Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

Department of Electronics and Communication Engineering

Academic Year 2024 - 25

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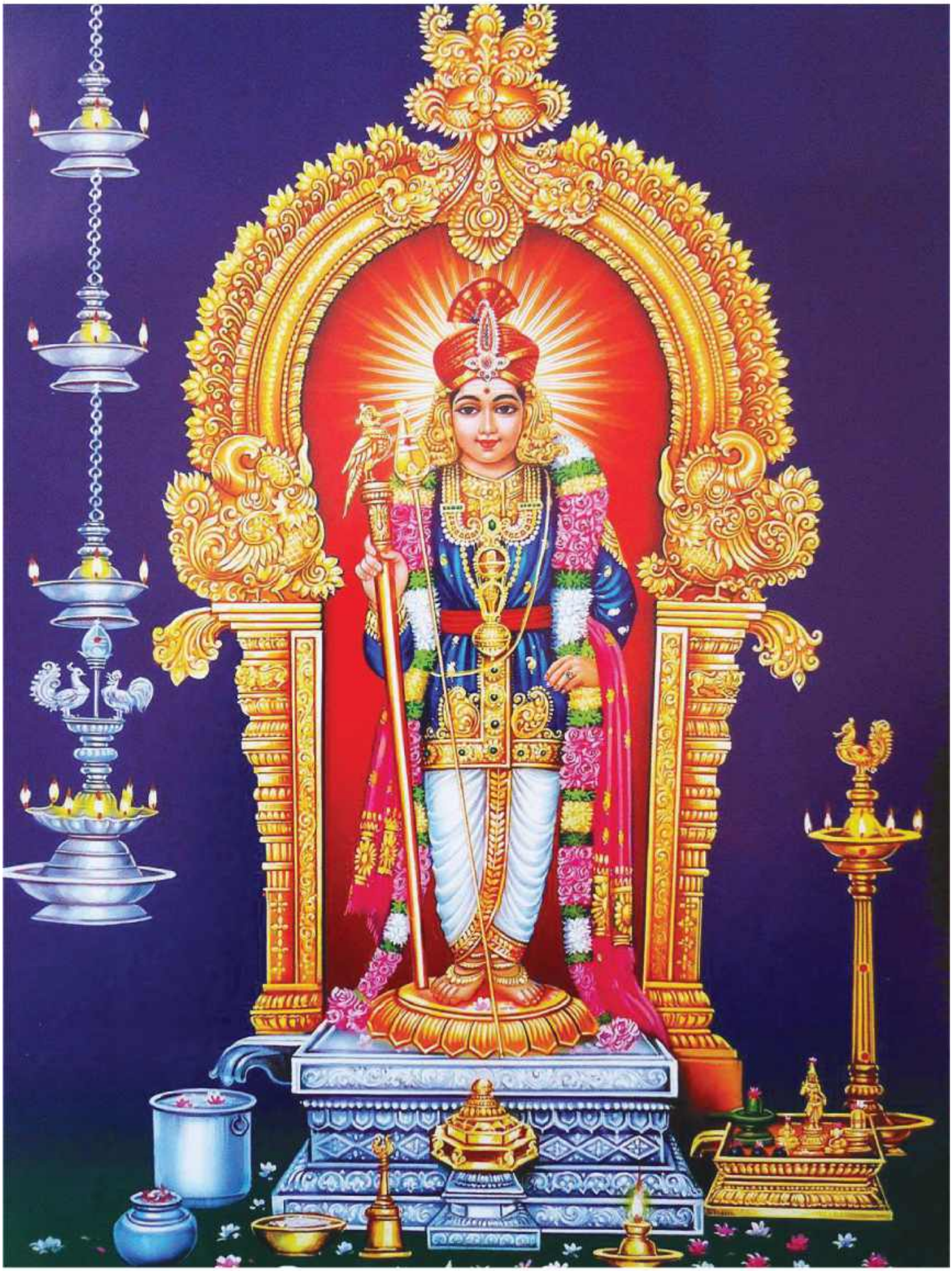

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In the Fond Memory of

Dr. Sagunthala Rangarajan

M.B.B.S.,

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LEADERSHIP

In this NEWS BITE, students and faculty get a chance to showcase their accomplishments as well as keep up with departmental activities. Accountability of students' involvement in technical and cultural events within and outside the institution are provided. Moreover, it reports on events organized by the department for knowledge enrichment, Skill development, career guidance, industrial exposure and social outreach program. Events organized under professional bodies such as IEEE, IETE, and club activities are included. The department conducted two FDPs, four workshops, two seminar, and four value-added courses for the well-being of students and faculty members during the summer semester of the academic year 2024 - 2025. NPTEL courses offered by various IITs during Nov/Dec 2024 have been successfully completed by the faculty members of the department. In order to enhance the technical and soft skills of the students, various clubs events were organized. IEEE Student branch chapters held 13 professional activities and students actively participated in courses conducted by industry and international delegates to enhance their knowledge in recent technologies.

Dr. R. S. Valarmathi

Prof. & Dean - SoEC

VISION OF THE DEPARTMENT

To be a centre of academic excellence through quality education and cutting-edge research in the diversified fields of electronics and communication engineering to meet the global challenges and produce high quality professionals.

MISSION OF THE DEPARTMENT

M1. To enrich the knowledge of graduate engineers for global requirements by promoting quality education through innovative pedagogical practices .

M2. To create an ambience of academic excellence by engaging in cutting-edge research and undertaking collaborative projects with academia and industry.

M3. To develop competence by inculcating human and moral values with leadership and professional skills.

PROGRAMME EDUCATIONAL OBJECTIVES

PEO1. Our graduates will have in depth knowledge in mathematical and engineering concepts required to solve engineering problems in the analysis and design of Electronics and Communication Devices and Systems.

PEO2. Our graduates will have the expertise to conceive, design, implement and operate the Engineering products for the societal and environmental problems.

PEO3. Our graduates will have adequate technical skills and leadership qualities in the development of innovative solutions required in core and allied industries.

PEO4. Our graduates will adapt to multidisciplinary environment using evolving technologies and achieve professional competence through higher education, research and lifelong learning

PEO5.Our graduates will communicate effectively, practice and promote ethical, environmental, health and safety standards in their profession.

Department Highlights

The department offers a variety of platforms for the students to take part in numerous technical festivals, sporting competitions, and cultural events.

One week Faculty Development Programme **"Neuromorphic Computing Techniques using VLSI"** - 11.11.2024 to 15.11.2024

This FDP was an amalgamation of participants from internal and external academicians who have benefitted from the research area involving brain-inspired device-circuit-system-algorithm, co-design and co-implementation in order to carry out Artificial Intelligence (AI)/ Machine Learning (ML) tasks very fast and with very high energy efficiency. The advent of possible applications of neuromorphic computing are in implementation of AI in edge devices where the data need to be processed very fast and with low implementation cost were discussed. Edge healthcare, robotics and wireless sensor networks are considered to be a few such edge-AI applications. Discussion on the latest innovations, trends and practical concerns and challenges faced in these fields are also discussed. Innovation and funds in the research area added value to the FDP on widening the scope of the employment base. The FDP attempts to establish some robust and mutual interactions and cooperation with scientific educational, governmental and non-governmental organizations and industries across local, national and international levels. VLSI technology is crucial for implementing neuromorphic systems as it enables the integration of millions or billions of transistors on a single chip.




Three days Workshop on "AI-Powered Image Processing: Techniques and Applications" - 08.08.2024 to 10.08.2024

The Department of Electronics and Communication Engineering, School of Electrical and Communication of Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Chennai, in association with Biovision Medical Systems, Chennai, organized a three-day workshop titled "AI-Powered Image Processing: Techniques and Applications" from 08.08.2024 to 10.08.2024. The workshop was designed to provide both theoretical knowledge and practical hands-on experience in the latest image processing techniques using AI and machine learning. Each day, special student performers were identified based on their active participation, creativity and practical skills. These students were recognized and awarded gifts as a token of appreciation. This initiative not only motivated the participants but also encouraged a competitive and interactive learning environment throughout the workshop.




Three days Workshop on "Cutting Edge Practices in Penetration Testing and Purple Team Integration" - 12.08.2024 to 14.08.2024

The workshop aimed to equip participants with the foundational knowledge and practical skills required to navigate the evolving landscape of cybersecurity. The topics covered are Cybersecurity Fundamentals, Cyber Security Standards, Cyber Laws with Examples, Ethical Hacking and Ethical Hacking Tools and Techniques. The workshop concluded with a detailed session on the Cyber Security Career Path. The workshop provided insights into the various roles available within the cybersecurity field, ranging from entry - level positions to advanced and specialized roles. Participants were guided on the certifications, skills, and experiences needed to advance in their cybersecurity careers.



Three days Workshop on **"Recent Advances and Future Trends in Natural Language Processing"** - 22.08.2024 to 24.08.2024

Participants were introduced to the core tools utilized in NLP projects, with a particular focus on Python for NLP, with advanced NLP tool kits including NLTK and SPACY. The workshop provided a comprehensive overview of key tools vital in the field of NLP. Throughout the workshop, attendees engaged in practical exercises and real - world case studies, allowing them to apply the theoretical concepts they learned to practical scenarios. In practical sessions focus on Python for NLP, as well as mastering NLTK and SPACY was given . Through interactive learning modules, attendees gained valuable insights and hands-on experience, equipping them with the essential skills required in today's data-driven world.

Led by experienced instructors, the workshop fostered an environment conducive to learning, encouraging active participation and collaboration among participants. From beginner to advanced levels, attendees were empowered to enhance their proficiency in utilizing these essential tools effectively. Beyond technical skills, the workshop also emphasized the importance of critical thinking and problem-solving abilities in NLP. Participants were encouraged to approach NLP challenges creatively and strategically, fostering a mindset conducive to innovation and discovery.

Four days Value-Added Course on "LTE & 5G Testing" - 28.08.2024 to 31.08.2024

The Department of Electronics and Communication Engineering organized a 4-day value-added course on LTE & 5G Testing from 28-08-2024 to 31-08-2024. Mr D Chiranjeevi, Technical Manager, 5G Tech Solution, Hyderabad, was the resource person for the course. The objective of the course was to provide additional skills and knowledge that complement the core curriculum of a student's primary field of study and to make students more versatile, competent and ready to meet the demands of the job market.

The resource person covered Introduction to 5G Technology, 5G Spectrum and Frequency Bands, 5G Network Components, 5G Testing Methodologies, 5G RF Testing, 5G Device Testing, Network Slicing, and Virtualization Testing during the course. About 51 students from 2nd, 3rd and 4th year B.TECH - ECE attended the course.

Four days Value-Added Course on **"Tools for Cyber Security"** - 13.09.2024 to 14.09.2024 and 24.09.2024, 03.10.2024

The Department of Electronics and Communication Engineering, School of Electrical and Communication of Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Chennai, organized a 30 hours value added course titled "Tools for Cybersecurity" during 13.09.2024, 14.09.2024, 24.09.2024 and 03.10.2024. The value-added course was designed to provide both theoretical knowledge and practical hands-on experience in the various tools for Cybersecurity.

The resource person for the value-added course was Mr. PRADEEP VM, CTO - Cyber Security, GLEAM CLOUD SECURITY SOLUTIONS LLP, Chennai, who shared his expertise through detailed lectures and practical demonstrations.

Four days Value-Added Course on **"System Verilog for RTL design"** - 23.09.2024 to 26.09.2024

The Department of Electronics and Communication Engineering, School of Electrical and Communication , Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, organized a Value-Added Course on SystemVerilog for RTL design. This course gives an in-depth introduction to the main SystemVerilog enhancements to the Verilog hardware description language (HDL), and also discusses the

benefits of the new features, and demonstrates how design and verification can be more efficient and effective when using SystemVerilog constructs. The SystemVerilog RTL design and synthesis features, including new data types, literals, procedural blocks, statements, and operators, relaxation of Verilog language

rules, fixes for synthesis issues, enhancements to tasks and functions, new hierarchy and connectivity features, and interfaces were deleiverd. Application of the System Verilog verification features, including classes, constrained random stimulus, coverage, strings, queues and dynamic arrays, and utilization of these features for more effective and efficient verification were focused.

The resource person for the value-added course was Mr. I. Mohamed Irsath Design Verification Engineer, BITSILICA, Bengaluru.

The course contains SystemVerilog Overview, Standard Data Types and Literals, Procedures Statements and

Procedural Blocks, Operators, User-Defined Data Types and Structures, Hierarchy and Connectivity, Static Arrays, Tasks and Functions, Interfaces, Simple Verification Features Clocking Blocks, Random Stimulus, Basic Classes, Polymorphism and Virtuality, Class Based Random Stimulus, Interfaces in

Verification, Covergroup Coverage, Queues and Dynamic and Associative Arrays (QDA), Introduction to Assertion-Based Verification (ABV), Introduction to System Verilog Assertions (SVA), Direct Programming \ Interface (DPI), Interprocess Synchronization.

The Department of Electronics and Communication Engineering, School of Electrical and Communication, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology in association with MathWorks, organized a Seminar on Industry Day at Vel Tech on 19 July 2024. The seminar was organized with the motive of upskilling student's knowledge in MATLAB to meet Industry needs.

Around 66 students, from the department of ECE and CSE, attended the seminar. Mr. Arulmozhi Selvan V, Regional Manager, MathWorks, India and Ms. Niveitha Mohankumar, Education Team, MathWorks, India, delivered the lecture on MATLAB and its importance in the industry.



STUDENT ACHIEVEMENTS

The department offers a variety of platforms for the students to take part in numerous technical festivals, sporting competitions, and cultural events. Our students took part in the following events and brought honours to our department.

Ms.Valli Sri Subrahmanyeswari (VTU23626), a student of Second year ECE Department has been selected to receive the 2024 IEEE System Council Engineering Undergraduate Scholarship amount of 5000 USD (Rs.4,16,855/-) and a certificate for her excellence in Academics (9.7 CGPA) and her involvement in all IEEE activities of Vel Tech.

Final Year Students of ECE has won the Best Paper Award titled, "Wall Climbing Robot for Surveillance" in ITDECC – 2024 organised by SRMIST Ramapuram Campus, Chennai. Supervisor: Dr. B. Sathyasri, Associate Professor, ECE Student Team:
Likitha (VTU 21632),
Gowtham (VTU 21652),
Chandu (VTU 14011)

P Rohini (VTU23670), B Sagar (VTU23448), Chandu Prasad CH (VTU23708), the students of III year have got first prize with a cash reward of Rs 2000/- in project presentation titled "IoT enabled smart toilet cleaning robot" under the guidance of Dr. A. Farithkhan, Assistant Professor/ ECE.

P. Logeswari (VTU19883), a final-year ECE student, has been honoured as the Student Ambassador for the IEEE Xtreme 18.0 24-hour global coding competition for 2024, in recognition of her active participation in IEEE professional activities over the past two years. In addition, she holds the position of Secretary for the IEEE Circuits and Systems Society Student Branch Chapter of Vel Tech.

Vel Tech ECE department 3rd year student team project has been selected for Round 1 of the 'Anveshan' Fellowship Program 2024, conducted by the core company 'Analog Devices.' The team received a working toolkit from Analog Devices." Congratulations to the team members and their faculty mentor, Dr. S. Shiyamala
Student Team:
Y. Venkata Sai (VTU23741),
Valli Sri Subrahmanyeswari (VTU23626),
S. Rakesh Reddy (VTU23650),

Our ECE Final year students C. Sowmya Nagarjuna (VTU 20856) won 1st place with a cash reward of ₹5000/- & Sai Tulasi Verrendranadh (VTU 23945) won 2nd Prize with a cash reward of ₹3000/- in Code Athon during August 2024 contest conducted by Office of Campus to Corporate.

Our ECE (AIML) 2nd year student G. Laxmi Sravani (VTU 25283) won 2nd Prize with a cash reward of ₹3000/- in APTI MIND during August 2024 contest conducted by Office of Campus to Corporate.

Our ECE 3rd year students G. Sasank Reddy (VTU 233221) & Duvvuru Venkata Sai Sudeep Reddy (VTU 23638) won 2nd Prize of ₹3000/- in QUIZ MANIA during August 2024 contest conducted by Office of Campus to Corporate.

Congratulations to the Department of ECE Final Year student – Vankayala Naga Kedari Aakash Kumar (VTU 19710) who has been selected for International Internship Pilot Program in National Pingtung University of Science and Technology, Taiwan.

Congratulations to the Department of ECE Final Year student – Ms. Tekimudi Sri Sai Lakshmi Revathi (VTU21287) who has been selected to receive the 2024 IEEE Signal Processing Society (SPS) Scholarship of Rs. 84,000 (~1000 USD) for her academic excellence (CGPA 9.27) and active involvement in IEEE activities. She also serves as the Student Chair of the IEEE SPS Student Branch Chapter of Vel Tech.

Congratulations to the Department of ECE 3rd year students - D. Neharika (VTU23798), Syed Ausaf Ahmad (VTU21736), Syed Faizan Ali (VTU23863) for winning Second prize in paper presentation competition – SLICE'24 organized by Loyola - ICAM College of Engineering and Technology, Chennai on 28.09.2024.

Congratulations to the Department of ECE 3rd year students - Duvvuru Venkata Sai Sudeep Reddy (VTU23638), Rishika M N (VTU22509), Aarthy B (VTU22415) who won Third prize in paper presentation competition – SLICE'24 organized by Loyola-ICAM College of Engineering and Technology, Chennai on 28.09.2024.

Congratulations to IEEE CAS member Venkata Sai Yarragolla (VTU 23741) ECE 3rd year student who has been selected as an IEEE CAS 75th Anniversary Global Celebration Champion. As a Champion, he will play a vital role in the Global Celebration events, which will take place from 15th September to 15th November, 2024.

Congratulations to the students of the Department of ECE for having been selected for the final round of the Ideas for Viksit Bharat "S&T Hackathon", which is going to be held at IIT, Guwahati, from 30th Nov to 3rd December 2024. The team is going to build and present the working model / software app for the submitted idea during the final round of the hackathon at IIT Guwahati under the supervision of Dr. G. Sasikala, Prof. / ECE.

Student Team:
Y. Venkata Sai (VTU23741),
K. Valli Sri Subrahmanyeswari (VTU23626),
S. Rakesh Reddy (VTU23650)

Congratulations to Department of ECE 3rd Year students who have been shortlisted and selected for participating in grand finale of Smart India Hackathon (SIH 2024) under the supervision of Dr. S. Aswath and Dr. Koushick Venkatesh which is going to be held at Rungta College of Engineering and Technology, Bhilai, Chhattisgarh on 11 - 12 December 2024.

Student Team:

Tharun E (VTU 23764),
Eniya S (VTU 23916),
Haarish U (VTU 23768),
Mukesh R (VTU 23568),
Udaya Prasath M (VTU 23579),
Yeshmitaa R J (VTU 23874)

Congratulations to the Department of ECE Final Year students – Bharath Gonipalli (VTU 19774) and Karthik Vanna (VTU 19660) who have been selected for TEEP Research Internship in Asia University, Taiwan with a stipend of 48,000 NTD (~1,25,615 INR) for the duration of December 2024 to April 2025.

Congratulations to the Department of ECE Final Year students – Sujeevan Thommandru (VTU 19695), Chaitanya Nedambaram (VTU 19666) and Gowri Sai Sankar Pentela (VTU 19619) who have been selected for Internship in Southern Taiwan University of Science and Technology, Taiwan a with stipend of 48,000 NTD (~1,25,876 INR) for the duration of December 2024 to April 2025.

FACULTY ACHIEVEMENTS

Dr. R. S. Valarmathi, Professor & Dean SoEC acted as Session Chair in the 15th International IEEE Conference on Computing, Communication and Networking Technologies (ICCCNT 2024) from June 24th to 28th, 2024 in IIT Mandi, Himachal Pradesh.

Dr. R. S. Valarmathi, Professor & Dean SoEC has delivered the keynote address on "Transforming Health through Wearable Sensors: A New Era in Quality of Life" in the 7th International Conference on Electronic Design (ICED 2024) on 2nd & 3rd September 2024 in Penang, Malaysia.

Dr. A. Selwin Mich Priyadharson, Professor and Head - ECE, has been elevated from Member to Senior Member in IEEE Professional body from 02.10.2024 onwards.

Dr. E. D. Kanmani Ruby, Professor - ECE has been awarded the "Best IETE Students Forum (ISF) Coordinator" from the Institution of Electronics and Telecommunication Engineers, Chennai Centre on 26.07.2024.

Dr. D. J. Joel Devadass Daniel, Assistant Professor - ECE has received the partial financial assistance of Rs. 23,100 under the Young Scientist Fellowship Scheme (YSFS) from Tamilnadu State Council for Science and Technology (TNSCST), Chennai on 24.10.2024.

Dr. S. Shiyamala, Professor - ECE (Chief Investigator), Dr. J. L. Mazher Iqbal, Professor - ECE (Co- Chief Investigator) & Mr. A. Mutharasan, Assistant Professor - ECE (Team Member) have received the fund of Rs. 30 Lakhs towards Synopsys EDA Tool support under the scheme of Chip to Startup (C2S) from the Ministry of Electronics and Information Technology (MeitY), Government of India on 30.10.2024.

Dr. J. L. Mazher Iqbal, Professor - ECE, has secured top 5% rank with consolidated score of 90% in NPTEL online certification entitled "Accreditation and Outcome Based Learning" during August to October 2024 organised by IIT Kharagpur.

PUBLICATION DETAILS

S. No.	Category	Count
1	SCOPUS -Conference / Book Chapter	37
2	SCOPUS -Articles / Book Chapter	18
3	SCI -Articles	16
TOTAL		71

IPR DETAILS

S. No.	Category	Count
1	Filed	6
2	Published	31
3	Granted	4

CLUB ACTIVITIES

PROGRAMMING CLUB:

1. QUIZBUZZ 2024

The contest titled "QUIZBUZZ 2024" is the second event by Programming Club of ECE department during summer semester of the Academic Year 2024 - 2025. This contest included two rounds. First round was a rapid-fire questionnaire round to each participating team. Five teams were selected after the first round. An online time limited quiz on coding, having 15 questions were conducted next and first two winning positions were selected.

There were 22 registrations from the 2023-2027, 2022-2026 and 2021-2025 batch students. An active participants of 8 members did their quiz followed by a two member team to carry out the online quiz. The certificates of participation and the winner's were awarded in the presence of HOD - ECE, Dr. A. Selwin Mich Priyadharsan on behalf of Dr. Anandan , ECE Club activities' coordinator. The details are as follows:

S.No.	VTU No.	Participant Name	Remarks
1	24319	R Raaghav	I PRIZE Rs.3000/-
	24323	Anvar Basha	
2	24320	Rakshitha V	II PRIZE Rs.2000/-
	23821	Natarajan V	

PYCON FEST 2024 – Python Programming Contest

This contest is scheduled only for all (second year to final year) students of Electronics and Communication Engineering in view to spike their interest in this tool. It was conducted to showcase the programming skill of the students especially in Python programming.

The contest had two stages; the first stage is a prelim where all the students were asked to answer 10 MCQ- based questions conducted through online Quiz. A total of 28 students attended the prelims. The top 10 participants were selected from the prelims and they were invited to participate in the mains on the same day. The main event consists of 4 problems for which the students have to find the solution through Python code. The top three students were rewarded with a winner & runners' certificate along with cash prizes during the valedictory function held on 25th March 2024 whereas the other remaining students were motivated with a participation certificate. The winners' details are as follows:

S.No.	VTU No.	Participant Name	Remarks
1	20558	Maruthi Ram	I PRIZE
	19639	Jaswanth Onteru	
2	24319	Raaghav R	II PRIZE
	24323	Anvar Basha D	

ACE Club:

I. Debate On Contemporary Controversies

The Debate on Contemporary Controversies for third-year ECE students was conducted over two rounds on the 1st and 2nd of August, 2024, in the Gallery Hall, Veltech. The event was meticulously organized to enhance students' skills in critical thinking, persuasive communication, and intellectual discourse on relevant contemporary issues.

The competition consisted of two rounds, with participants being assessed on multiple criteria, including factual information, comprehension of the topic, persuasiveness, delivery, rebuttal strength, and extra credit for exceptional arguments or insights. The rigorous rubrics aimed to evaluate not only the content but also the confidence and articulation of the speakers. The jury for the event comprised Dr. Revathi, Associate Professor and HOD of the English Department, and Dr. Prakash, Professor in the English Department, both of whom brought a wealth of expertise in evaluating the participants' performances.

The first round saw an engaging exchange of arguments, with each participant demonstrating their grasp of current issues and effectively communicating their perspectives. Those who excelled in the initial round moved on to the second round, where the competition intensified. In this round, participants were expected to present well-researched points, counter their opponents' arguments with precision, and maintain persuasive rhetoric throughout.

The event was not only an intellectual challenge but also a platform for students to practice public speaking and constructive argumentation. The Gallery Hall was filled with vibrant energy as students passionately defended their positions on contentious topics. The jury provided valuable feedback, emphasizing the importance of evidence-backed arguments and clear communication.

In conclusion, the Debate on Contemporary Controversies was a successful event, showcasing the debating prowess of Veltech's ECE students while also contributing to their overall personal and academic growth. The event was a testament to the importance of fostering critical thinking and effective communication skills in an academic setting.

2. PROMOTE YOUR BRAND

The ACE Club successfully organized a dynamic and inspiring event titled "Start-up Spotlight: Promote Your Brand", aimed at fostering entrepreneurship among young engineers. The primary goal was to ignite the entrepreneurial spirit in students, encouraging them to transition from job seekers to job creators. The event focused on crucial business promotion strategies, providing participants with a platform to develop and showcase innovative marketing and branding solutions.

I. Event Highlights:

The event focused on various aspects of business promotion with an emphasis on creative and cutting-edge strategies such as:

- Digital Marketing
- Social Media Strategies
- Brand Building
- Guerrilla Marketing Tactics
- Product Launches and Campaigns
- Start-up Promotions

Participants were tasked with developing comprehensive business promotion plans, which were judged on key rubrics:

- Creating a Marketing Strategy
- Managing Social Media
- Audience Outreach
- Budget Planning
- Logistics and Execution
- Team Collaboration

The event encouraged teamwork, with each team consisting of 2 or 3 participants. By working together, participants were able to pool their creativity, knowledge and leadership skills to craft compelling business promotion strategies.

Jury and Evaluation:

We were honored to have Dr. Ashlin Nimo J. R and Ms. Felisiya M, esteemed Assistant Professors from the MBA department to serve as the jury. Their expertise in business management and entrepreneurship added depth to the evaluation process as they assessed each team's promotional strategies with critical insights.

Winners Announcement:

The competition was tough, with several outstanding presentations, but two teams stood out for their innovative approach and detailed execution plans:

- 1st Place - Team Toxmo
- Team Members: P. Girish (VTU20263), IV ECE, and Sanjay Krishnan T (VTU20277), IV ECE
- Prize: 1st Place Winner
- Team Toxmo impressed the jury with their strong focus on digital marketing strategies, audience outreach, and budget management.

- 2nd Place - Team Glamora
- Team Members: Madhumitha (VTU24426), II ECE, and Mokshitha (VTU24429), II ECE
- Prize: 2nd Place Runner-up
- Team Glamora showcased creativity and precision, excelling in brand-building tactics and their ability to manage social media campaigns effectively.





ROBOTICS CLUB:

ROBOTION 2024

The contest titled "ROBOTION 2024" which is the second event by Robotics Club of ECE department during Summer semester of the Academic year 2024 - 2025. This event has two rounds. First round is planned to answer quiz based on Aurdino & basics of Robot. The short listed five members may enter into the second round to do the hardware design using the given components during the contest titled "ROBOTION 2024" which as conducted in venue 1402.

There are 30 registrations from the 2023-2027, 2022-2026 and 2021-2025 batch students. An active participation 12 members for the quiz further shortlisted to a two member team to design the given hardware model using aurdino was witnessed. The certificates of participation and the winner's cash prizes were awarded in the presence of HOD - ECE, Dr. A. Selwin Mich Priyadharsan. The details are as follows:

S.No.	VTU No.	Participant Name	Remarks
1	21752	Grandisila Poorna Chaitanya	I PRIZE Rs.3000/-
	23741	Y.Venkata Sai	
2	23836	Mahitha	II PRIZE Rs.2000/-
	23821	N Venkata Jayanth	




FUNTECH 2K24

The contest titled "FUNTECH 2K24" is the first event by Robotics Club of ECE department during summer semester of the Academic Year 2024 - 2025. This event is to play treasure hunt as prelims and second round is to design a Robot using online simulation tool and exhibit their innovation during the contest titled "FUNTECH 2K24 which was conducted in venue 1412.

There are 50 registrations from the 2023-2027, 2022-2026 and 2021-2025 batch students. An active participation of 20 members on the robotic theme as simulation were uploaded as design report. The shortlisted were evaluated by Dr. V. Vinoth Kumar, Assistant professor - ECE on the same day as an expert member. The certificates of participation and the winner's cash prizes were awarded in the presence of Dr. R. S. Valarmathi, Dean - SoEC . The details are as follows:

S.No.	VTU No.	Participant Name	Remarks
1	23302	Preethika S	I PRIZE Rs.3000/-
	23565	Harini S	
2	23732	Y. Sasidhara	II PRIZE Rs.2000/-
	23711	M.Laksmi Prasanna	




ONE CREDIT COURSES

International

1. Medical Coding for Healthcare Analysis (Course Code: 10215EC926)

- **Regulation** : VTR UGE - 21
- **Credits** : 1
- **Structure** : 1-0-0-1 (L-T-P-C)
- **Semester** : SS 2024-25
- **Professor Details** :
- **Name** : **Dr. Sujatha Krishamoorthy**, Assistant Professor at Wenzhou-Kean University, Wenzhou, China
- **Course Overview** : This course covers the fundamentals of medical coding within the healthcare industry. It teaches students how to analyze healthcare data and use coding systems such as ICD (International Classification of Diseases) and CPT (Current Procedural Terminology). Emphasis is placed on accuracy and compliance with healthcare regulations.
- **Duration** : 21-08-24 to 22-08-24


2. Gamification in Healthcare (Course Code: 10215EC927)

- **Regulation** : VTR UGE - 21
- **Credits** : 1
- **Structure** : 1-0-0-1 (L-T-P-C)
- **Semester** : SS 2024-25
- **Professor Details** :
- **Name** : **Dr. Sujatha Krishamoorthy,** Assistant Professor at Wenzhou-Kean University, Wenzhou,China
- **Course Overview** : This course explores the application of gamification in the healthcare sector. Students will learn how game design elements are used to improve patient engagement, enhance therapeutic outcomes, and optimize healthcare delivery. The course will also examine the psychological principles behind gamification.
- **Duration** : 23-08-24 to 24-08-24

3. Smart Materials for Electronics Applications (Course Code: 10215EC928)


- **Regulation** : VTR UGE - 21
- **Credits** : 1
- **Structure** : 1-0-0-1(L-T-P-C)
- **Semester** : SS 2024-25
- **Professor Details** :
- **Name** : **Dr. Shuichi Torri,** Kumamoto University, Japan4
- **Course Overview** : This course delves into the innovative world of smart materials and their role in modern electronics. It covers types of smart materials, their properties,and how they are used in sensors, actuators, and other electronic components. Students will gain insights into material engineering for electronic applications.
- **Duration** : 02-09-24 to 06-09-24

4. Innovation through Design Thinking (Course Code: 10215EC921)

- **Regulation** : VTR UGE - 21
- **Credits** : 1
- **Structure** : 1-0-0-1 (L-T-P-C)
- **Semester** : SS 2024-25
- **Professor Details** :
- **Name** : **Dr. Chockalingam Aravind Vaithilingam,** Taylors University, Malaysia
- **Course Overview** : This course introduces students to the methodology of design thinking and how it fosters innovation. Students will learn to apply the human-centered approach to problem-solving in various industries, including technology and business. The course includes case studies and practical applications.
- **Duration** : 11-09-24 to 13-09-24

5. RF Energy Harvesting System (Course Code: 10215EC930)


- **Regulation** : VTR UGE - 21
- **Credits** : 1
- **Structure** : 1-0-0-1 (L-T-P-C)
- **Semester** : SS 2024-25
- **Professor Details** :
- **Name** : **Dr. Manee Sangaran Diagarajan,** Taylors University, Malaysia
- **Course Overview** : This course focuses on the principles and applications of RF energy harvesting. It covers the theoretical foundations of harvesting ambient RF energy and converting it into usable electrical power for low-power electronic devices, with an emphasis on system design.
- **Duration** : 19-09-24 to 21-09-24

6. Digital Forensics and Incident Response (Course Code: 10215EC917)

- **Regulation** : VTR UGE - 21
- **Credits** : 1
- **Structure** : 1-0-0-1 (L-T-P-C)
- **Semester** : SS 2024-25
- **Professor Details** :
- **Name** : **Prof. Dr. Sunderesan Perumal,** Universiti Sains Islam Malaysia, Malaysia

- **Course Overview** : This course offers an in-depth understanding of digital forensics and incident response, focusing on the detection, investigation, and mitigation of cyber incidents. Students will learn forensic tools, techniques for data recovery, and the legal aspects of digital evidence.
- **Duration** : 23-09-24 to 25-09-24

7. Sensor Integration with IoT (Course Code: 10215EC931)

- **Regulation** : VTR UGE - 21
- **Credits** : 1
- **Structure** : 1-0-0-1 (L-T-P-C)
- **Semester** : SS 2024-25
- **Professor Details** :
- **Name** : **Prof. Dr. Thennarasan Sabapathy,** Universiti Malaysia Perlis (UnMAP), Malaysia
- **Course Overview** : This course focuses on integrating sensors with IoT systems for real-time data monitoring and control. Topics include sensor networks, IoT architecture and protocols for communication between devices, as well as practical examples of IoT applications in various industries.
- **Duration** : 07-10-24 to 10-10-24



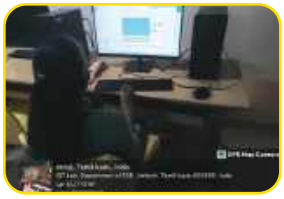

8. Advanced Antenna Design and Measurement Techniques (Course Code: 10215EC932)

- **Regulation** : VTR UGE - 21
- **Credits** : 1
- **Structure** : 1-0-0-1 (L-T-P-C)
- **Semester** : SS 2024-25
- **Professor Details** :
- **Name** : **Prof. Dr. Thennarasan Sabapathy,** Universiti Malaysia Perlis (UnMAP), Malaysia
- **Course Overview** : This course covers advanced topics in antenna design, focusing on modern techniques for creating efficient antennas for communication systems. It also includes methods for measuring antenna performance and optimizing their functionality.
- **Duration** : **14-10-24 to 17-10-24**


Industry

Course -1

Course Code / Course Name : 10215EC923 - **Generative AI in Action : Concepts to Creation**
Duration of the course : 25/07/24 to 27/07/24
Total No. of hours : 15
Location : 1713 (AI Lab)
No. of Students : 50

About the Course:

This course is designed to meet the growing demand for professionals skilled in Generative AI and its applications across various industries. By combining theoretical insights with hands-on experience, students will gain the essential knowledge required to succeed in the rapidly evolving field of AI-driven content generation, creativity and automation.

Expert Details

Mr. Muhamed Iliyas
Technical Trainer
TripleM Infotech Solutions Private Limited
Chennai.

Course - 2

Course Code / Course Name : 10215EC924 - **Application of Sensors in Wearable Devices**
Duration of the course : 01/08/24 to 03/08/24
Total No. of hours : 15
Location : 1713 (AI Lab)
No. of Students : 45

About the Course:

This course is designed to meet the growing demand for professionals skilled in the application of sensors in wearable devices, a key technology driving innovation across healthcare, fitness, and consumer electronics. By combining theoretical knowledge with hands-on experience, students will gain essential insights into the design, functionality and integration of various sensors used in wearable technology. Through practical applications, students will learn how sensors can collect, process, and interpret data to enable smarter, more responsive wearable solutions.

Expert Details

Dr.S. Athena Milagi Pandian,
Founder & CEO
M/s. Athenapandian Private Limited,
Chennai.

COURSE-3

Course Code / Course Name : 10215EC929 - **Penetration Testing and Cybersecurity**
Duration of the course : 29/08/24 to 31/08/24
Total No. of hours : 15
Location : 1524 (Smart Class Room)
No. of Students : 46

About the Course:

This course is designed to meet the growing demand for professionals skilled in penetration testing and cybersecurity, critical areas for safeguarding digital infrastructure across industries. By combining theoretical foundations with practical exercises, students will learn to identify, exploit and mitigate vulnerabilities in computer systems and networks. The course equips students with essential knowledge of security protocols, threat assessment and ethical hacking techniques, preparing them to address the challenges of an increasingly complex and connected digital world.

Expert Details

Mr. Arul Kirubaharan,
Manager IT,
NTC Logistics Pvt Ltd,
Chennai.


COURSE-4

Course code / Course Name : 10215EC925 - **Radar System in Space Applications**
Duration of the Course : 30.07.24, 20.08.24, 28.08.24, 01.10.24 & 04.10.24
Total no of hours : 15
Location : 1523 (Smart Class Room)
No of Students : 50
About the Course :

This course is designed to address the increasing need for professionals with expertise in radar systems used in space applications, a critical technology for satellite communication, earth observation, and space exploration. By integrating theoretical insights with practical examples, students will gain a comprehensive understanding of radar principles, system design, and signal processing techniques specific to space environments. The course equips students with the knowledge and skills necessary to develop and implement radar technologies that drive innovation in the aerospace and defence industries.

Expert Details

Ms. Vijayalakshmi
Ex ISRO Scientist
Real Time C-Band Tracking Radar of ISRO Project
Chennai.


COURSE-5

Course Code / Course Name : 110215EC933 - **IoT 4.0 for Graduates**
Duration of the Course : 31.08.24,21.09.24 & 02.10.24
Total no of hours : 15
Location : 1713 (AI Lab)
No of Students : 48
About the Course :

This course is designed to equip students with the knowledge and skills required to thrive in the era of IoT 4.0, where interconnected devices, smart systems, and automation are transforming industries. By combining theoretical concepts with hands-on experience, students will explore the next generation of Internet of Things (IoT) technologies, including edge computing, AI integration, and advanced data analytics. Students will gain essential expertise in designing, implementing, and managing IoT solutions that meet the demands of Industry 4.0, preparing them for dynamic roles in a connected and automated world.

Expert Details

Dr. Aravind,
DGM -Project Planning,
Ashok Leyland,
Egmore, Chennai.


1. IEEE Signal Processing Society Student Branch Chapter Event
2024 IEEE SPS Seasonal School "Exploring Quantum Signal Processing: Core Principles to Applications"

The Department of Electronics and Communication Engineering, School of Electrical and Communication in association with IEEE SPS Student Branch Chapter of Vel Tech (SBC15921D) organized the 2024 IEEE Signal Processing Society (SPS) Sponsored Seasonal School on "Exploring Quantum Signal Processing: Core Principles to Applications" from July 1st to 5th 2024. The event was funded with 3000 USD (Rs. 2,50,320) by IEEE SPS. The seasonal school aimed to provide an in-depth understanding of quantum signal processing, from fundamental principles to advanced applications. The event featured lectures, hands-on sessions, and interactive activities conducted by experts in the field. The event aimed to delve into the foundational and advanced aspects of quantum signal processing. A total of 72 participants attended the event.




IEEE Communications Society Student Branch Chapter Event
Auction Adventure: A Technical Device Di Section Contest

On March 13th, 2024, the School of Electrical and Communication, in collaboration with the Department of Electronics & Communication Engineering, IEEE Student Branch, Vel Tech, and IEEE Communications Society SBC, Vel Tech, have organized **" Auction Adventure" – A Technical Quiz"** Contest which was held in the venue 1522 from . The Department of ECE and IEEE Communications Society Student Branch Chapter of Vel Tech jointly organizes " Auction Adventure" (A Technical Device Di Section contest) on 13.07.2024 The event wasconducted by the Chapter advisor and the Student Member Sri Vaishnavi Miriyam (IV Year).



IEEE ComSoc Summer School Series Workshop on
"Artificial Intelligence for Sustainable B5G/6G Networks"

The workshop journey was started on Sepetmber 2023. We the organizers **Dr. T Kavitha,** Professor / ECE & **Dr. C Kanmani Pappa,** IEEE ComSoc Student Branch Chapter Advisor, have submitted the proposal on 27th September 2023. First stage of review was received on November 2023 asking for doing few updations on budget and date of the event. In the second stage the ComSoc Educational Services Board was approved the date of workshop on 1st Feb 2024. Updated proposal for a 2024 IEEE ComSoc School Series event was approved on 26th March 2024. ComSoc Staff members **Tara Mc Nally** and**Beeraj Kaushal** is assigned as organizing team from ESB UK. After that they assigned **Dr. Swades De,** Professor of EE, IIT Delhi as a Liaison Officer for the IEEE ComSoc School Series. We are happy to share that In Region 10 (South Asia) our Institute only received the fund to conduct summer school series. We received the fund amount of Rs. 5,32,000/- This workshop is designed to explore the intersection of artificial intelligence and next-generation communication technologies.

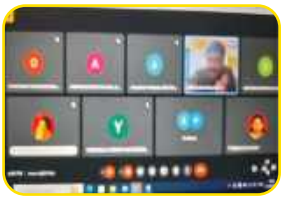
As we advance toward B5G and 6G networks, the integration of AI is becoming increasingly crucial for developing sustainable, efficient, and intelligent communication systems. For the six days, the students have the opportunity to engage with a wide range of topics that address both the theoretical and practical aspects of AI in communications.

How AI can be leveraged to enhance 5G and 6G networks has been covered, focusing on the challenges and opportunities that lie ahead.The workshop will feature practical sessions where the students have interacted with tools and frameworks like TensorFlow, Keras, PyTorch, Jupyter, and Colab. These sessions were designed to equip the students with the skills needed to implement AI solutions effectively. Having participated in this workshop, the students gain valuable insights into cutting-edge technologies and methodologies. This knowledge will not only enhance the understanding but also empower to contribute to the development of innovative solutions in the field. Participants from all over India have attended this workshop.



IEEE Circuits and Systems Society Student Branch Chapter Event
Webinar Titled "Empowering Futures: Navigating Your Student Career in IEEE"

An interactive and informative session was delivered by our Resource Person **Mr. Arun,** Assistant Professor , Panimalar Engineering College, Chairman of the IEEE Madras Young Professionals, Treasurer of the IEEE COMSOC Madras Chapter, Ex-com Member of the IEEE Madras Section, Chairman, IEEE MAS SIGHT AG Ms. Indhumathi Gunasekeran, Co-Chair,Yesist'12 joined the session and shared her path in IEEE with our student members.



This session was motivational in IEEE and also for professional career development We are happy to have both the expertise for providing this awareness session to our students. . Our students learnt how to prioritize the work between academic and IEEE to get in to the successful path through IEEE.

International Symposium on AI for Sustainable Development - "AI FUSION 2024"

The Department of Electronics and Communication Engineering, School of Electrical ans Communication in association with IEEE Circuits and Systems Society Madras Chapter and IEEE Circuits and Systems Society Student Branch Chapter, Vel Tech organized an International Symposium on AI for Sustainable Development - **"AI FUSION 2024"** on 28th and 29thAugust 2024.





Distinguished Lecturer Program (DLP) Talk Sponsored by IEEE Circuits and Systems Society

Dr. P. Kalpana Devi, Faculty advisor IEEE CASS Vel Tech and Secretary, IEEE CASS Madras Chapter Introduced the chief guest and delivered about the importance of conducting the Distinguished Lecture Program (DLP) talk. **Dr. Harikrishnan Ramaih** addressed the gathering with the theme "Boosting Energy Harvesting Efficiency : Innovations in CMOS Rectifier Techniques for Enhanced Power Conversion, Sensitivity, and Dynamic Range" He had explained the need of energy management in RF chip design in IoT and VLSI systems. He had discussion with the research scholars about the power optimization techniques foe VLSI system design. He had discussed with the faculty about the reconfigurable system design and various energy efficient techniques. He had discussion with the vibrant student members about the scope of RFin VLSI design and scope of research.




IEEE CAS Industry Forum Titled,
Impacts of AI in VLSI Design, Modelling and Verification

IEEE Circuits and Systems Society Student Chapter Vel Tech organized the industry forum inaugurated by **Mr. Pradeep Babu,** Senior Director –Verification in Qualcomm, Bengaluru. He had discussed the SOC Scalability – Market Segments, demand for Scalable Verification, Verification State-of-the-art : AI/ML opportunities, Test Scenarios generation Model, Coverage Metrics Convergence, Debug & Compute Farms. He had a discussion with research scholars about the research gaps, problems and solutions. research scholars and faculty researchers got ideas about their research problem statements. **Mr. Dhanpathy Krishnamoorthy,** Principal Engineer, Technical Director –Accelerator Chiplet , Intel, Bengalurud discussed about the need of AI and algorithms in physical design and optimization. Mr.Irshath, Application Engineer, Bitsilica had discussed the VLSI Design flow, logic design verification with EDA tools process. **Dr. S. K. Noor Mohammed,** Professor, IIITDM Kancheepuram explained the research projects in VLSI using AI algorithms and its opportunities. **Mr. R. Venkatesh,** Senior Manager, Tessolve Semiconductors demonstrated the Python coding implemented in VLSI for Image classification using CNN Algorithms . He had given applications for the participants to apply deep learning algorithms implementation in FPGA board. This session was conducted in the System on Chip Laboratory. 64 participants attended the event and learnt the research problems and oppurtunities of AI applications in VLSI.





EEE Industrial Electronics Society Student Branch Chapter Event

Skill Enrichment Programme On "ROBOCRAFT: Building IoT Service Robot"

The Department of Electronics and Communication Engineering, in association with the IEEE Industrial Electronics Society Student Branch Chapter, Vel Tech and IEEE Signal Processing Society Student Branch Chapter, Vel Tech successfully organized a Skill Enrichment Programme on **"ROBOCRAFT: Building IoT Service Robot"**. The Resource Persons are **Mr. Dinesh Manikkam,** Founder & CEO, and **Ms. Angel,** Trainer, Read Antomation chennai.




IEEE Society on Social Implications of Technology Student Branch Chapter Event

Inauguration of IEEE Society on Social Implications of Technology Student Branch Chapter
&
Guest Lecture on "Social Impact Through Projects and Events"

The Department of Electronics and Communication Engineering, in association with the IEEE Student Branch and the IEEE Society on Social Implications of Technology, Madras Chapter, successfully organized the inauguration ceremony of the IEEE IEEE Society on Social Implications of Technology Student Branch Chapter at Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Chennai. The prestigious event took place on 4th October 2024 at the ECE Gallery Hall. The ceremony commenced with the solemn Invocation and Lighting of the Lamp by the esteemed Chief Guest, **Dr. Ramalatha Marimuthu,** Chairman of IEEE Society on Social Implications of Technology, Madras Chapter,

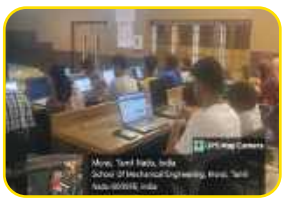
and all other dignitaries present. Following this, **Dr. A. Selwin Mich Priyadharson,** Head of Department – ECE, Vel Tech, delivered a warm welcome address, setting the tone for the significant proceedings of the day. **Mr. D. Sai Siva Ganesh** – Final Year ECE, Vel Tech, provided insights into the IEEE SSIT Student Branch Chapter, emphasizing its commitment to diverse technical areas and multidisciplinary applications within the field of Technology Innovation. **Dr. P. Suresh,** Dean - International Relations & HRDC, Vel Tech, delivered a special address. **Dr. Sathyasri B,** IEEE Coordinator – ECE, introduced the Chief Guest, **Dr. Ramalatha Marimuthu,** preceding the Swearing-in Ceremony of the Office Bearers of IEEE SSIT SBC, Vel Tech. The honour of administering the oath was bestowed upon **Dr. Ramalatha Marimuthu,** who is also a Chairman, IEEE SSIT MAS Director, iExplore Foundation for Sustainable Development Ombudsman, IEEE Computer Society Chair, IEEE MGA Member Recruitment and Retention Committee Chair, IEEE Marie Sklodowska Curie Award Committee. **Dr. Ramalatha Marimuthu,** the Chief Guest, delivered an enlightening talk on **"Social Impact Through Projects and Events."** She underscored the significance of Social impact refering to the effect an organization's actions have on the well-being of the community. It involves making a positive difference in society, such as improving health, education, or the environment.




The IEEE Xtreme 18.0 Coding Competition

The IEEE Xtreme 18.0 Coding Competition, an annual global 24-hours coding event, was conducted from October 26 – 27, 2024, at Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology organized by the IEEE Student Branch Vel Tech and IEEE CASS Madras Chapter. This 24 hours global programming competition serves as a valuable platform for the students to enhance their programming and problem-solving skills while competing with peers across the globe. **Dr. P. Kalpana Devi** coordinated the Xtreme event with the support of **Dr. R. Raj kumar** and **Dr. S. G. Rahul** proctored 25 teams of 57 students with **Ms. P. Logeswari,** IEEEXTREME 18.0 student branch Ambassador. To support participants through the rigorous 24 - hour challenge, the IEEE Student Branch ensured that refreshments, breakfast, Lunch, dinner and breaks were provided throughout the event. This rich mentorship experience underscored the event's collaborative spirit and provided students with both technical and professional growth opportunities. Many expressed appreciation for the valuable learning experiences, networking opportunities, and the supportive environment provided during the event. This event showcased the continual working spirit , team efforts and dedication of the students for continuous 24 hrs is really appreciable. Our institution provides the support for hosting the 24 hours event to foster a collaborative community to enhance the students' technical skills. Finally our topper team secured 108th rank in national level. Others teams scored below 250 position in National level.





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