. Smart Grids: The Evolution of Grid Infrastructure
One of the most transformative developments in the power grid sector is the emergence of smart grids. Smart grids leverage advanced sensors, communication networks, and data analytics to enable real-time monitoring, control, and optimization of electricity generation, distribution, and consumption. These grids facilitate two-way communication between utilities and consumers, paving the way for more efficient energy management, reduced energy losses, and improved grid reliability. Smart grids also support the integration of distributed energy resources, such as solar panels and wind turbines, by enabling seamless interaction with the grid.

2. Grid-Edge Technologies: Empowering Consumers
Grid-edge technologies empower consumers to actively participate in the electricity market and optimize their energy usage. Advanced metering infrastructure (AMI) enables real-time monitoring of energy consumption, providing consumers with detailed insights to make informed decisions and manage their electricity usage efficiently. Additionally, home energy management systems (HEMS) allow consumers to automate and control appliances, heating, and cooling systems, optimizing energy consumption based on user preferences and time-of-use pricing. These technologies foster a more sustainable and cost-effective energy consumption pattern at the consumer level.

3. Grid Energy Storage: Balancing Supply and Demand
The integration of intermittent renewable energy sources like solar and wind into the power grid poses challenges in maintaining grid stability. Grid-scale energy storage technologies have emerged as a crucial solution to address these challenges.

Batteries, pumped hydro storage, and other advanced storage systems allow excess energy to be stored and dispatched during high-demand periods or when renewable sources are not generating power. These storage systems enhance grid flexibility, enable efficient load management, and facilitate the integration of a higher share of renewable energy into the grid.

4. Microgrids: Localized Energy Solutions
Microgrids have gained significant attention as localized energy solutions, particularly in remote areas and during emergencies. These smaller-scale power grids can operate independently or in conjunction with the main grid, providing localized electricity generation, storage, and distribution. Microgrids improve energy access and reliability in underserved regions and enhance grid resilience by isolating specific areas during grid disruptions. They often incorporate renewable energy sources and advanced control systems, offering communities greater energy independence and flexibility.

5. Grid Resilience and Cybersecurity: Protecting Critical Infrastructure
Ensuring the resilience and security of power grids is of paramount importance in the face of evolving threats. Grid operators and utilities are investing in advanced technologies and robust cybersecurity measures to protect critical infrastructure from cyber-attacks and physical disruptions. Enhanced grid monitoring and control systems, coupled with artificial intelligence and machine learning algorithms, enable real-time anomaly detection and response. Furthermore, grid hardening measures, such as grid modernization, redundancy planning, and physical security enhancements, contribute to the overall resilience of the power grid.

Conclusion:
Advancements in power grid technology are transforming the electricity sector, driving efficiency, sustainability, and resilience. Smart grids, grid-edge technologies, grid energy storage, microgrids, and grid resilience measures are revolutionizing the way we generate, distribute, and consume electricity. These developments are crucial in facilitating the integration of renewable energy sources, optimizing energy management, empowering consumers, and ensuring the reliable operation of power grids. As the world moves toward a more sustainable and decentralized energy future, continued research, innovation, and collaboration.

# Regenerative Braking Concepts for Electric Vehicles

Renuka, 2nd year

Regenerative braking is a system used in electric and hybrid vehicles to transform kinetic energy into electrical energy. There are three basic modes to be considered in the design of regenerative braking systems for battery electric vehicles: service braking, programmable deceleration, and emergency braking. Furthermore, the type of traction motor, the driving schedule, and the charging characteristics of the associated battery pack are essential considerations involved in designing regenerative braking systems for optimal recovery of vehicle kinetic energy and optimizing battery pack life.

Growing trends in the electrical vehicle Industry initiate us for advanced techniques to be developed for enhancing the efficiency of driving. Regenerative braking is about extracting the kinetic energy from the wheels which gets wasted as heat and friction in conventional braking. It is more efficient for vehicles moving at higher speeds. The improvement is done by using flywheels, ultra-capacitor, advanced power electronic converters, and efficient energy storage systems. The regenerative braking improves the driving range by around 16.25%. Also, the vehicle braking time is reduced.

Comprehensive research is conducted on the design and control of a regenerative braking system for electric vehicles. The mechanism and evaluation methods of contribution brought by regenerative braking to improve electric vehicles' energy efficiency are discussed and analyzed by the energy flow. Methodologies for calculating the contribution made by regenerative brakes are proposed.

Additionally, a new regenerative braking control strategy called "serial 2 control strategy" is introduced. Moreover, two control strategies called "parallel control strategy" and "serial 1 control strategy" are proposed as the comparative control strategy. Furthermore, two different contribution ratio evaluation parameters according to the deceleration braking process are proposed. Finally, road tests are carried out under China's typical city regenerative driving cycle standard with three different control strategies. The serial 2 control strategy offers considerably higher regeneration efficiency than the parallel strategy and serial 1 strategy.

Efficient regenerative braking of electric vehicles (EVs) can enhance the efficiency of an energy storage system (ESS) and reduce the system cost. To ensure swift braking energy recovery, it is paramount to know the upper limit of the regenerative energy during braking. Therefore, this paper, based on 14 typical urban driving cycles, proposes the concept and principle of the confidence interval of "probability event" and "likelihood energy" proportion of braking. The critical speeds of EVs for braking energy recovery are defined and studied through case studies. First, high-probability critical braking speed and high-energy critical braking speed are obtained, compared, and analyzed, according to statistical analysis and calculations of the braking randomness and likelihood energy in the urban driving cycles of EVs.

Subsequently, a new optimized ESS concept is proposed under the frame of a battery/ultra-capacitor (UC) hybrid energy storage system (HESS) combined with two critical speeds. The battery/UC HESS with 9 UCs can achieve better regenerative braking performances and discharging performances, which indicates that a minimal amount of UCs can be used as an auxiliary power source to optimize the ESS. After that, the efficiency regenerative braking model, including the longitudinal dynamics, motor, drivetrain, tire, and wheel slip models, is established. Finally, parameters optimization and performance verification of the optimized HESS are implemented and analyzed using a specific EV. Research results emphasize the significance of the critical speeds of EVs for regenerative braking.

Also, there is a mathematical model of a regenerative braking system as a primer and shows how some design choices for regenerative braking systems can be affected by the newly disclosed high-performance high power level battery electric vehicles (1, 2, 3, 4, and 5) and the type of driving schedules encountered. Also examined, as a function of two hypothetical driving schedules, is a regenerative braking control concept that can be programmed to automatically optimize energy recovery and/or battery life. However, the scope of this review is limited to illustrating some effects of design parameters selected for battery electric vehicles. Specific circuit design and algorithm details are not presented.

# Exploring the unexplored aroma of India under YUVA SANGAM

## Sathrapathy P, 2nd year

'Brimmed with a plethora of diversities, at times certain groups may adhere to separatist ideologies but 'standing alone' will never satisfy our needs, as the children of Mother India strengthening brotherhood is the best possible solution to shatter the shackles of suffering. Unless and until we understand the might of our brethren, 'developed India' will be a distant dream.' - Pooled with all these insights back from Patna, I am scripting this article to scatter the lessons learnt. Being part of Yuva Sangam, a fabulous initiative of the Central Government under the banner of "Ek Bharat, Shrestha Bharat" enlightens our scope of progress through inclusivity and unity. Even while diving into the link and applying for this programme, I was not much excited. But enthusiasm propped up when I got selected and it attained its zenith when we landed at IIT, Patna. That's how my journey kick-started its momentum.

As a delegate of Tamil Nadu, we headed our trip towards Bihar, the land of learning which indeed dispelled loads of my opinions. Now, I have no more opinions and perceptions but facts and truth about the state of Bihar. From day one to the final day, gradually I realised the essentiality of Bihar as the pride of India. I am exhilarated to share my experience in the five key areas - Parampara (Tradition), Prodyogik (Technology), Pragati (Development), Paryatan (Tourism) and Paraspar Sampark (People-to-people connect).

Tradition is a belief or behaviour passed down within a society with special meaning and significance with origins in the past by our ancestors. The ruins of Nalanda expose the overall tradition of world education. How has the method of teaching evolved? How are departments in educational institutions formed? For all such brainstorming beginnings Nalanda University, the oldest university is the cause and way. It is stunning to observe the traditional education outlined in Nalanda which is still followed in the universities. The Nalanda University taught me, how a man can be constructive or destructive to the world. Invaders tried to destroy Nalanda, and we lost so many things on the way, but no matter what anyone does, our tradition stays in the world. I have seen how people enjoy marriage and festivals with tradition in Bihar. In the Takht Sri Patna Sahib, people depict the concept of equality. There, everyone irrespective of race, caste, or religion sits at an equal level on the floor and eats the food, prepared in the same pots. Bihar Museum depicted the entire history and tradition of Pataliputra.

Buddhism says, "The greatest gift is to give people your enlightenment, to share it. It has to be the greatest." And now not just us, but the entire world celebrates Buddha. As I stepped on the steps of Bodh Gaya, I was able to feel the words of Buddha reverberating across the globe, and foreign countries praising Indian tradition.

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Technology is something that can bring tremendous changes to the world. Still to this second, I cannot believe that the bricks and buildings of Nalanda university stand still. The stones used in the Nalanda University classrooms, reflect sunlight in all directions inside the classroom, depicting the exceptional construction technology of our ancestors. When we visited the Hero Cycles Industry in Patna, we refect sunlight in all learned the critical and crucial steps involved in the process of checking and making cycle parts. We were mesmerized by the footwear designs we saw at Footwear Design and Development Institute, Patna. I also admire the CNG buses running in Patna, the Hanging Bridge, and so on. Flooded with green CNG buses instead of diesel buses showcased the development of the city as well as the people's concern towards the environment.

We, Indians are known for our knowledge and technology. From Aryabhata's discovery of 'zero' to Sushruta's invention of 'plastic surgery', Indians are excelled in the field of technology. India will be unbeatable once all the upcoming technological advancements, all the way from Kashmir to Kanniyakumari are concentrated on the development of the country.

According to St. Augustine, "The world is a book, and those who do not travel read only one page." It is only after the trip, I got to know about the abundant tourist places in Bihar. I can still feel the breeze of Kumhrar archaeological park. Bodh Gaya, "The place where Lord Buddha got enlightenment," Rajgir, "The city of Kings" and Nalanda, "The oldest university in the world" are few places that serve as landmarks for tourists. Words could never describe the beautiful places that decorate the beautiful state, Bihar.

Enjoying and exploring Bihar without people-to-people connection is just like enjoying a dance with eyes closed. Every moment, from the minute we stepped into the beautiful city of Patna, we were immersed in the unconditional love of each and every one of Bihar. Everywhere we go, it felt like everyone is waiting for us. I understood the power of people-to-people connection at that moment. The interactions with the honorable governor of Bihar, Shri Rajendra Arlekar ji at the Raj Bhavan, induced a glorious spirit inside my heart. This program not just connected Tamil Nadu youths with Bihar but also connected forty-five youths from all across Tamil Nadu.

Finding the essence of India and the competencies of Indians made me realise the proud of being an Indian. I understood, a united India, Ek Bharat can pave its own way to reach the peak. The steps youths must take in order to retain the greatness of India are under way. I witnessed the developments happening even if just two states work together, then what would happen if the entire country joined hands. No one can stop India from explosive growth when we are united. 'Together we stand, together we grow.'

# INDUSTRIAL VISIT TO THE NATIONAL INSTITUTE OF OCEAN TECHNOLOGY

Deepti K, 2nd year

On 19th May, the second-year students were granted a remarkable opportunity to visit the National Institute of Ocean Technology, renowned for its cutting-edge research and technological advancements in oceanography and marine sciences. Nestled along the scenic coastline of Chennai, India, lies the National Institute of Ocean Technology (NIOT). Established in 1993, NIOT has played a pivotal role in revolutionizing our understanding of the world's oceans. From developing indigenous technology for deep-sea exploration to implementing innovative solutions for coastal infrastructure development, NIOT has consistently pushed boundaries.

Upon arriving at NIOT, we received a comprehensive overview of NIOT's work and accomplishments from Mr. Sudarshan, a distinguished member of the institute. He provided us with valuable insights into the pioneering research, technological advancements, and innovative projects being undertaken by NIOT.

Our visit began with a tour of the Deep-sea Technology Laboratory, where we witnessed the creation of autonomous underwater vehicles (AUVs) and remotely operated vehicles (ROVs). These technological marvels are meticulously designed to collect data on marine life, geological formations, and underwater ecosystems. We received a fascinating overview of the development and utilization of the 6000m depth-rated work class deep-water Unmanned Remotely Operable Vehicle (ROSUB 6000).

Next, we explored the Acoustic test facility, they have successfully developed acoustic systems for various ocean applications, including measuring ambient noise in deep and coastal waters of India as well as Polar regions. Additionally, NIOT has achieved significant milestones in the development of underwater acoustic systems for source localization and strategic purposes.

Then at the Ocean Observation Systems (OOS) Laboratory, we obtained insights into Ocean Observation Systems, which is responsible for deploying buoys that play a crucial role in the Tsunami Early Warning System. These buoys are designed to report water levels, providing critical information for timely tsunami detection and warnings. The OOS team has developed and tested Tsunami Buoy Systems and Bottom Pressure Recorders (BPRs) for deployment in the Indian Seas, ensuring effective monitoring and detection of tsunamis.

Then we visited the Deep-Sea Mining Laboratory, where we were educated on the Hyperbaric test facility. Recognizing the need to develop and test specialized equipment for deep-sea mining operations, NIOT has established a Hyperbaric Test Facility. The facility also enables NIOT to conduct experiments and evaluate the behavior of different mining technologies under hyperbaric conditions. The Hyperbaric Test Facility at NIOT is a critical asset for the development and testing of equipment and systems for deep-sea mining.

Lastly, we visited the Energy and Freshwater Laboratory. NIOT focuses on harnessing energy from the ocean in the form of waves, seawater currents, and ocean thermal gradients to generate electricity and desalinate seawater. They are working on Low-Temperature Thermal Desalination (LTTD) that uses coolant water from power plants and cold water from the deep sea to produce fresh water. They are also researching wave energy conversion using floating devices like buoys, and developing turbines that can generate electricity from ocean currents. Additionally, NIOT is working on heat exchangers for LTTD and turbines for Ocean Thermal Energy Conversion (OTEC).

At each facility, the scientists were more than willing to address our questions and satisfy our curiosities, offering us a deeper understanding of their work and its significance. Their expertise and enthusiasm enhanced our learning experience, leaving us inspired.

Our visit to NIOT was a transformative experience that sparked our passion for oceanography and marine sciences. It broadened our understanding of the challenges and opportunities that lie beneath the ocean's surface and instilled a sense of responsibility in us. We extend our heartfelt gratitude to NIOT for opening its doors and providing us with an unforgettable experience of exploration, knowledge, and inspiration.

# Electric Vehicle Industry in India

Sai Midra, 2nd year

The electric vehicle industry in India is picking pace with 100% FDI possible, new manufacturing hubs, and an increased push to improve charging infrastructure. Federal subsidies and policies favoring deeper discounts for Indian-made electric two-wheelers as well as a boost for localized ACC battery storage production are other growth drivers for the Indian EV industry. The global automotive industry is undergoing a paradigm shift at present in trying to switch to alternative/less energy-intensive options. India, too, is investing in this electric mobility shift. The burden of oil imports, rising pollution, the Russia-Ukraine war escalating price inflation, as well as international commitments to combat global climate change are key factors motivating India's policies to speed up the transition to e-mobility on one hand and growing consumer appetite on the other.

The Indian automotive market is slated to be the third largest by 2030 in terms of volume. Catering to a vast domestic market, reliance on the conventional modes of fuel-intensive mobility will not be sustainable. To address this, federal policymakers are developing a mobility option that is "Shared, Connected, and Electric" and have projected an ambitious target of achieving 100 percent electrification by 2030. By making the shift towards electric vehicles, India stands to benefit on many fronts: it has a relative abundance of renewable energy resources and availability of skilled manpower in the technology and manufacturing sectors.

Over the previous three years, EV sales have increased by more than 2,218 percent; in FY2023 (until December 9), over 4,42,901 electric cars have been sold, compared to 19,100 in FY 2020. India's EV space is at a nascent stage. However, looking at it differently – India offers the world's largest untapped market, especially in the two-wheeler segment. 100 percent foreign direct investment is allowed in this sector under the automatic route. The federal government is also prioritizing the shift towards clean mobility, and recent moves to amend the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles in India (FAME) II scheme to make electric two-wheelers more affordable, is a case in point. Under phase two of the FAME scheme, as on July 11, 2022, about 469,315 electric vehicles were supported through demand incentives amounting to about INR 18.69 billion. Approvals have been granted to 6,315 electrical buses and 2,877 EV charging stations sanctioned in 68 cities across 25 states/Union Territories. 50 original equipment manufacturers (OEMs), both start-ups and established manufacturers, have registered and revalidated their 106 EV models.

There are 1,576 charging stations sanctioned for set-up across nine expressways and 16 highways. In addition, multiple production-linked incentive schemes intend to create a local manufacturing ecosystem to support goals around greater adoption of electric mobility transport. This is sought to be achieved by incentivizing fresh investments into developing indigenous supply chains for key technologies, products, and auto components.

Ultimately, the scope of India's EV market growth rests on the availability of capital for original equipment manufacturers, battery manufacturers, and charge point operators as well as improvements to infrastructure and diversified options for consumers.

Realizing India's EV ambition will also require an estimated annual battery capacity of 158 GWh by FY 2030, which provides huge investment opportunities for investors. Enabling policy support measures are a critical need at this juncture. The government appears to be aware of this. It has been rolling out incentives to boost market demand in priority segments like electric two-wheelers, and localizing production of key components like ACC battery storage as well as electric vehicles and auto components through respective PLI schemes. Besides, several Indian states have now passed EV policies intending to attract industry investments and make EV adoption a more viable proposition for the consumer market.

# CORNER TO PONDER

*Pranav, 3rd year*

## EP- 6: ACHIEVING MONUMENTAL GOALS

A very good week to y'all! Welcome to another edition of REDEEEM! As always, thanks for sticking by REDEEEM and showering it with praise and positive criticism throughout its entire journey. Like everything else, REDEEEM too, is ever changing with the ephemerality of the teams working on it being the highlight. The idea sets change, along with the way the essence of the magazine is viewed. Every team that works on REDEEEM is sure to bring in new sets of changes that the previous batches haven't tried breaching. The newer batches that come in are bolder and are not afraid to learn from their mistakes. The present batch for REDEEEM volume 12 is no exception. Having worked with them for about half a year now, I am sure that the magazine will reach unforetold heights under their oversight.

Taking the case of our Magazine, all the teams in the past have done their best and have set a pedestal for the forthcoming batches. This goal, when viewed as a whole is gigantic and dare I say, frightening to look at. It should be no different. Their collaborative effort, unique-mindset and a strategic approach to the said task helped them accomplish extraordinary feats. In this edition of 'A Corner to Ponder', let us look at a few simple tips that helped us ( the previous editorial team) scale the mountain of a pedestal our predecessors set.

At the core of achieving monumental goals as a team lies the process of setting ambitious objectives. Team goals should stretch the capabilities of each team member and push beyond the boundaries of what seems possible. By collectively envisioning a grand vision, teams create a shared destination that drives their actions and fuels their motivation. Moreover, clear and specific team objectives provide a roadmap for coordinated efforts from the entire team. A team's strength lies with its leader- someone who can guide the others irrespective of any factor that may inhibit performance.

However rosy it may sound, a leader alone cannot complete the task single handedly. Each and every member of the team pays a significant part in achieving the goal. End-goals often require substantial time, effort, and sacrifice from each team member. It is essential for the team to stay committed to the shared vision, even when faced with setbacks or challenges. By working together and leveraging individual strengths, teams can overcome obstacles, learn from failures, and adjust strategies as needed.

Work alone isn't enough for a Magazine... is it? Working mindlessly makes us machines. We aren't simply programmed to perform certain tasks. We must leverage and apply our creative skills to use. Be it visuals overhauls or content changes, a creative mind is the best tool for any task there is. Innovation and creativity play a vital role in achieving monumental goals as a team. Fostering a culture that encourages innovative thinking and creative problem-solving empowers team members to generate novel ideas and approaches. Embracing innovation means being open to new ideas, technologies, and methodologies that can revolutionize the team's path to success. Creativity allows for the exploration of alternative solutions and encourages out-of-the-box thinking.

Goals often require navigating through a rapidly changing landscape. Adapting to change is crucial in order to remain relevant and seize emerging opportunities. Flexibility and agility are key attributes that enable individuals to adjust their strategies and embrace new circumstances. By staying attuned to the evolving environment and being open to change, individuals can adapt their approaches and continue making progress towards their ideals.

Failure is an inherent part of any ambitious endeavor, and teams aiming for success must understand that setbacks are learning opportunities. Rather than being discouraged by failure, successful teams embrace it as a chance to reflect, analyze, and iterate. They use failure as a catalyst for improvement, adjusting their approaches, refining strategies, and building upon lessons learned. By embracing a growth mindset and treating failure as a stepping stone, teams can continuously evolve and increase their chances of perfecting their art.

Achieving monumental goals is a testament to the indomitable human spirit. By setting ambitious objectives, formulating a strategic plan, committing to relentless persistence, embracing innovation, building a supportive network, and adapting to change, individuals can unlock their true potential. While the path may be challenging and uncertain, those who dare to dream big and take courageous action are the ones who leave an indelible mark on the world, achieving what was once thought impossible.

All these don't suit just REDEEEM. They can be applied anywhere, by anyone - a team or an individual- who is faced with a goal they're afraid to face. It pays to be methodical and statistical, dividing the entire task into simple small achievable steps and then modifying those steps to cater to their individual working styles to best reach the result. And above all, the most important thing is to believe you can do it. What better satisfaction than to prove yourself right later!

I wish the very best to the new REDEEEM Student Editorial team and I look forward to enjoying your take on the magazine

# MYSTIC LENSES 📷





Alfred Jerlin, 2nd year

# MYSTIC LENSES 📷





Akash, 2nd year

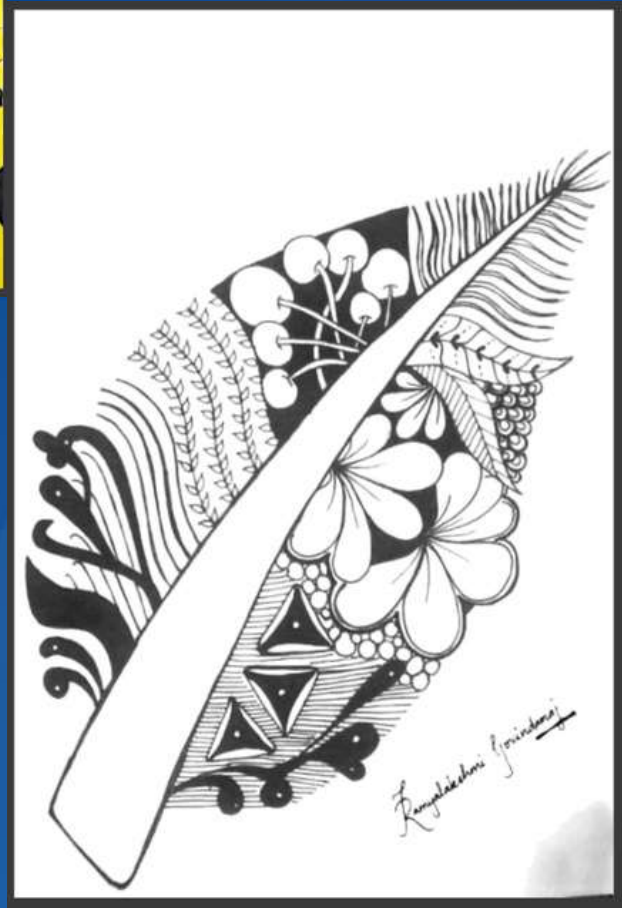# MYSTIC LENSES 📷





Benitta Shama, 2nd year

# SWIRLING INK



Arthika N, 2nd year

# SWIRLING INK!





Ramyalakshmi G, 2nd year

# EXPANDING HORIZONS TOWARDS ENGINEERING

Rajamithra, 2nd year

## April to June News Update: Latest Developments in the EEE Field

1. Breakthrough in Energy-Efficient Computing:
April 5, 2023: Researchers at Harvard University, led by Dr. Anna Thompson, have achieved a significant breakthrough in energy-efficient computing. They have developed a new type of transistor using 2D materials that operates at ultra-low power and high speed. This development has the potential to revolutionize the design of energy-efficient electronic devices and pave the way for sustainable computing technologies.

2. Advancements in 5G Technology:
April 15, 2023: The telecommunications industry has witnessed notable advancements in 5G technology. Companies like Qualcomm and Ericsson have successfully demonstrated the deployment of 5G networks in major cities, offering lightning-fast internet speeds, improved network reliability, and ultra-low latency. These advancements in 5G will enable transformative applications in areas such as autonomous vehicles, smart cities, and Internet of Things (IoT) devices.

3. Innovations in Biomedical Electronics:
May 2, 2023: Researchers at MIT, led by Dr. David Rodriguez, have made significant progress in the field of biomedical electronics. They have developed a miniaturized, implantable device that wirelessly monitors vital signs and delivers targeted therapy to patients with chronic conditions. This innovation has the potential to revolutionize personalized medicine and improve patient outcomes in areas such as cardiovascular health and neurological disorders.

4. Advancements in Quantum Computing:
May 18, 2023: Quantum computing has seen notable advancements in recent months. Google's Quantum AI team, led by Dr. Lisa Garcia, achieved a breakthrough in quantum supremacy, demonstrating the ability of a quantum computer to solve a problem that would take classical computers thousands of years to solve. Thivs development opens up new possibilities for solving complex computational problems and has implications for fields like cryptography and drug discovery.

5. Sustainable Energy Innovations:
June 5, 2023: Several companies and research institutions have made significant strides in sustainable energy innovations. One notable development is the launch of a floating solar farm by SolarTech Inc., led by CEO John Anderson. This floating solar farm utilizes photovoltaic panels on water bodies, maximizing land usage and increasing solar energy generation. Such innovations contribute to the expansion of renewable energy sources and address the challenges of land scarcity.

6. Advancements in Robotics and Automation:
June 12, 2023: The field of robotics and automation has witnessed remarkable advancements. Boston Dynamics, under the leadership of CEO Robert Johnson, unveiled their latest humanoid robot capable of performing complex tasks with enhanced dexterity and agility. Additionally, collaborative robots (cobots) equipped with advanced sensors and machine learning algorithms are being deployed in industrial settings, revolutionizing manufacturing processes and improving efficiency.

7. Augmented Reality and Virtual Reality Applications:
June 25, 2023: Augmented reality (AR) and virtual reality (VR) technologies continue to advance, finding applications in various industries. Companies like Microsoft and Oculus are launching next-generation AR and VR devices with improved resolution, immersive experiences, and enhanced interaction capabilities. These technologies have significant potential in areas such as training simulations, architectural design, and entertainment.

These highlights from April to June showcase the latest developments and breakthroughs in the field of Electrical and Electronics Engineering (EEE). Stay tuned for more exciting advancements as researchers, engineers, and innovators continue to shape the future of the EEE industry.

# Weekly News Update: Latest Developments in the EEE Field

1. Breakthrough in Renewable Energy Storage:
June 10, 2023: Researchers at Stanford University, led by Dr. Emily Johnson, have made a significant breakthrough in renewable energy storage. They have developed a new type of battery that utilizes a combination of organic molecules and graphene electrodes, enabling high-capacity energy storage with faster charging and a longer lifespan. This development holds great promise for the integration of renewable energy sources into the electrical grid.

2. Advancements in Wireless Power Transfer:
June 12, 2023: A team of engineers at MIT, headed by Dr. Robert Anderson, has successfully demonstrated a new wireless power transfer technology capable of efficiently delivering power over long distances. By leveraging resonant magnetic coupling, the system can transmit energy wirelessly with minimal power loss. This innovation could revolutionize the charging infrastructure for electric vehicles and pave the way for wireless charging of various devices.

3. Artificial Intelligence for Energy Optimization:
June 14, 2023: Researchers at Carnegie Mellon University, led by Dr. Sarah Roberts, have developed advanced artificial intelligence (AI) algorithms for energy optimization systems. These AI models can analyze real-time energy consumption patterns, predict demand fluctuations, and optimize power generation and distribution networks accordingly. These AI-driven solutions have the potential to significantly enhance energy efficiency and reduce environmental impact.

4. Advances in Smart Grid Technology:
June 15, 2023: A consortium of researchers from multiple universities and utility companies, led by Dr. Michael Adams from the University of California, Berkeley, has made significant progress in smart grid technology. They have developed advanced algorithms and communication protocols to enable real-time monitoring, control, and optimization of power distribution. Smart grid technologies aim to enhance reliability, enable demand response, and accommodate the growing integration of renewable energy sources.

## 5. IoT Applications in Energy Management:

June 17, 2023: IoT technologies for energy management are gaining traction worldwide. One notable development is the deployment of smart grid solutions by EnergyTech Inc., led by CEO Lisa Chen. These solutions utilize sensors, smart meters, and data analytics platforms to enable precise monitoring and control of energy usage in residential, commercial, and industrial settings. This enables users to optimize energy consumption, reduce wastage, and make informed decisions for sustainable energy practices.

## 6. Progress in Nanotechnology for Electronics:

June 19, 2023: Researchers at the University of Manchester, led by Dr. James Roberts, have made significant strides in nanotechnology for electronics. They have developed nanoscale materials and structures with enhanced properties, such as improved conductivity, higher efficiency, and miniaturization. These advancements pave the way for the development of smaller, faster, and more efficient electronic devices and circuits.

## 7. Emerging Trends in Electric Vehicle Technology:

June 20, 2023: The electric vehicle (EV) industry continues to witness rapid advancements. Tesla, led by CEO Elon Musk, announced a breakthrough in battery technology, increasing the energy density by 20% in their latest Model S electric vehicle. Additionally, major automakers like BMW, General Motors, and Ford are investing heavily in research and development to enhance EV efficiency, durability, and autonomous driving capabilities, and expand the charging infrastructure.

These highlights provide specific dates and key individuals associated with the latest developments in the Electrical and Electronics Engineering field.

Stay tuned for more exciting advancements as researchers and engineers continue to push the boundaries of technology in the EEE industry.

# Essential Languages for EEE Students

Introduction:

In today's interconnected world, engineering students, especially those pursuing Electrical and Electronics Engineering (EEE), are increasingly expected to possess a broader set of skills that go beyond technical expertise. One of the key skills that can greatly benefit EEE students is proficiency in multiple programming languages. These languages can enhance their problem-solving abilities, enable them to work on interdisciplinary projects, and open doors to exciting career opportunities.

In this article, we will explore some essential programming languages that EEE students should consider learning to bolster their knowledge and career prospects.

1. Python:

Python is a versatile, high-level programming language that has gained immense popularity in recent years. It offers a simple syntax, readability, and an extensive collection of libraries and frameworks. EEE students can leverage Python for a wide range of applications, including data analysis, scientific computing, machine learning, and Internet of Things (IoT) development. Python's user-friendly nature and broad community support make it an ideal language for beginners and experienced programmers alike.

2. C/C++:

C and C++ are foundational languages in the field of engineering and computer science. These languages offer low-level control, and efficient memory management, and are extensively used in embedded systems programming. EEE students will find C/C++ essential for microcontroller programming, firmware development, and optimizing resource-constrained applications. Understanding these languages helps build a solid programming foundation and facilitates a deeper understanding of computer architecture.

3. MATLAB:

MATLAB (MATrix LABoratory) is a powerful numerical computing environment widely used in scientific and engineering domains. EEE students can employ MATLAB for tasks such as mathematical modeling, simulations, signal processing, control systems, and image processing. Its rich set of built-in functions and toolboxes makes it a valuable tool for analyzing and visualizing data and for prototyping and implementing algorithms.

4. Verilog/VHDL:
Verilog and VHDL are hardware description languages used for designing digital systems, including integrated circuits (ICs) and programmable logic devices (PLDs). EEE students specializing in digital electronics or VLSI (Very Large-Scale Integration) design will find these languages indispensable. Learning Verilog or VHDL enables students to design, simulate, and verify complex digital circuits, fostering skills in digital logic design, FPGA (Field-Programmable Gate Array) programming, and ASIC (Application-Specific Integrated Circuit) development.

5. JavaScript:
JavaScript is the language of the web and plays a crucial role in modern web development. EEE students interested in developing interactive web interfaces, web-based applications, or IoT projects should consider learning JavaScript. With its extensive ecosystem of frameworks and libraries like Node.js, React, and Angular, JavaScript empowers students to build dynamic and responsive web applications and integrate them with hardware devices.

Conclusion:
As the field of EEE continues to evolve, proficiency in programming languages has become a fundamental requirement for engineers. Python, C/C++, MATLAB, Verilog/VHDL, and JavaScript are just a few languages that can significantly enhance the skill set of EEE students. By learning these languages, students can broaden their career options, tackle complex engineering challenges, and contribute to interdisciplinary projects. Embracing these programming languages not only strengthens technical abilities but also equips EEE students with the tools to innovate and excel in a rapidly changing technological landscape.

# SPORTS ACHIEVEMENTS

## The SVCE Trophy

3rd April 2023: Sri Venkateshwara College of Engineering hosted its SVCE trophy on 3rd April 2023 and the SSN women's basketball team emerged as the runners for the second consecutive year.
The final was against St Joseph's College of Engineering.

**Participants:**
Aswathy Rajesh, II year
Sajanitha R, II Year
Aprajitha Jaiswal, III Year
Varsha R D, I year

# The SSN Trophy

SSN's very own ssn trophy was conducted from 14th to 16th March. Around 16 women's teams participated in the all-India inter-collegiate tournament.
Our women's team emerged in the 4th place.
**Participants:**
Aswathy Rajesh, II year
Sajanitha R, II Year
Aprajitha Jaiswal, III Year
Varsha R D, I year



**Inter year tournament
(March to May 2023)**

*Aswathy R*, from II year EEE deapatment, participated and won several prizes, She secured Third place in squash

**In the Anna University Zonal Athletic Meet**
Various students from Our department won various prizes.



**Sports captains and sports secretaries for the year
2022-2023**
Aswathy R, II year
Aprajitha Jaiwal, III Year

# ALUMNI SPEAKS

– Deekshitha

Hello everyone, if you are reading this now, it gives me immense pleasure as I was a student once, who went from reading such articles in the newsletter and getting inspired, to editing other alumni articles as the Chief Editor, to now giving my own article as an alumnus. I am Deekshitha, a EEE graduate of 2018-2022 batch, currently working as a Technology Analyst at Citi India. It feels great to contribute to this edition of the newsletter, and I hope the experiences of my college life help guide my juniors to pave their own paths.

Being a student at SSN gave a great all-round experience to any student. From the campus to the various events and of course, the different film shoots which happened, it was very enjoyable for a young adult like me. Coming into the college as a fresher, I got to know about the various clubs and their flagship events that happen around the year, and also the academic exception my seniors showed through grades, placements, and admissions in esteemed places. I realized the amazing potential I had as an engineering student, who also has the chance to dabble in various extracurriculars too, without compromising on my scholastic interests.

Since high school, I had a fascination for public speaking and debates. In my first year at SSN, I participated in SSN's Model United Nations (SSNMUN) and volunteered in the literary club. I have seen my peers, who had tried it out for the first time, have an enriching experience in such events. Apart from that, being in an inter-collegiate event, you get to meet lots of students from other colleges, which is great fun and expands your circle. I later went on to co-head this national-level MUN in my final year. Not only do such clubs and events add an activity for you beyond studies, these extracurriculars add leadership and communication skills, which help in your careers too. With other fun events conducted by clubs and departments alike (Invente and department symposiums), I had an enjoyable first year whilst also keeping my grades up. So I definitely recommend taking part in as many events as you can in your first few semesters - these are memories you will never forget nor regret.

Going into my second year, I still stayed curious on what all things I could do in college. Getting into the department buildings and through meeting more seniors and staff, I saw how important it was to be resourceful. In my first year, I got the chance to lead the team on SSN Times - an app that had tailored articles and updates about our college.

This experience pushed me to become the Chief Editor of the EEE department's newsletter - RedEEEm. Through this post, I got a chance to interview seniors and working professionals, even students, and faculty in research, along with gaining skills such as designing, which I enjoyed. This was also the year I got more involved in club activities, following up on a great and memorable time I had during Instincts - our college's annual cultural fest. It is exciting what all you can experience in the first two years at SSN. Stay curious, and take the initiative.

Whilst parallelly getting into more club activities and becoming a key member in their flagship events, I also wanted to build a strong profile by practically applying what I learnt in the course curriculum. I was fascinated by solar cells and developed a keen interest in studying and working with photo-voltaic systems. I made use of the Internally Funded Project (IFP) scheme and worked on multiple projects under the department in my second and third years. As the pandemic hit, and with my growing interest in software technological domains, I realized the possibility of working on cross-department projects too and did a project with the CSE and the BME department. I would definitely recommend students approach professors - both within and outside your department - and work under them to improve your profile and skill set. You can also publish your research work in conferences and journals - which add immense value to your profile. For starters, you can participate and present in the multiple conferences SSN conducts across the calendar year. Even hackathons are a great way to start a project, which you can build upon later. Hackathons usually have professionals as judges, so you can also get to build contacts that later help you when applying for jobs.

At the start of your third year, it is really important to start planning what career path you would like to pursue. Most engineering students do a summer internship during the semester break after the 5th semester, and this internship is THE work experience you get before applying for both placements and higher studies. And companies start recruiting from the end of your fourth semester, with technical and qualitative tests and interviews, along with a final round where you communicate your projects, your skills, and your goals. With the pandemic hitting, I quickly adapted well and gained knowledge on how to prepare for such interviews. I applied for Citi and was the only non-CS and non-IT student to get selected for their summer internship program for my batch. I later converted it into a full-time offer, in which I currently work. Coming from a EEE background and getting a software development job, I recommend making good use of the electives offered by other departments and building a strong profile through inter-department projects as well. Learn from your peers, see what resources they use to prepare, and share tips and resources with each other.

In my final year, I headed two national-level events: Instincts and SSNMUN, apart from heading registrations for Invente, our college's technical symposium. Whilst I used my software dev skills and worked together with the website team as the registration head, Instincts, and SSNMUN gave a whole round of experiences.

Here, I got to manage finances, work on publicity and designs, meet companies, and scout for sponsorships, while communicating with our college Principal and even SSN Institution's President. I would like to thank Dr. Sunita Nair, who was the Head of Student Affairs and was very supportive when I was in core organising posts. The soft skills such events give prepare you for the real world; through managing finances and representing the college in interviews and to companies, I gained key and essential life skills. Time management is another invaluable skill. I also had to work on my Final Year Project (FYP) - which involves a year-long work with reviews and reports spanning the final two semesters. Such team activities in projects and events build the strongest bonds. You make the best of friends working in such teams in college.

SSN gives the platform to do all the things I mentioned, and much more. Various arts and sports are performed, and students excel in our college while also being academically strong. It is also important to plan for the future. It is totally fine to be confused about what to do next. Attempt different things so you will know what you like and what you don't, so you can plan your future path well. I have grown a lot as a person and a professional, and I thank the college and this department for all the wonderful opportunities it gave me. In a college like SSN, you get to do more than one thing. So the stage is all yours, and the platform is set - go ahead and conquer!

On an ending note, feel free to get in touch with me if there is something I could help you with.

**Here's my contact:**
deekshithasriraman@gmail.com
https://www.linkedin.com/in/deekshitha-sriraman-4247ab1b1

# INTERNSHIP EXPERIENCE

Name: Keerthana
Name of Company: Deloitte-USI

Hello Everyone! Hope you all are doing well! Just take your time in sharing my Internship experience during my 8 th Semester. I did my Internship in Deloitte-USI, placed via campus placements. Deloitte is among the BIG 4 Companies in the world. They are mainly in Audit, Tax, Risk Management, and Enabling Areas. I was selected under Enabling Areas which offers technical support to all other existing domains.

Coming to my Internship experience, it was a 5 month Internship period , where the first few months they gave us some time to engulf the transition from campus to corporate. I thought the transition would be scary,but people made us feel welcome. Several boot camp sessions were conducted to make us know what the applications and tools are, that are available for their use. I really wanted to try Front-End because I have never really tried that, even though I had absolutely no exposure on this side, I was trained from basics starting from HTML and CSS. Later some active tasks were given for evaluation. Then familiarizing myself with JavaScript and Angular was also a part. Not everything is over yet, there is still a lot more to study.

An internship is never a waste of time so don't ever have second thoughts if you get this opportunity out of your hometown, you will have the experience of being independent, and you will value the difference. An internship really serves as a buffer period for someone like us who is starting something new in a different kind of environment.

I just want to say that don't worry if you are not technically sound,just make sure you do your fullest in your campus placements or in whatever you do. Feel free to contact your seniors for any kind of help or issues,we all are here to help and guide you. "Nothing Worth Having Comes Easy" All the Best for anything and everything that you all do!!!

# INTERNSHIP EXPERIENCE

Name: Vallaba Gurunath
Name of Company: Comcast

INTRODUCTION:
Comcast delivers broadband, mobile, and video products that delight customers and technology that powers the future; produces and distributes leading entertainment, sports, and news, and brings incredible theme parks and attractions to life. The company fosters a collaborative and inclusive work environment where teamwork and innovation are highly valued. Through mentorship programs and regular feedback sessions, Comcast provides valuable guidance and support to help interns develop their skills and achieve their career
goals.

INTERNSHIP LEARNINGS:
As an intern at Comcast, I had the opportunity to gain hands-on experience with various tools and initiatives. Among all the training offered, Comcast mainly invested in improving employees' morale and enhancing their performance, by providing a one-week-long soft skills session. While technical skills are essential, soft skills are equally important. The session had a huge impact by influencing us into collaborating and communicating effectively. Works were managing the resources and provisioning the infrastructure using AWS and Terraform.

INTERNSHIP WORKS:
During my time of internship, I (with my team of interns) was given the responsibility of handling small tasks with the guidance and support of our mentors.

I worked on a Salesforce admin mini-project assigned by my team members. I worked on user creation and permission assignment in non-production environments such as UAT, SIT, and Dev int. I monitored the permission sets assignment in the production environment. I am working on the automation of the User creation and deletion project along with my teammates. I am learning Lightning Web Components and Apex which is an integral part of salesforce from my team. I am working on tasks weekly and it's a great learning for me.

CONCLUSION:
This internship was a good opportunity to learn and explore various tools, technologies used in the IT domain. This internship gave me exposure to the world of software and gave me hands-on experience in using various languages, tools and methodologies.

# PLACEMENT REPORT

| S.No | Name | Placed Company | Category | Role |
|---|---|---|---|---|
| 1 | Adhi Shankar N | Enquero - A Genpact company | Super Dream | Software Engineer |
| 2 | Ahamed Raja A | Oracle | Super Dream | Associate Consultant |
| 3 | Akash P | Everstage | Dream | Solution Specialist |
| 4 | Akshaya priya T | Citi Bank | Super Dream | Software Development Analyst |
| 5 | V N Amritha Rao | Wood PLC | Core | Graduate Engineer Trainee |
| 6 | Anirudh Sethuraman | Amadeus Software Labs | Super Dream | Software Engineer (Development) |
| 7 | Annapoorna V | Deloitte USI | Dream | Analyst |
| 8 | Ansheela Sahoo | Microchip Technology | Super Dream | Application engineer |
| 9 | Arivazhagan J | Enquero - A genpact company | Super Dream | Software Engineer |
| 10 | Arun changotra | Crayon data | Super Dream | Associate engineer |
| 11 | Aswin Kumar J | Mastech Infotrellis | Dream | Associate |
| 12 | Ayswarya B | Shell | Dream | Process data engineer |
| 13 | Ayush V A | Cognizant | Regular | Programmer Analyst Trainee |
| 14 | Balaji S | Mastech Infotrellis | Dream | Associate |
| 15 | Barath V | Microchip Technology | Super Dream | Engineer I - Corporate Applications |
| 16 | Bharath Raj V | Comcast | Core | Development Engineer I |
| 17 | Bharath Vishal R | Microchip Technology | Super Dream | Engineer I - Software |
| 18 | Bhargav Bussa | Everstage | Dream | Solution Specialist |
| 19 | Bineshkumar B | Comcast | Core | Development Engineer I |
| 20 | Dhinesh S | Comcast | Core | Development Engineer I |
| 21 | Dhivya Shri A | Optum | Super Dream | Full Stack Engineer |
| 22 | Dinesh P | Daimler India Commercial Vehicles Limited | Core | Graduate Engineer Trainee |
| 23 | Gaddam Jyothsna | Shop Up | Super Dream | Automation Engineer |
| 24 | Ganesh M | Wood PLC | Core | Graduate Engineer Trainee |
| 25 | Gokul Raghavan AR | Cognizant | Regular | Programmer Analyst Trainee |
| 26 | Gunasekaran P | Mastech Infotrellis | Dream | Associate |
| 27 | Hari P R | Mbit Wireless | Core | Development engineer-1 |
| 28 | Hariharasudhan KK | MRF Tyres | Core | Electrical (Maintenance) Engineer |
| 29 | Harish N | Citi Bank | Super Dream | Software Development Analyst |
| 30 | Harish Shankar J | Mbit Wireless | Core | Associate Engineer |
| 31 | Harshini J | Natwest | Super Dream | SDE |

| 32 | Hema Nandini R | Daimler India Commercial Vehicles Limited | Core | Graduate Engineer Trainee |
|----|----------------|-------------------------------------------|------|----------------------------|
| 33 | Infantselva | Comcast | Core | Development Engineer I |
| 34 | Iniyavan B | Tekion | Dream | Quality Analyst |
| 35 | Jaya Abhinaya G | Wood PLC | Core | Graduate Engineer Trainee |
| 36 | Jayasurya G | Comcast | Core | Development Engineer I |
| 37 | Jazlyn C | Comcast | Core | Development Engineer I |
| 38 | Jerry Rinaldo S | Optum | Super Dream | Full Stack Engineer |
| 39 | Kaviya Malar AD | Tekion | Super Dream | Associate Software Engineer |
| 40 | Keerthana S | Deloitte USI | Dream | Analyst |
| 41 | Madhangi G | Comcast | Core | Development Engineer I |
| 42 | Mageshwari N | Mr. Cooper | Dream | Data Support Engineer |
| 43 | Manish K S | TCS | Regular | Trainee |
| 44 | Manoj Balaji S | Comcast | Core | Development Engineer I |
| 45 | Marutham Rathna Valli M | Optum | Super Dream | Full Stack Developer |
| 46 | R.Mirdula | Optum | Super Dream | Full Stack Engineer |
| 47 | Mirudini Vijayakumar | Citi Bank | Super Dream | Technology Analyst |
| 48 | Mohamed Ismail M | Innova Solutions | Regular | Software Developer |
| 49 | T U Nehadhruwa | Eurofins IT Solutions | Super Dream | Associate Software Engineer |
| 50 | Nishal Varshan G K | Innova Solutions | Regular | SDE |
| 51 | Nishath Afroza A J | Eurofins IT Solutions | Super Dream | Associate Software Engineer |
| 52 | Pooja S | Optum | Super Dream | Full Stack Engineer |
| 53 | Pradeep Kumar M | Citi Bank | Super Dream | SDE |
| 54 | Praveen Kumar S | Microchip Technology | Super Dream | Engineer 1 |
| 55 | Praveena V K | Optum | Super Dream | Full Stack Engineer |
| 56 | Priyadharshini S S | Comcast | Core | Development Engineer I |
| 57 | Radha Bai C P | Optum | Super Dream | Full Stack Developer |
| 58 | Rahul H | Microchip Technology | Super Dream | Engineer 1 |
| 59 | Rajadurai.S | MBit Wireless | Core | Development Engineer-I |
| 60 | Rajeshwari R | Comcast | Core | Development Engineer I |
| 61 | Raman Gopal Chirania | JSW | Dream | GET |
| 62 | S Rohit Kumar | Comcast | Core | Development Engineer I |

| 63 | Roshan Darran R | Comcast | Core | Development Engineer I |
|----|----------------|---------|------|------------------------|
| 64 | Sai Akash A.S | Mastech infotrellis | Dream | Associate |
| 65 | Sam Alan Antony M | Comcast | Core | Development Engineer I |
| 66 | M.Sanjana | Citi Bank | Super Dream | Software Development Analyst |
| 67 | Sarangantth K | Comcast | Core | Development Engineer I |
| 68 | Sarayyu M K | Technip Energies | Core | Graduate Engineer Trainee |
| 69 | Sathyapriyaa R | Optum | Super Dream | Full Stack Developer |
| 70 | Sathyabharathi K | Ramboll | Core | GET |
| 71 | Shakti Venkatramanan | Oracle | Super Dream | Associate Consultant |
| 72 | Shalinie S | Optum | Super Dream | Full Stack Developer |
| 73 | Shree Vishnu P | Comcast | Core | Development Engineer I |
| 74 | Sriganesh.R | Transunion | Dream | Analyst |
| 75 | Sriharini K | Optum | Super Dream | Full Stack Developer |
| 76 | Srikanth S | Natwest | Super Dream | Software Engineer |
| 77 | Sukumari Madhavan | Technip Energies | Core | Graduate Engineer Trainee |
| 78 | Tahoor Ahmad Mir | Amadeus Software Labs | Super Dream | Software Engineer (Development) |
| 79 | Usha V | Yubi credavenue private limited | Dream | Data Analyst |
| 80 | Vaishnavi V | Citi Bank | Super Dream | Software Development Analyst |
| 81 | Vaisshnavi PA | Mastech Infotrellis | Dream | Associate |
| 82 | Vaitheesvaran.B | Microchip Technology | Super Dream | Engineer 1 |
| 83 | Vallaba Gurunath | Comcast | Core | Development Engineer I |
| 84 | Varshini Muralidharan | Citi Bank | Super Dream | Software Development Analyst |
| 85 | M Veeravaagu | TCS | Regular | Assistant System Engineer-Trainee |
| 86 | Vishnu | Comcast | Core | Development Engineer I |
| 87 | Ajay Kumar R | Ramboll | Core | GET |
| 88 | Brindha G | Hyundai Motor India Limited (HMIL) | Core | Graduate Engineer Trainee |
| 89 | Guru Prasath S | Nidec | Core | GET |
| 90 | Jaysurya RA | Renault Nissan Technology and Business Centre India | Core | Graduate Engineer Trainee |
| 91 | Manigandan G | TCS | Regular | Ninja |
| 92 | Suresh Kumar J | McDermott | Core | GET |

# HIGHER STUDIES

Vinu Varshath.S secured a rank of AIR 2830 in the prestigious GATE (EE) exam and got admission in M.Tech Power Electronics and Drives at NIT, Nagpur.

Yogeshwaran.E and Jassem.M got admission in MS Electrical and computer science at Boston University, USA

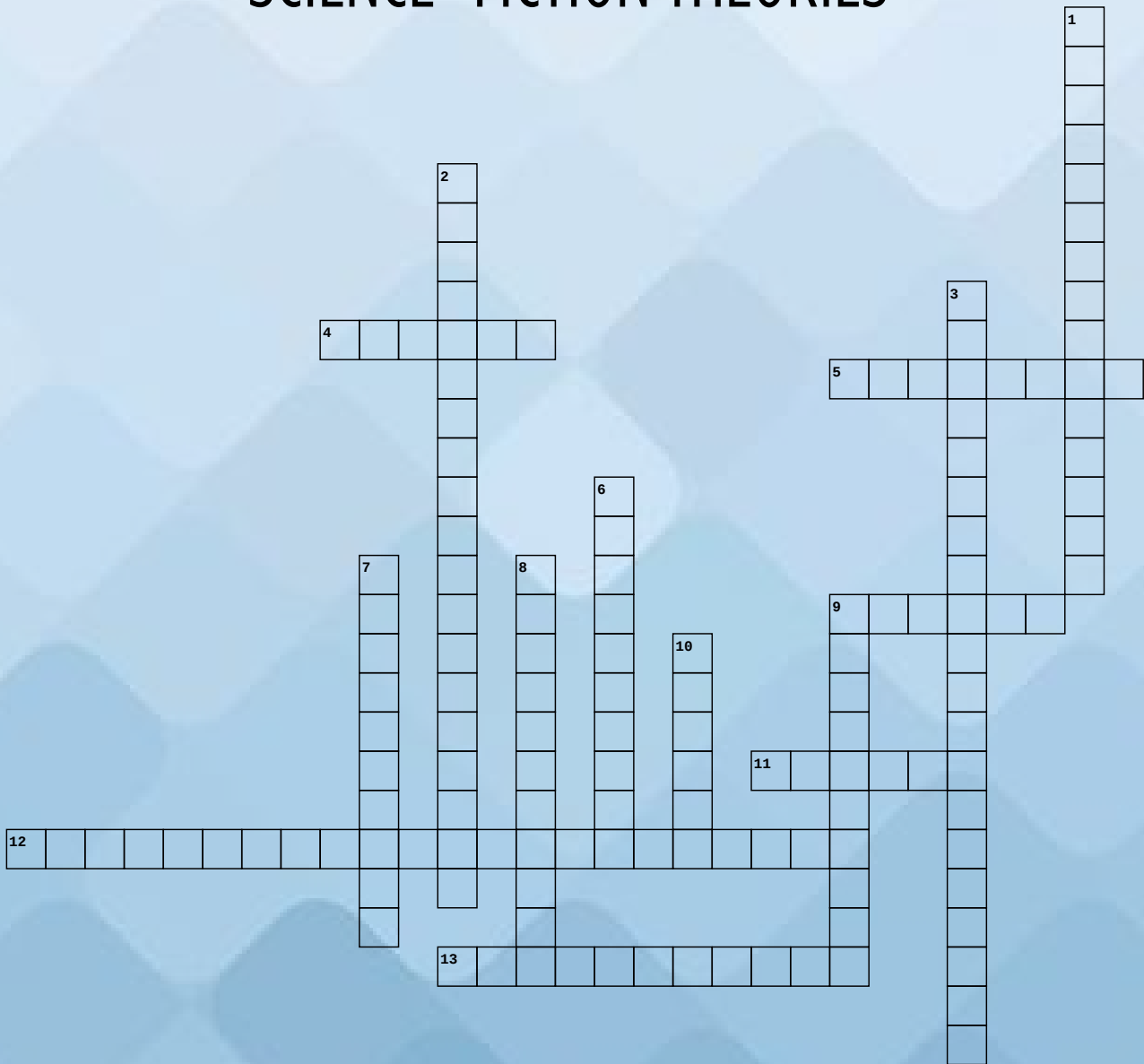Kedhar.N got admission in Business Analytics at Warlock College, UK.

Abishek.V got admission in Electrical and Computer Engineering at National Chung Hsing University (NCSU), Taiwan

Adithya.S.S got admission in Engineering Physics at KTH Royal Institute of Technology, Sweden

# CROSSWORD
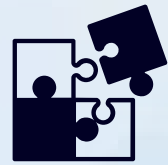
## SCIENCE -FICTION THEORIES

SCAN ME FOR ANSWERS...

# CLUES:

## ACROSS

4. A Computer-generated simulation of a three-dimensional environment
5. Imagined futuristic society characterized by oppressive conditions
9. Concept that suggests our reality is a computer-generated simulation
11. Manipulation and modification of an organism's genetic material
12. Creation of intelligent machines that can think and learn
13. Theoretical megastructure that surrounds a star to harness its energy

## DOWN

1. The contradiction between the high probability of extraterrestrial civilizations and the lack of contact
2. Phenomenon where two particles become connected and share information instantaneously
3. Life forms existing beyond Earth
6. Concept of moving between different points in time
7. Regions of spacetime with gravitational forces so strong that nothing can escape
8. Hypothesis that life on Earth originated from microorganisms or genetic material from outer space
9. Hypothesized multiple realities existing simultaneously
10. Philosophical movement advocating for enhancing human capabilities through technology

"Beleive in yourself and all that you are. Know that there is something inside you that is greater than any obstacle"

- Christian D Larson