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

NAAC HIGHEST GRADE A++

# SCHOOL OF ELECTRICAL AND COMMUNICATION

Vel Tech Rangarajan Dr. Sagunthala R&D
Institute of Science and Technology, Avadi,
Chennai, Tamil Nadu, India

# ANNUAL REPORT

## 2022-23

VOLUME-02

## Department of Electronics and Communication Engineering

# FOUNDERS

***Col. Prof. Vel. Dr. R. Rangarajan***

***B.E.(Elec.), B.E.(Mech.), M.S.(Auto.), D.Sc.***

***Founder President & Chancellor***

***Dr. Mrs. Sagunthala Rangarajan***

***M.B.B.S.***

*Foundress President*

# FOREWORD

***Col. Prof. Dr. Vel. R. Rangarajan***
***B.E. (Elec), B.E. (Mech), M.S. (Auto), D.Sc.,***
*Founder President & Chancellor*
*&*
***Dr. Sagunthala Rangarajan***
*M.B.B.S.,*
*Foundress President*

This year has been the most challenging since Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology was established nearly 26 years ago. Through circumstances largely beyond our control, our University has been forced to change dramatically. I am delighted to see that the department has demonstrated the best qualities in teaching and learning. I congratulate the whole department, faculty, staff and students who have strived hard to bring achievement to the department and the institution. This is an outstanding department, which offers the opportunity to redesign the world around and make it even more efficient, connected and sustainable. I believe the department educates the students with this state of art knowledge to transforms the world by designing, building and deploying innovative solutions to real-world problems and provide a scope to deliver real impact for the future of the University in India and beyond. I once again congratulate and look forward for such accomplishment in the future also.

# FOREWORD

***Mrs. Rangarajan Mahalakshmi Kishore***

*Chairperson & Managing Trustee*

*Vel Tech*

Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology has been making a significant contribution to society since more than two decades, through spreading value-based education keeping the present education system in mind. Department of Electronics and Communication empowers their student-youths with appropriate new age technology mind-set, making them digitally ready for the future, ensuring the students to grab an opportunity in this competitive world. The department also provides High-tech infrastructural lab facilities, the students will be acclimatized to proficient work culture and enable them to emerge as well-acclaimed professionals that the industry desires to have. To support teachers, the Connected Learning Hub was launched, providing curriculum resources across all year levels. Far-sighted how we pulled together over the past one year, I now feel even more confident about the quality of education being delivered to students in ECE department of this esteemed university and this annual report is the witness of the department achievement. I am delighted to announce this Annual Report of the Department of Electronics and Communication Engineering, which illustrates the department's assurance of faculty for enriching students' learning through teaching-centered methods to advancing excellence in academics and research. I congratulate the department faculty members, staffs and students for the defensible growth to extent new heights every year and I wish that the same enthusiasm may be continued.

**-Mrs. Rangarajan Mahalakshmi Kishore**

# FOREWORD

***Prof. S. Salivahanan***

*Vice Chancellor*

*Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology*

Department of Electronics and Communication Engineering exemplify its excellence in education and research. The department offer an outstanding student experience, delivering world-changing research, and ensuring a global reputation for excellence. I am extremely delighted to see a blend of academic pursuits and extra-curricular activities provided by the department which is much essential for the personality development of the students. Various club activities have been organised in the department to motivate the students for their self advancement. I am glad to see students' participation in many competitions at national level addressing to meet the needs of Industry and society. Faculty in various domains, carry out research and publish papers in reputed journals with high impact factor. Patents and research proposals are submitted by faculty members and granted by government funding agencies. I convey my heartiest congratulations to my colleagues for their achievement during the academic year 2022-23 and to all the students for their great feats in different fields ranging from NCC, NSS and Sports too. It is heartening to report that our students have not only participated, but also have won several prizes in various inter-collegiate and national level events. To conclude, I want to encourage faculty and students to continue to make contributions, big or small. I am also delighted to know that faculty and students are reaping the benefits of online learning modules and e-resources. Again, I humbly appeal to the faculty and students to have optimal utilization of these ICT Initiatives of e-learning to widen their knowledge based. I am thankful to all the members of the teaching fraternity and non-teaching staff for their extreme contribution and entire support to the organisation.

**-Prof. S. Salivahanan**

# FOREWORD

***Dr. R. S.Valarmathi***

*Professor& Dean,SoEC*

*Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology*

The goal of the Department of Electronics and Communication Engineering (ECE), School of Electrical and Communication Engineering (SoEC), Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology is to position our Engineering graduates as problem solvers, leaders, life-long learners and honorable citizens of the global community. We offer the best Engineering atmosphere with world class facilities, intellectual and technological resources from Educational and Research Institutions for the holistic development of our students. The ECE curriculum is balanced between the practical aspects of Engineering and offers three specialization courses (Artificial Intelligence & Data Science, Artificial Intelligences & Machine Learning, and Cybersecurity) with the strong theoretical and practical foundation, this prepares our students to meet the challenges of the global technological society. I am pleased to introduce this Annual Report 2022 -23 from the Department of Electronics and Communication Engineering. I am proud to note that the faculty members and students have received awards and recognitions by participating in various events outside the institution at National & International level. This annual report is a unique compilation of activities conducted by the department and also the accolades and glorious achievements of staff and students. I wish, this report to be used as a reference guide by the ECE- students to plan and realize their academic life more sensible and efficient. I wish you all a very rewarding and successful experience at Vel Tech.

**-Dr. R. S. Valarmathi**

# FOREWORD

***Dr. P. Esther Rani***

*Professor & Head,Department of ECE*

*Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology*

The Department of Electronics and Communication Engineering was established in the year 1997 with a sanctioned in take of 60 students. Today the numbers stand as 480 sanctioned in take and the B.Tech. ECE program is accredited by NBA under Tier-I. Over the last two decades , we have grown both in infrastructural and expertise in various fields, related to core ECE. The primary focus of our curriculum is to impart technical know-how to students. Promote their problem-solving skills and to kindle their innovative thoughts through our Outcome-Based Education(OBE)and Active Teaching and Learning Methods (ATLM). Unique mandates of this department are Automotive Electronics, Network-Cyber Security, Artificial Intelligence, Machine Learning, Communication Antenna, Embedded Systems, Small Satellites, VLSI and Unmanned Air Vehicles (Drone).The department has a strength of 106 diligent faculty members and has well established research labs in collaboration with industries in the fields of Internet of Things, Signal processing, VLSI, Embedded System Design and RF Communication. An exclusive lab is established to impart “Conceive-Design-Implement-Operate” principles among students, thereby to nurture critical thinking, problem-solving and financial-planning skills among students. The students are encouraged to under take various research projects and associate themselves under different clubs like ACE Club, Programming Club, Robotic Club and EWS Club. The department conducts various workshops ,expert talks and training programs on recent trends in ECE ,in collaboration with industries for the benefit of faculty and students. The department has a good and consistent placement record with students placed in many Core and IT companies. It has active association with professional bodies like IEEE, IET and ISTE for both faculty and students to enhance their research activities. I am pleased to present this Annual Report for the academic year 2022–23.This report covers the summary of all academic and nonacademic activities organized by the department. The details of achievements and accolades received by faculty and students from various technical and non technical events have been composed to bring an exposure to budding engineers about the opportunity available for them. The particulars of student placement and student internship at various industries and international universities are also enclosed to motivate the ECE students. I hope that, the information provided through this annual report will help them to plan and realize their academic life more progressive.

**-Dr. P. Esther Rani**

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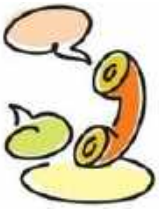
# DEPARTMENT AT A GLANCE

The Department of Electronics and Communication Engineering was established in 1997. Since the inception of the institution. over the time, the department has emerged in diverse dimensions and affords a spellbound ambience for teaching and learning. The department offers B.Tech. in Electronics and Communication Engineering, M.Tech. in Embedded Systems and Technologies and Ph.D. in ECE with technology-oriented courses that creates industry ready personnel in the prudent fields of ECE. All the programs are approved by AICTE and the B.Tech. ECE program has received Tier I NBA accreditation for 3 years in the year 2018, which is extended for 1 more year in 2021. The department has been strengthened by its erudite faculty members from reputed Universities and organizations. The key areas of research and academic activities in the department are VLSI Design, RF and Microwave Antenna Design, Signal Processing, Image and Video Processing, Embedded Systems Design, Wireless Sensor Networks, Unmanned Aerial Vehicles and Small Satellites. The faculty and students have won awards like CANEUS Lockheed Martin Award in IISC for Small Satellites, Aegis Graham Bell Award for Unmanned Air Vehicles and for various innovative achievements. The department is well-equipped with curriculum based laboratories like Texas Instruments powered IoT & Signal processing labs, Xilinx powered System on Chip lab, EYantra Embedded systems and Robotics lab supported by MHRD and IIT Bombay and FranceCol lab n collaboration with FranceCol technology, France. Several initiatives in alliance with International Universities and Core Electronics Industries are also given cardinal importance in the department. The department is actively associated with organizations such as C-DAC (Pune), ARAI (Pune), NASSCOM and Kwality Photonics.



16 PROFESSORS

27 ASSOCIATE PROFESSORS

63 ASSISTANT PROFESSORS

# VISION AND MISSION

## Department Vision

"To be a Centre of Academic Excellence through quality education and cutting-edge research in diversified fields of Electronics and Communication Engineering to meet the global challenges and produce high quality professionals."

## Department Mission

**M1**

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

- Outcome Based Education
- Active Learning
- Project Learning
- Integrated Course

**M2**

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

- CDIO Projects
- Funded Projects
- Consultancy Projects

**M3**

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

- Soft Skill Training
- Value Education Electives
- Career Ready Practices

# Department Programme Educational Objectives

Our graduates will solve contemporary problems in the analysis and design of Electronics and Communication Devices and Systems

Our graduates will conceive ideas for the societal issues and will design, implement and operate the Engineering products for the ideas conceived.

Our graduates will perform in various roles with adequate Technical and Managerial Skills in Design, Development, Production and Support areas of Electronics and Communication and Allied Industries.

Our graduates will pursue higher education and will be lifelong learners in their profession, effectively communicate the technical information and work in multidisciplinary teams.

Our graduates will be ethical, environmental, health and safety concerned in their profession.

# About the Programme B.Tech-ECE

The Programme follows Outcome Based Education (OBE), which primarily focuses on knowledge, skill and attitude of the graduates. From the academic year 2015-16 onwards, the academic regulation of the Programme follows Choice Based Credit System (CBCS) with academic flexibilities like (i) Course Choice within the programme (ii) Faculty Choice (iii) Department /School level course choice (iv) MOOC course choice. The Programme curriculum (VTU R15) consists of various course categories (Foundation, Programme Core, Programme Elective, Allied Elective, University Elective, Value Education Elective, Independent Learning, Industry/Higher Learning Institute Interaction and Complementary Skill Courses) to provide the depth and breadth required for the programme and for the attainment of student outcomes of the programme.

Programme Electives on contemporary technologies such as Software Defined Networking, Software Defined Radio, Next Generation Mobile Networks, Nano Photonics, Radio over Fiber Systems, System on Chip, Internet of Things were included in the curriculum based on the recommendations from Board of Studies (BoS) and further approved by the Academic Council Members. Faculty and Industry-Experts from top QS ranking institutes in USA, Germany and Taiwan and reputed organizations delivered one credit courses on contemporary technologies for the students of B.Tech. ECE programme. In the programme, faculty members have been facilitating students towards collaborative and cooperative learning through Jig-Saw, Think-Pair- Share, Peer Instruction, Mud Card and Flipped Classroom and Problem / Project Based Methods. Since 2018, the programme facilitates interested final year students who have completed all courses except project works to undergo nine months internships/project work in industries or International Universities. Students to be admitted for the academic year 2021-22 will follow the new curriculum “VTRUGE21”. In addition to the various course categories offered in previous regulation, the new curriculum has the option of obtaining B.Tech. Degree in ECE with specialization in

1 Artificial Intelligence and Data Science
2 Artificial Intelligence and Machine Learning
3 Cybersecurity

# DEPARTMENT HIGHLIGHTS

**TEACHING FACULTY**

106

**INDUSTRY SUPPORTED LABORATORIES**

06

**CDIO LAB**

01

**RESEARCH LABORATORIES**

04

**UG INTAKE**

480

# HISTORICAL HIGHLIGHTS

- Our ECE Department with B.E-ECE was affiliated with the University of Madras in the year of 1997.
- B.E- ECE was affiliated to Anna University, Chennai since 2005.
- M.E.-Embedded System Technologies and M.E-VLSI Design had been affiliated to the Anna University, Chennai since 2005.
- B.Tech- ECE has become part of Deemed to be University in the year of 2009.
- M.Tech- ECE with Embedded System Technologies was added under Deemed to be university in the year of 2016.
- Tier -I NBA B.Tech- ECE 3 years Accreditation in the year of 2018.
- B.Tech-ECE with specialization 1.AIDS 2.AIML 3.CYBER SECURITY in the year 2021. B.Tech -ECE with specialization in IoT was started in the year 2023.
- NBA accreditation was extended and is valid until June 2025.

# Value Creation Model

Our Department focuses on understanding the needs of students, faculty, researchers and industry partners and delivers a curriculum that aligns with those needs and goals.

**People**

Faculty,
Students

**Teaching and Learning**

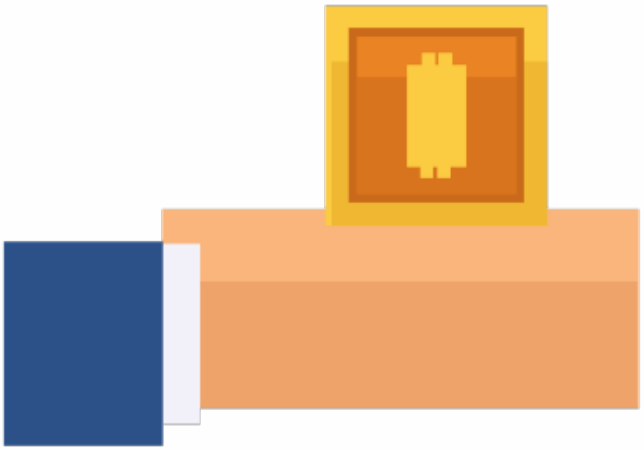
Faculty, Students

**Infrastructure**

PhysicalClasses,Smart Classes, Laboratories, Library and Gallery Hall

**Network**

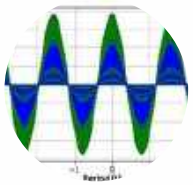
Academic alliances, Industry Linkages



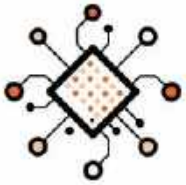
# FDP & Workshops Attended

**24** **Communication Domain**

**118** **Signal Processing Domain**



**55** **Embedded Systems**



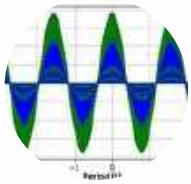
**40** **VLSI Design**

**52** **Networking Domain**

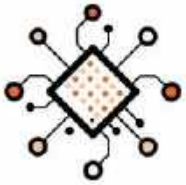
# FDP & Workshops Organized

**06** **Communication Domain**

**07** **Signal Processing Domain**



**02** **Embedded Systems**



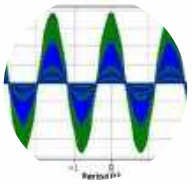
**02** **VLSI Design**

**02** **Networking Domain**

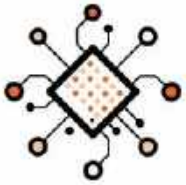
# Webinars Attended

**04** **Communication Domain**

**11** **Signal Processing Domain**



**05** **Embedded Systems**



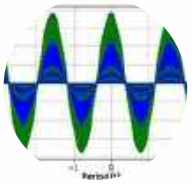
**06** **VLSI Design**

**05** **Networking Domain**

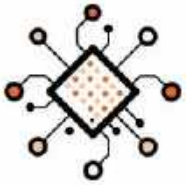
# Research Proposals Submitted

**02** **Communication Domain**

**02** **Signal Processing Domain**



**02** **Embedded Systems**



**09** **VLSI Design**

**01** **Networking Domain**

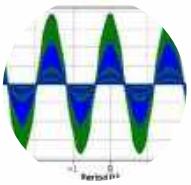
# Research Proposals Granted

01

## Communication Domain

01

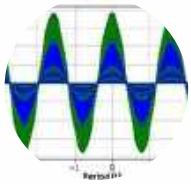
## Signal Processing Domain



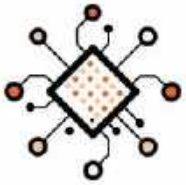
# Patents Published / Granted

**09** **Communication Domain**

**03** **Signal Processing Domain**



**01** **Embedded Systems**

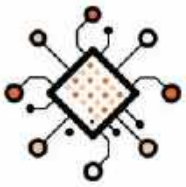


**03** **VLSI Design**

**06** **Networking Domain**

# Student Mentoring (External Contest)

**01** **Hackathon**



**02** **VLSI Design**

# Faculty Achievements (2022-23)

## COMMUNICATION DOMAIN

•FACULTY - 25
•FACULTY WITH PH.D. - 19
•PUBLICATION - 24
•BOOKS/BOOK CHAPTER - NIL

## SIGNAL PROCESSING DOMAIN

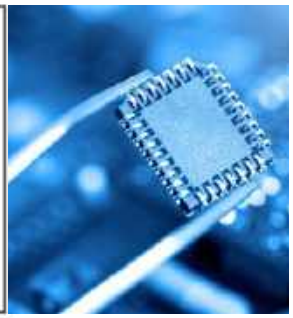
•FACULTY - 25
•FACULTY WITH PH.D. - 13
•PUBLICATION - 21
•BOOKS/BOOK CHAPTER -01

## EMBEDDED SYSTEM DOMAIN

•FACULTY - 23
•FACULTY WITH PH.D. - 10
•PUBLICATION - 167
•BOOKS/BOOK CHAPTER - 05

## VLSI DOMAIN

•FACULTY - 18
•FACULTY WITH PH.D. - 10
•PUBLICATION - 45
•BOOKS/BOOK CHAPTER - 02



## NETWORKING DOMAIN

•FACULTY - 15
•FACULTY WITH PH.D. - 10
•PUBLICATION - 50
•BOOKS/BOOK CHAPTER - 02

# Student's Learning Experience

- Modern Learning Approaches

Our focus is to enhance students' learning and overall experiences by implementing interconnected pillars within our educational framework. We achieve this by continuously improving our curriculum and adopting student-centric teaching and learning methods. We offer tutoring and academic counselling services to support students in their academic journey. Additionally, we provide tools and resources that assist students in effectively managing their goals and progress. Our commitment is to empower students and guide them towards achieving their academic aspirations.

Learn Everything hangs on quality content. Industry and professional standards guide the content of courses and programs

Practice Students practice through assignments, often integrating their work experience.

Apply: Students apply their knowledge to real world problems, helping them move towards career goals.

# Student Learning Path

The School of Electrical and communication empowers all students to access and complete equally rigorous pathways that enable exploration of career interests while gaining the knowledge and skills necessary for success in workforce and higher studies. Opportunities such as project-based learning, internships. and experiential learning activities are paired with support to address achievement gaps and ensure that every student can advance to deeper levels of mastery regardless of their starting place.

**1st Year**

Foundations in Mathematics, Science and Engineering

**2nd Year**

Circuit Theory, Signals & Systems, Digital Electronics, Analog Electronics and Discrete Time Signal Processing

**3rd Year**

Skills required for Projects, Emerging areas and Employment

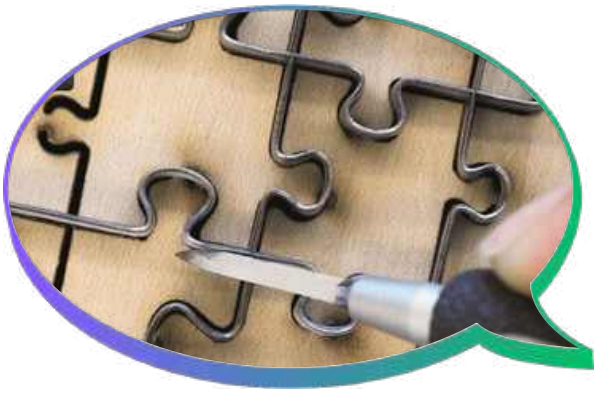
**4th Year**

Innovative Project development, Industry ready and Career Guarantees

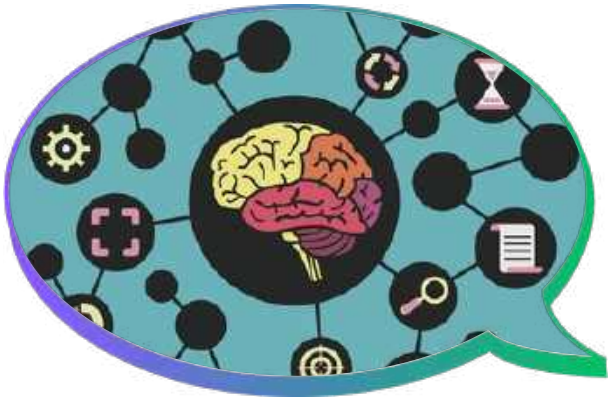
# Student Centric Methods

Modern Learning Approachs

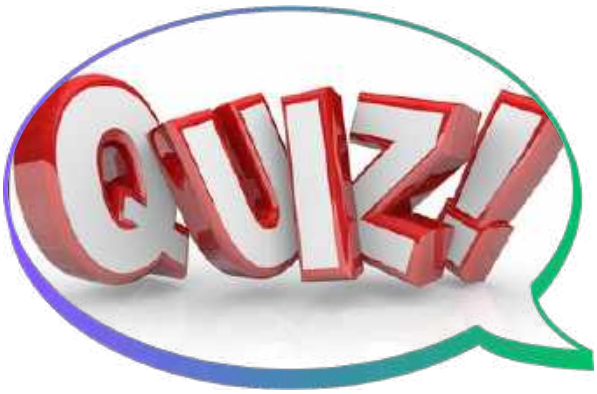
The Department of Electronics and Communication Engineering employs a teaching methodology centered around students, where education is imparted through an active and engaging approach. This methodology aims to shift students from passive recipients of knowledge to active participants in their own learning.



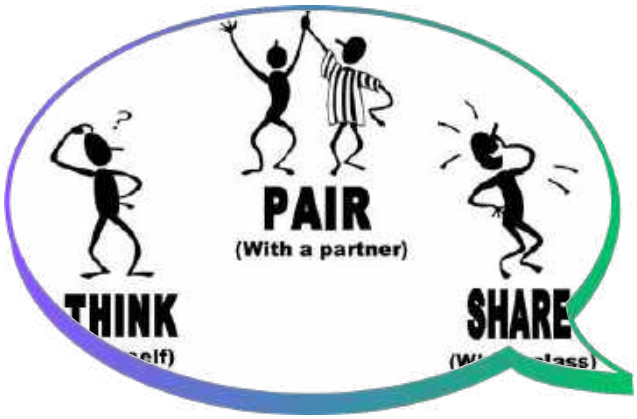
JIGSAW PUZZLE



MIND MAPPING




QUIZ




THINK PAIR SHARE

GROUP PEER LEARNING

MINUTE A PAPER

# Student Achievements (2022-2023)

Cricket Team with Winner Trophy

IEEE MAS Student Project

National Level
Technical Symposium

STUDENT
ACHIEVEMENTS
(2022-23)

Kabbadi Team with Winner Trophy

#moments

# Student Achievements (2022-2023)

Python Coding Contest

Circuit Debugging

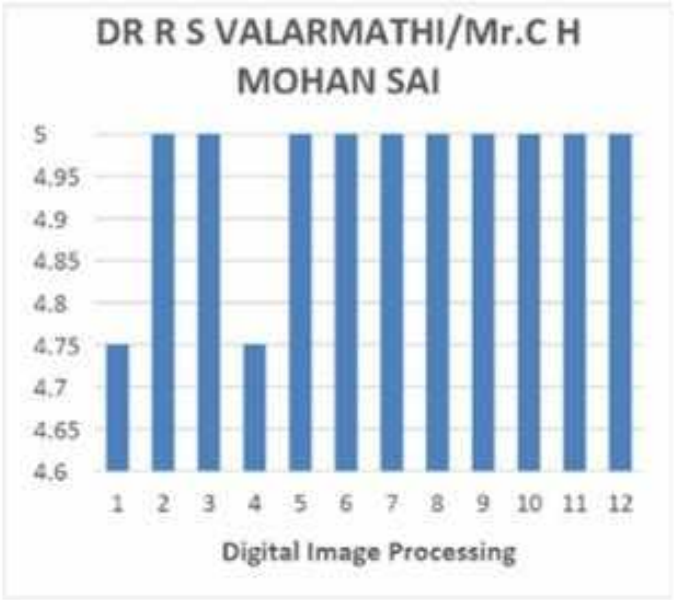
STUDENT ACHIEVEMENTS (2022-23)

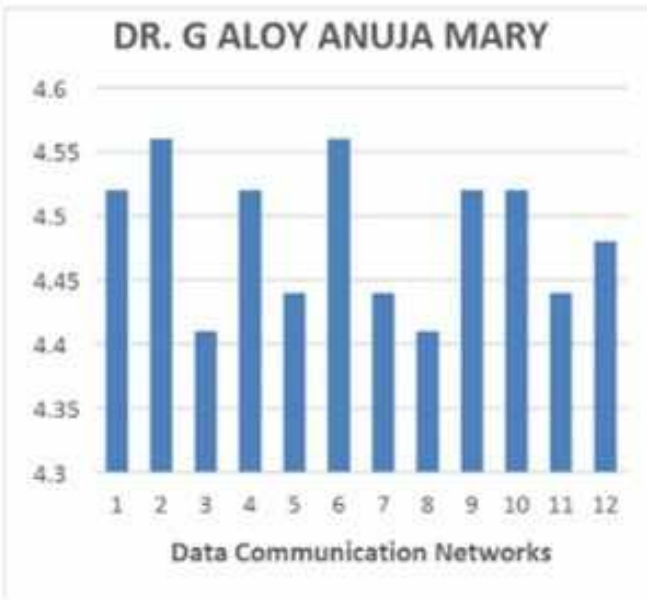
5th place in Zoom Fitness of 60 Kg Category Body building

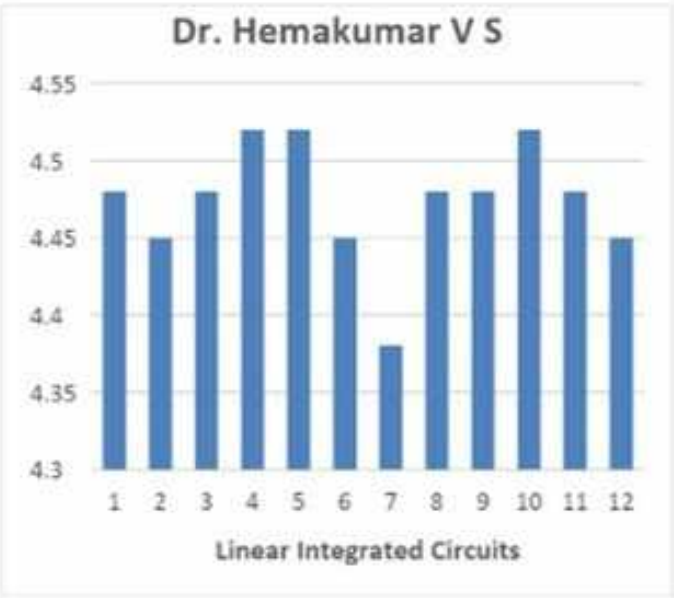
#moments

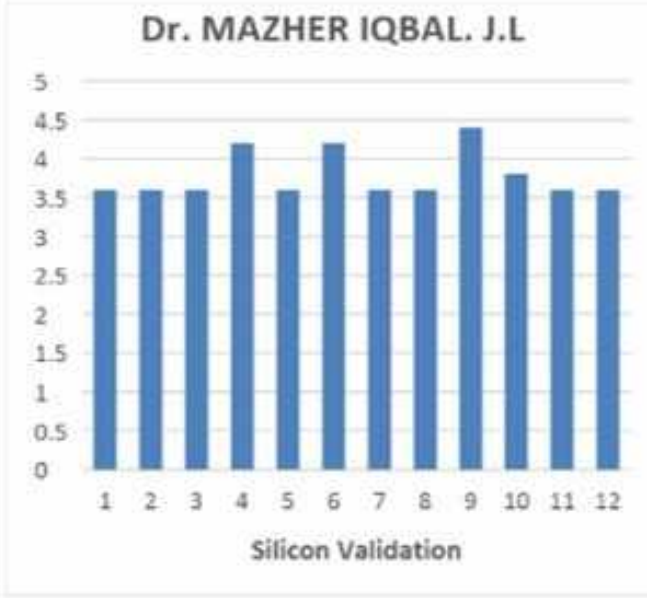
# Student Satisfaction 2022-23

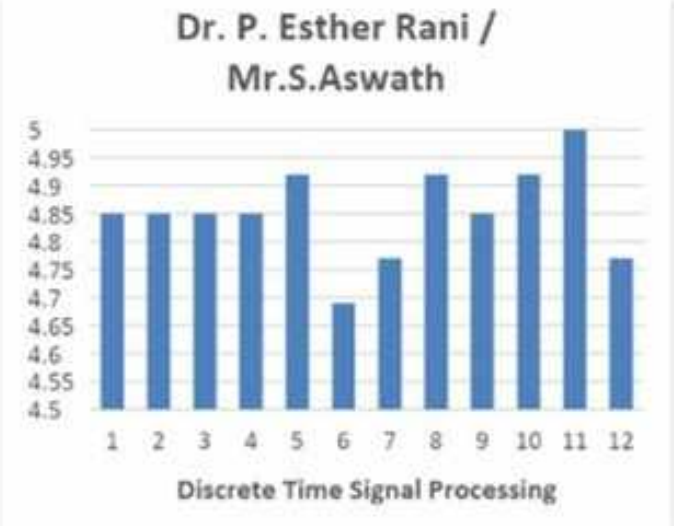
## Feedback on Course Delivery

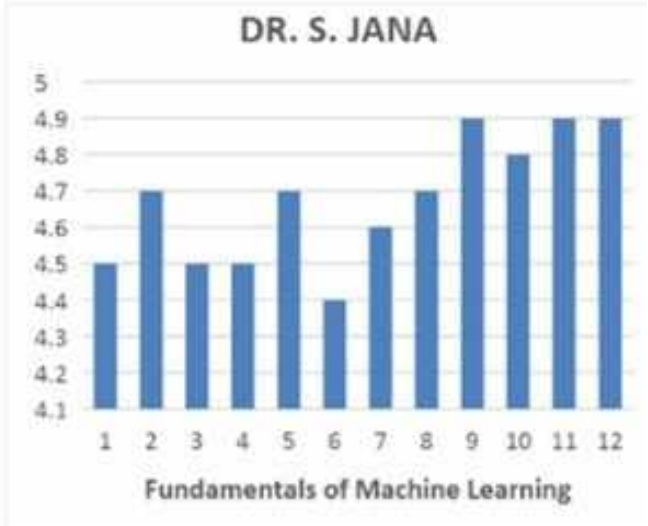


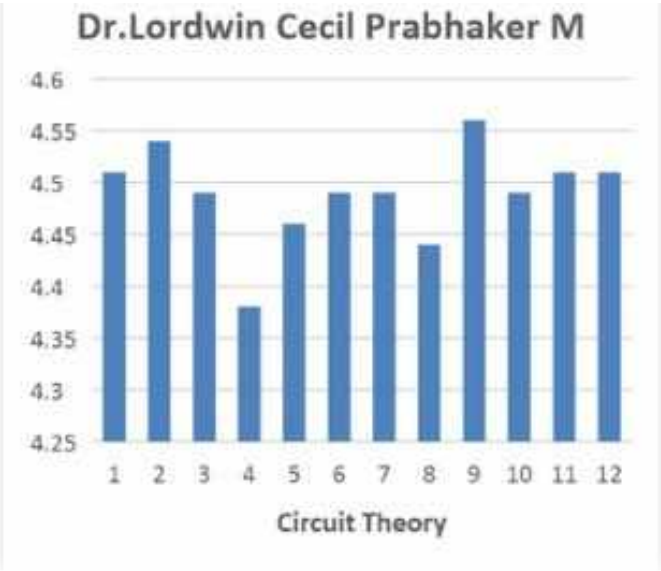



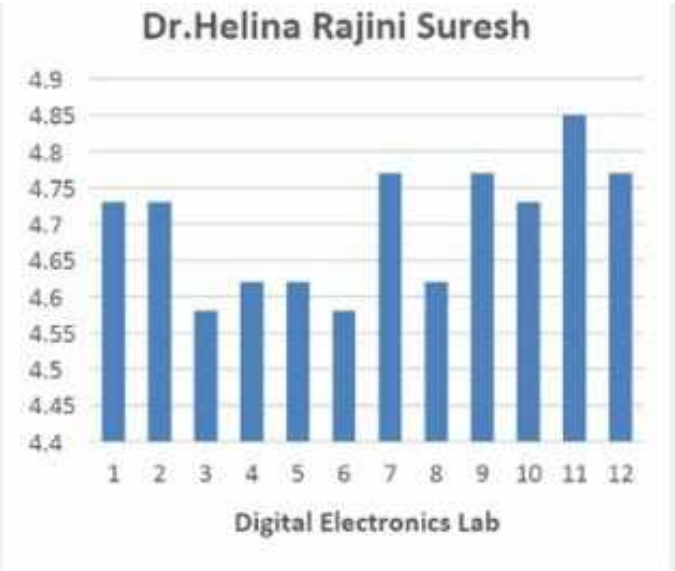



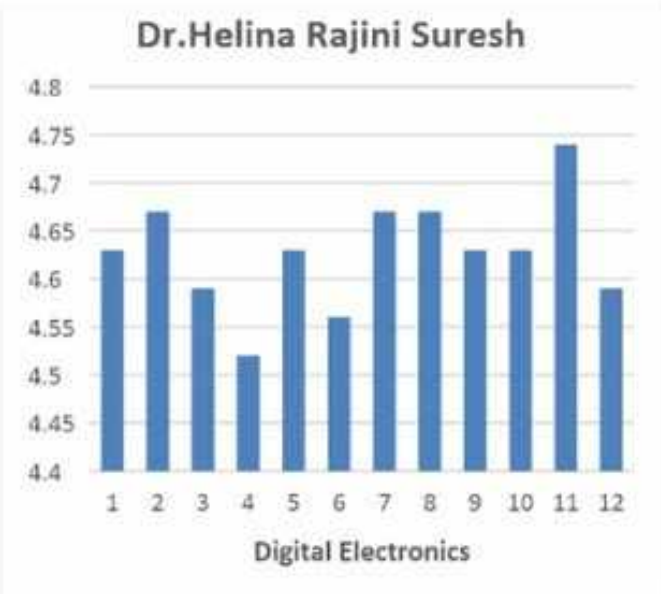



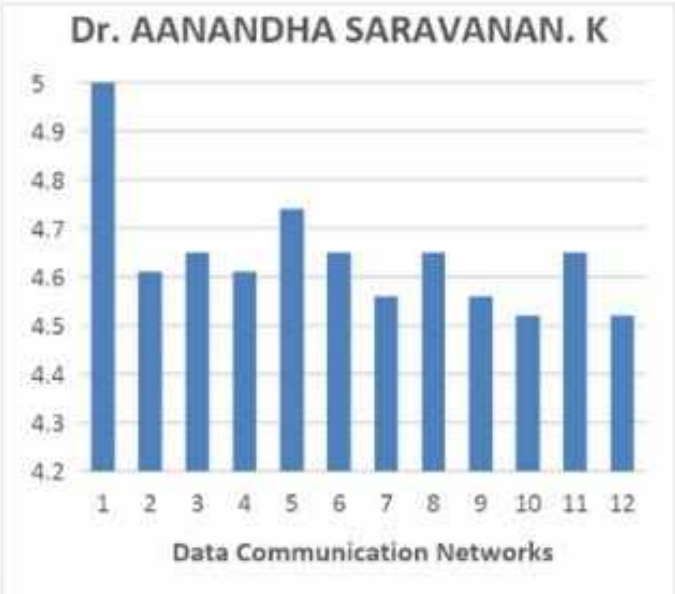
# Student Satisfaction 2022-23

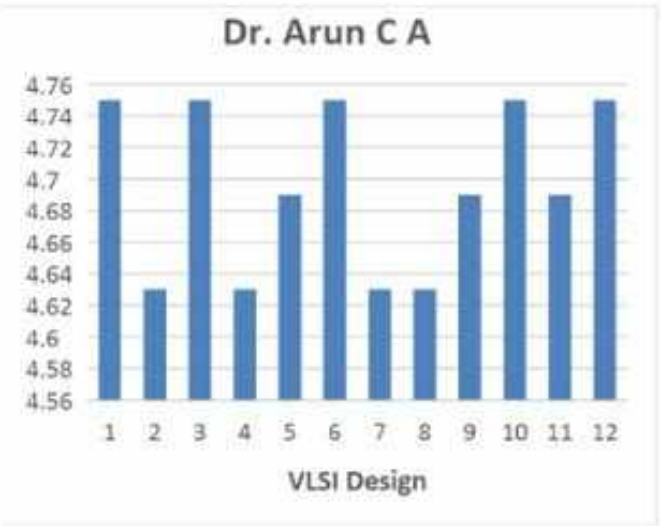
## Feedback on Course Delivery

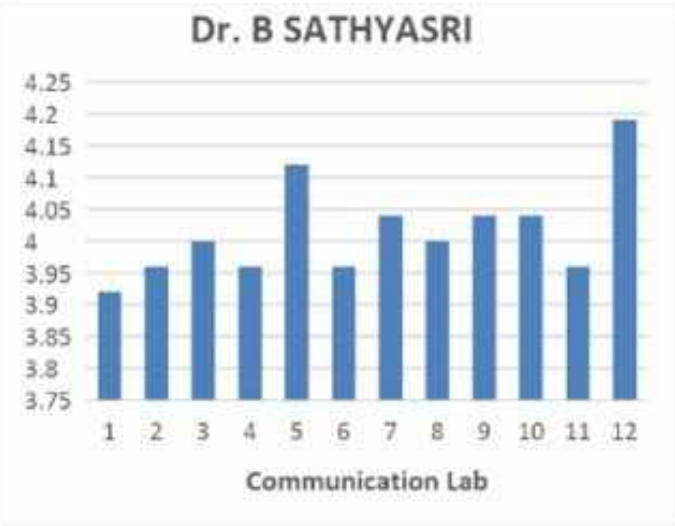


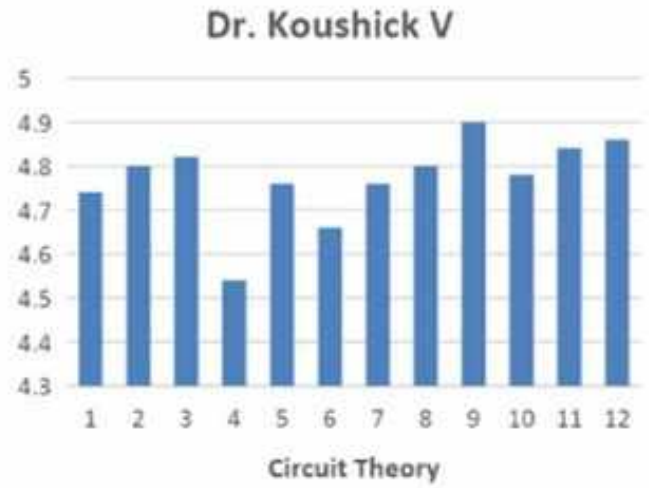



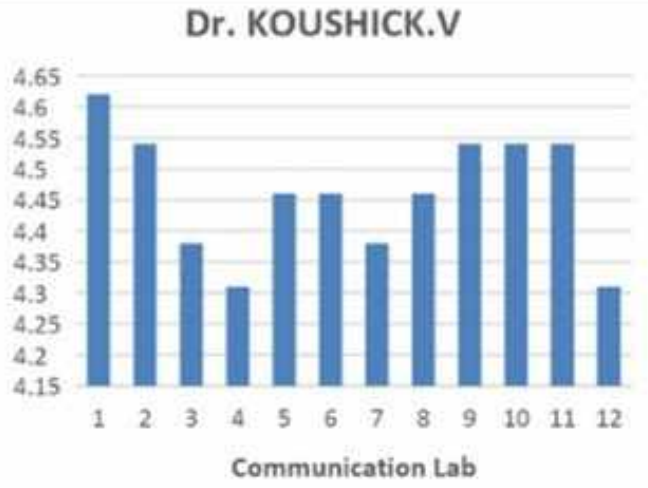



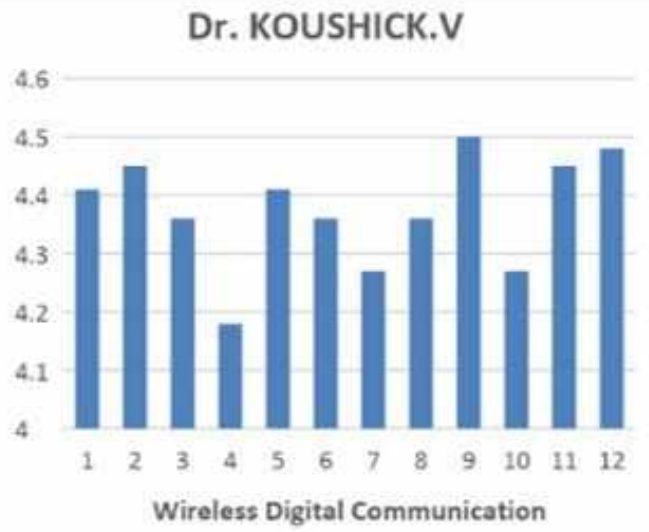



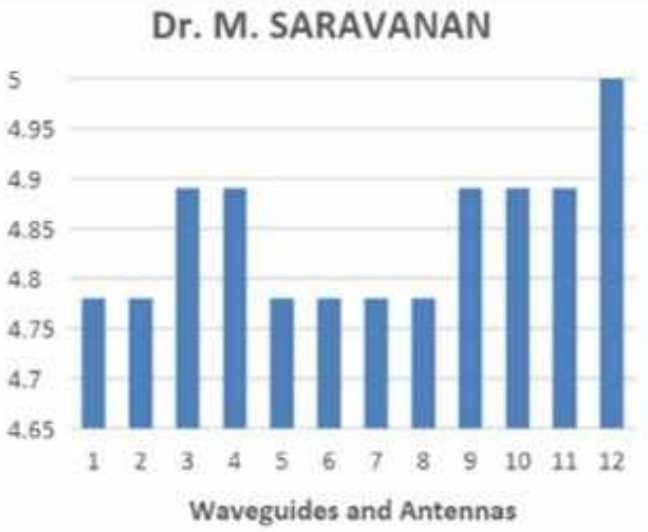
# Student Satisfaction 2022-23

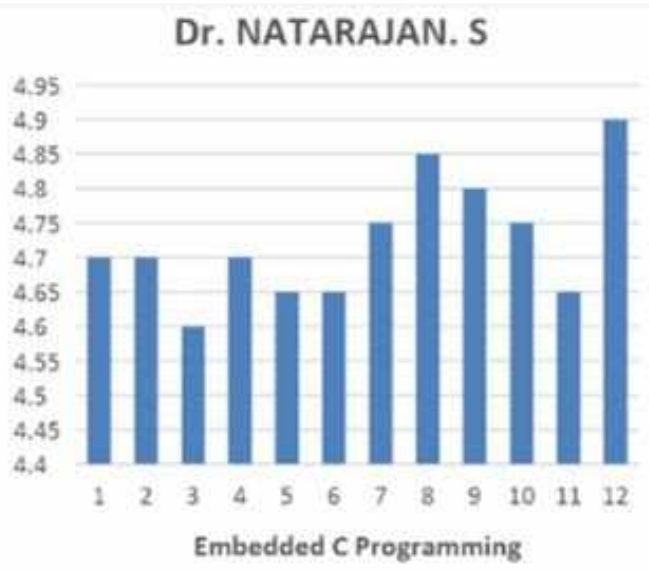
## Feedback on Course Delivery

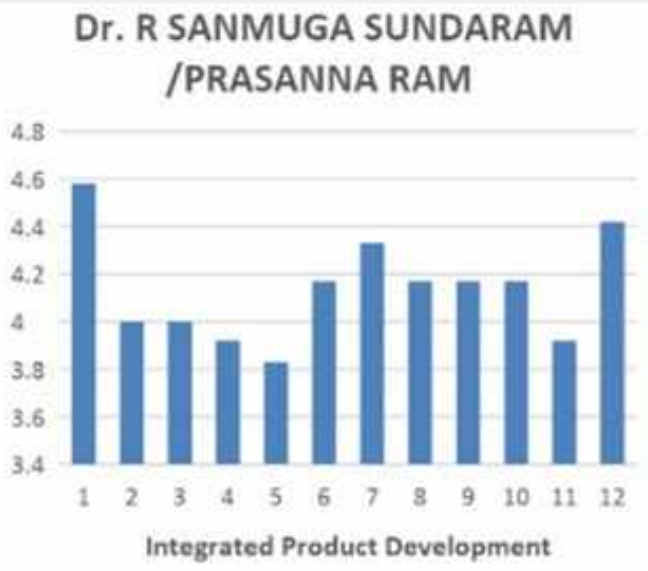


# Events Organized
## ACADEMIC YEAR 2022-23

# Events Organized

## ACADEMIC YEAR 2022-23

Brochure:

# Events Organized

## ACADEMIC YEAR 2022-23

## Club Activities :

CREATIVE BUILD

Non-Technical quiz

MATLAB CODING CONTEST

PYTHON CODING CONTEST

ROBOTIX 2022

ROBOTIX 2022

## Club Activities :

# Events Organized
## ACADEMIC YEAR 2022-23

**Club Activities :**

## Conference (ICSSTA 2023)

# Events Organized
## ACADEMIC YEAR 2022-2023

# Minor Project Work (2022–23)

**Communication systems**

**Signal processing**

**Networking**

**Embedded systems**

**VLSI design**

***Top Projects:***

*Students Name: Shivanshu Sharma, Vikash Anand, Shubham*
*Project Title: Biomedical sensor network for cardiovascular fitness and activity monitoring*

*Students Name: Kotapati Venkata Sasi Kiran Reddy, Yeruva Maheswarareddy, Yakkanti Venkata Sri Charan Reddy*
*Project Title: Smart electronic nose for medical diagnosis centre*

*Students Name: Guduru Ganesh Kumar Raju, Avula Sandeep Reddy, Elisetty Pavan Kumar*
*Project Title: Smart wearable stress relief device*

*Students Name: Kalisetti Chiru Satyahas, Kothamasu Anhya, Parisa Vamsi Krishna*
*Project Title: Prototype development of wireless electronic notice board display through smart phone control*

*Students Name: A.Tharun, R.Rakesh, M.Pranay Kumar*
*Project Title: Ultrasonic vibrator glove for blind*

*Students Name: T Ganesh Kumar, S Akhileswari, Doddala Sreeja*
*Project Title: Design and Implementation of FSS based Absorber for Radome Application*

*Students Name: P Ganga Ganesh, Y Nanda Kumar, CH Siva Reddy*
*Project Title: Automatic lesion detection of diabetic retinobathy using iot*

*Students Name: A Nani, K Deepak, M Durga Sagar*
*Project Title: Tracking a single object using range-only measurements for radar sensors with a narrow field of view (FOV)*

*Students Name: L Chethan, N Sudeepthi, D Bhagath Chowdary*
*Project Title: Design of textile antenna for biomedical applications*

*Students Name: G Giridhar, V Vamsi Krishna, G Vamsi Krishna*
*Project Title: Pin diode based fire sensor*

*Students Name: P V V Sai Ram, G Manikanteswar, B Nithin Sai*
*Project Title: Under water wireless optical communication system*

# Major Project Work (2022–23)

**Communication systems**

**Signal processing**

**Networking**

**Embedded systems**

**VLSI design**

***Top Projects:***

*Students Name : S Ganesh*
*Project Title: IOT based smart parking system in industry and institution*

*Students Name: R.Venkata Karthik, V.Harshavardhan, D.Dileep Kumar*
*Project Title: An interactive surveillance system for elderly care patients*

*Students Name: Putturu Guru Thulasi Ram, Balisetty Yasaswani, Sanduri Vijay Varma*
*Project Title: A block chain enabled authenticating system for healthcare supply chain systems*

*Students Name: S Sravani, D Joshna, M Muni Kumar, P Manaswini, L Sai Laxmi, CH Tejasree*
*Project Title: All optical terenary multiplexer for dense wavelength*

*Students Name: S Krishna Prasad, S Jaya Siddhartha, M Sashagiri*
*Project Title: Graphene composite coating customization for antenna erip corrections in satellite applications*

*Students Name: Kondreddy Issac, Koyyana Sangeetha, K Bhavya*
*Project Title: Quantum learning and alzheimer's disease classification*

*Students Name: Kolluru Muni Keerthi, Bhogavalli Vijaykiran, Sura Chandsresh Reddy*
*Project Title: Change detection in aerial images using machine learning techniques*

*Students Name: A Balakrishna, Galla Sreeranjan, P Vishnu Priya*
*Project Title: FPGA implementation of yolo cnn for object detection*

*Students Name: Jarugumalli Siva Pradeep, K Jyothi Swaroop Reddy, Kotakonda Deepak*
*Project Title: Human teeth disease detection using refractive index based surface plasmon resonance biosensor*

# Student's Industry Major Project Work Details

***Top Projects:***

*Students Name: Jaya Sai Teja, M N Prashanth Sai, Pradumn Kumar*
*Project Title: Evolution of printed circuit boards used in vehicle instrument clusters*
*Company Name: Tescom*

*Students Name: Punugu Sruthi, P.V.N.Ravi Teja*
*Project Title: Design and implementation of fpga for hrg application*
*Company Name: Research Centre Imarat*

*Students Name: Challa Apoorva, Lakshmi Sainath, Koppisetty Soma Durga Prasad*
*Project Title: Hourly based assembly line monitoring system*
*Company Name: Harita Seating*

*Students Name: Dhivyadharshini, Sithale Akshaya Sai*
*Project Title: Design and Implementation of USBasp Programmer with In-build Communication*
*Company Name: Tescom*

*Students Name: Akash Reddy, Prathap Kumar B*
*Project Title: IoT based smart irrigation system using LED lighting and node MCU*
*Company Name: LED Chip Indus Pvt Ltd*

*Students Name: Dhanush B, Mangali Venkat Vineeth*
*Project Title: Multi media transmission using Collasus/Omnion*
*Company Name: Monica broadcasting pvt ltd*

*Students Name: R.Gaayathri, Ch.Rakesh*
*Project Title: 3D mapping of environment using LIDAR*
*Company Name: ZF Commerical Vehicle Systems*

*Students Name: R.Durga Kanaka Sainadh*
*Project Title: Billing Website for Retail Business*
*Company Name: TVS Electronics*

# Professional Body

The students are encouraged to undertake various academic and non-academic activities through Professional Bodies and different clubs associated with the department and the Institute. In the department level we have the actively functioning “IEEE Signal Processing Society” and “IEEE Circuits and Systems Society”

The Department of Electronics and Communication Engineering successfully inaugurated the IEEE Student Branch Chapter of the IEEE Signal Processing Society on 13.05.2022. The Department of Electronics and Communication Engineering (ECE) organized the inauguration of the IEEE Circuits and Systems Student Branch Chapter on 25.04.23. IEEE Membership offers access to technical innovation, up-to-date information, networking opportunities, and member benefits. IEEE members enjoy reduced costs on many products and services like IEEE books, funding for projects, journals, conferences, society memberships, and continuing education courses.

IEEE Societies provide members with opportunities to connect with experts locally and abroad while staying up to date on technology and trends. The student members get a chance to develop their interpersonal skills, leadership skills and teamwork skills by making us involved in various event organizations and management.

- IEEE Student Membership Cost: 27 US Dollars Society
- Membership cost for students: 1 US Dollars

## IEEE Signal Processing Society:

***Faculty Coordinator***

Dr. Rahul S G (TTS2865)
Assistant Professor

Ms. Subha K J (TTS3332)
Assistant Professor

# Professional Body

## *Office Bearers:*

Issac K (VTU14974)
Chairman Membership
No: 97093507 2019-23
Batch

M. Jaswanth Reddy (VTU15253)
Vice Chairman
Membership No: 98016709
2019-2023 Batch

P.V.N. Ravi Teja (VTU12958)
Joint Secretary
Membership No: 97716835
2019-2023 Batch

Akula Tharun (VTU15233)
Secretary
Membership No: 98061430
2019-2023 Batch

P. Jagadish Kumar
(VTU14527)
Treasurer
Membership No: 98085359
2019-2023 Batch

M. Karthik (VTU15834)
Joint Treasurer
Membership No: 98068630
2019-2023 Batch

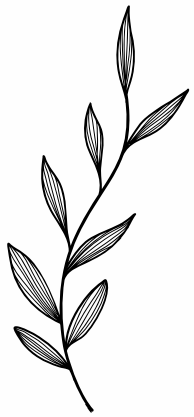
S. Sai Teja (VTU15318)
Technical Activity Chair
Membership No: 98164070
2019-2023 Batch

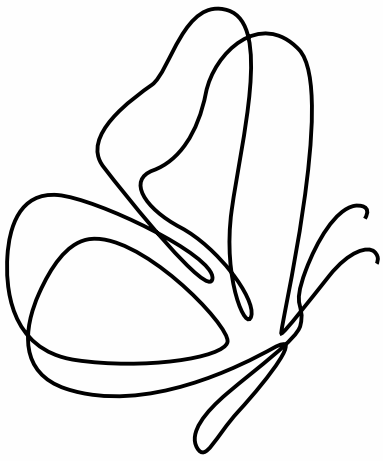
B. Sai Raghav (VTU13260)
Webmaster
Membership No: 98068630
2019-2023 Batch

J. Rahul Babu (VTU13743)
Joint Webmaster
Membership No: 9806870
2019-2023 Batch

Rakesh. R (VTU15234)
Event Coordinator
Membership No: 98065864
2019-2023 Batch

Partho Adhikari (VTU16243)
Event Coordinator
Membership No: 98065028
2019-2023 Batch





# Professional Body

## IEEE CIRCUITS AND SYSTEMS SOCIETY

### *Faculty Coordinator*

Dr. G. Sasikala (TTS 369)
Professor / ECE

### *Office Bearers:*

Himaja Paluru(VTU18147)
Chairman
Membership No: 98643835
2020-2024 Batch

Harshit Manepalli (VTU17049)
Vice Chairman
Membership No: 98454008
2020-2024Batch

A.Likhitha (VTU19382)
Joint Secretary
Membership No: :99285287
2021-2025 Batch

Bhumika Devi.K(VTU17554)
Secretary
Membership No: 98742409
2020-2024 Batch

Madhu Mallela (VTU17502)
Treasurer
Membership No: 98744865
2020-2024 Batch

Sarah Nara (VTU14004)
Joint Webmaster
Membership No: 98742273
2020-2024 Batch

Hussain Basha.S(VTU17077)
Joint Treasurer
Membership No: 98745922
2020-2024 Batch

Manikanta Nasika(VTU17039)
Technical Activity Chair
Membership No: 98646972
2020-2024 Batch

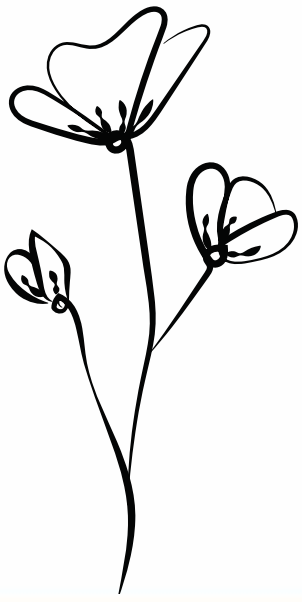
Poorna Chandra.B(VTU17038)
Webmaster
Membership No: 98746021
2020-2024 Batch

Vinod Kumar.N(VTU13989)
Event Coordinator
Membership No: 98745757
2020-2024 Batch

Waseem Shaik(VTU14003)
Event Coordinator
Membership No: 98745761
2020-2024 Batch

Mallikarjuna.T(VTU17501)
Event Coordinator
Membership No: 98744794
2020-2024 Batch

Sathvika.L(VTU16894)
Event Coordinator
Membership No: 98742392
2020-2024 Batch



# Department Clubs

## Association of Communication Engineers

The Association of Communication Engineers (ACE) club of ECE department was inaugurated in the year 2015. The club organizes periodically non-technical events; Social and community out reach programs such as Guild of Service for the professional and psychological development of student engineers and acts as platform for the students to showcase their literary skills and creativity. It promotes fine arts, art appreciation. and interactive events. It also provides opportunities for the development of management and communication skills. The club focuses on both personal and professional growth of an individual as well as the growth of the club.

***Faculty Coordinator***

Mrs.V.Diana Earshia
Assistant Professor -ECE

## Programming Club

The Programming Club in ECE department empowers the students of ECE, competitive in programming skills and contemporary technologies. The club periodically conducts value added courses by which the students will be proficient in different programming platform and complete the programming hackathon in wide international level.

***Faculty Coordinator***

Dr. Dasari Naga Vinod
Assistant Professor

# Department Clubs

## Engineers Without Borders Club

The students are encouraged to undertake various academic and nonacademic activities through Professional Bodies and different clubs associated with the department and the Institute. We have “Engineers Without Borders Club” at department level. Engineers Without Borders India builds a better world through engineering projects that empower communities to meet their basic human needs. Our highly skilled volunteers work with communities to find appropriate solutions for their infrastructure needs. This Motivation EWB Club was inaugurated in our department on the date 12 September, 2020. EWB India is an Evolving Network of Humanitarian Engineers and Other Professional in India. The vision of EWB is to nurture and motivate students and professionals to undertake real life sustainable social projects and create Global Leaders. The Mission of EWB is to partner with corporate & social organizations, involve students and professionals, and offer sustainable solutions in the areas of Water, Sanitation, Energy, Health & Education to improve the quality of life for common people. EWB Club provides members with opportunities to connect with experts locally and abroad while staying up to date on technology and trends. The student members get a chance to develop their interpersonal skills, leadership skills and teamwork skills by making us involved in various event organizations and management.

***Faculty Coordinator***

Dr.S.Vijayalakshmi
Assistant Professor

# Department Clubs

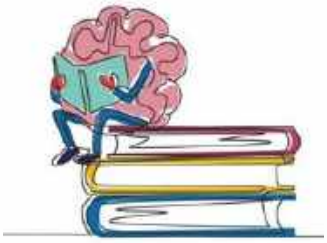
## ROBOTICS CLUB

Robotics club at ECE department was inaugurated in the year 2018 that strives to stimulate interest in robotics among undergraduate students in the department. The Club offers essential guidance, workshops and tutorials along with tools, equipment, components and workspace by which students will be proficient to compete national and international level robotics contests. Robotics club provide members with opportunities to connect with experts locally and abroad while staying up to date on technology and trends. To conduct competitive events based on Robotic projects. The intentions are to provide technical support to the interested participants of Robotic competitions.

***Faculty Coordinator***

Dr. M. Anandan
Associate Professor

# 2019-2023 Batch Students- Internship



## INTERNATIONAL UNIVERSITY

Karaka Teja
"Automatic detection of LED colour via Machine Leraning on a Micro Controller"

Khiran Kumar
"Identification and qualification of pesticide using impedance-capacitance measurement and AI model"

David Honesty Babu
"AI and ML - Enablers of Self-Organization Networks(4G SON) and Radio Intelligent Controller (5G RIC)"

Kaushik Ganguli
"Driver behavior Analysis of Heavy Duty vehicles based on CAN SAE J1939 data"

M.Karthik
"Block chain enabled pharmaceutical supply chain in the post pandemic era using iot"

# 2019-2023 Batch Student Internship

Students Name: Jaya Sai Teja, M N Prashanth Sai, Pradumn Kumar
Project Title: Evolution of printed circuit boards used in vehicle instrument clusters
Company Name: Tescom

Students Name: Punugu Sruthi, P.V.N.Ravi Teja
Project Title: Design and implementation of fpga for hrg application
Company Name: Research Centre Imarat

Students Name: Challa Apoorva, Lakshmi Sainath, Koppisetty Soma Durga Prasad
Project Title: Hourly based assembly line monitoring system
Company Name: Harita Seating

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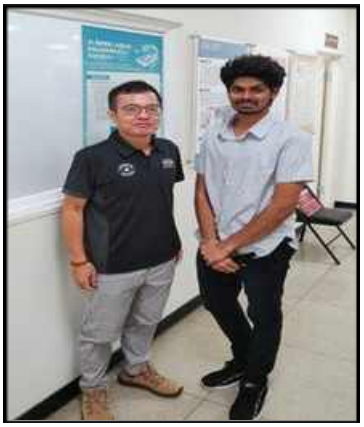
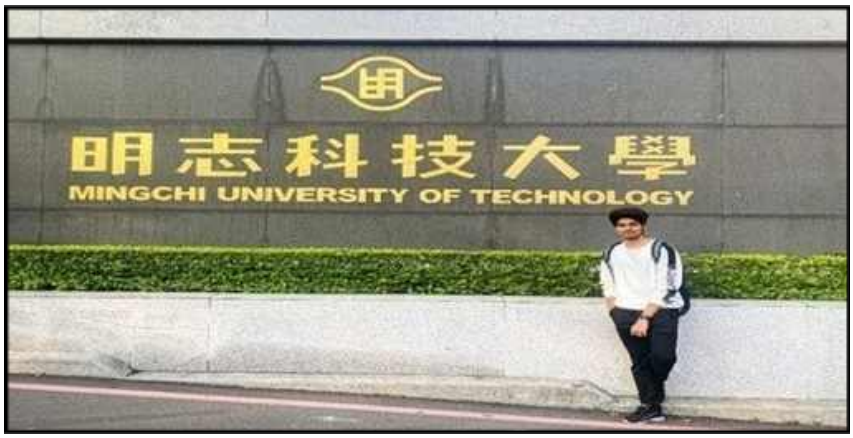
Students Name: R.Durga Kanaka Sainadh
Project Title: Billing Website for Retail Business
Company Name: TVS Electronics





# 2019-2023 Batch Student Placement

## Company wise placed student list

- 10 students have been placed in DXC Technologies with 4 LPA.
- 2 students have been placed in TCS Digital with 7 LPA.
- 34 students have been placed in TCS NINJA with 4 LPA.
- 2 students have been placed in Cognizant with 4 LPA with skill bonus.
- 88 students have been placed in Cognizant with 4 LPA.
- 47 students have been placed in Accenture with 4.5 LPA.
- 7 students have been placed in LTI with 4 LPA.
- 1 student has been placed in Aptean with 5.5 LPA.
- 2 student have been placed in Sasken Technologies with 5 LPA.
- 7 students have been placed in Embitel Technologies with 5 LPA.
- 7 students have been placed in Open Text with 9 LPA.
- 1 student has been placed in Odessa Technologies with 7.5 LPA.
- 7 students have been placed in Kaar Technologies with 6.5 LPA.
- 1 student has been placed in Ignitarium Technologies with 5 LPA.
- 58 student have been placed in Capegemini where 1 student placed with 7.5 LPA and 57 under 4.25 LPA.
- 5 students where each of them are placed in M/s. MountBlue Technologies with 4 LPA, Microchip with 10 LPA, ThoughtClan Technologies with 6 LPA, M/s. Sirius with 5 LPA and M/s. Hundai Motors with 7.87 LPA respectively.
- 5 students have been placed in AUTOMATIVE ROBOTICS with 3 LPA.
- 1 student has been placed in M/s. Data patterns with 4.2 LPA.
- 3 students have been placed in M/s. Nihilent with 4 LPA.
- 5 students have been placed in M/s. CGI with 3.93 LPA.
- 5 student have been placed in TATA ELXSI with 5 LPA.
- 1 students has been placed in M/s. Blue Binaries with 1 LPA.
- 7 student have been placed in Virtusa with 5.5 LPA.
- 3 students have been placed in CTS with 4 LPA and 6.75 LPA.
- 1 student has been placed in Acies Global with 5 LPA.
- 1 student has been placed in Infosys with 3.6 LPA.
- 1 student has been placed in Mu SIgma with 5 LPA.
- 2 students have been placed in Infosys with 7.25 LPA.
- 1 student has been placed in Walmart with 8.14 LPA.

# 2019-2023 Batch Student Placement

virtusa
Accelerating Business Outcomes

ignitarium
Spark On.

CGI

Mu Sigma
DO THE MATH

Infosys

TATA ELXSI

Capgemini

odessa

ACIES

ThoughtClan

# 2019-2023 Batch Student Placement

| S.No | Details | Count |
|---|---|---|
| 1 | Total No. of Students | 678 |
| 2 | Total No. of Eligible Students | 587 |
| 3 | Total No. of Students placed | 472 |
| 4 | Total No. of Students placed in Core | 53 |
| 5 | Total No. of Students placed in IT | 419 |
| 6 | Total Students yet to be placed | 115 |
| 7 | Total No. of Companies visited | 54 |
| 8 | Min. Package offered | 2.75 LPA |
| 9 | Max. Package offered | 10 LPA |

# 2019-2023 Batch Students- Founders Foreign studies Scholarship

Bon Voyage No: 667
Student Name: Rakesh Kasula
VTU No/Dept: 11125/ECE
Batch: 2019-2023
Date of Joining: 29/04/2023
Program: M.S-Computer Science
University Name: The University of Memphis, USA

# Roadmap to Get Dream/Core Job in Electronic and Communication Engineering Field

## II YEAR

- Master in Electronics Core Fundamentals
- Precision in Electronics Circuit Design and Building
- Master programing concepts in MatLab, Python, VHDL, Embedded C and Assembly Language
- Proficient in Implement and Operate Electronics Equipment Hardware

## III YEAR

- Master in any one ECE Specialization through Programme Electives
- Communication Systems
- Signal Processing
- Smart systems Domain
- Master higher order skills in the Chosen Specialization through Integrated Courses.

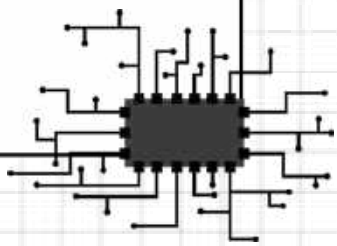
## IV YEAR

- Faculty Experts in department
- Choose projects (related to the specialization mastered in III year) offered by Industry
- Professors in Institutes Abroad
- Become Industry Ready Engineer through project work

# SKILLS IMPARTED THROUGH PROGRAM ELECTIVE

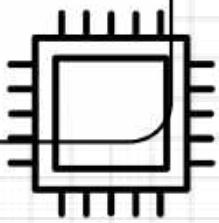
## EMBEDDED SYSTEMS DOMAIN

ECS and PCB Design
Virtual Instrumentation
RTOS
Embedded System and Robotics
Embedded C Programming



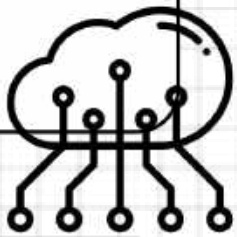
## VLSI DESIGN DOMAIN

Reconfigurable Computing with FPGA
Physical Design of CMOS
SoC
Analog VLSI Design



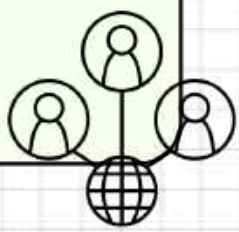
## SIGNAL PROCESSING DOMAIN

Basics of Python Programming
Professional Python Programming
Digital Image Processing
Fundamentals of Machine Learning
Machine Learning



## COMMUNICATION DOMAIN

Antenna Design Techniques
EMI/EMC
MIMO Wireless Communication
SDR



## NETWORKING DOMAIN

IoT
Wireless Adhoc and Sensor Networks
SDN
Cognitive Radio Networks

# EDITORIAL TEAM

## Data Collection

**DR. SATHYA SRI B**
Associate Professor

**DR. ASHVANTH B**
Associate Professor

## Proof Reading

**DR. D.DAVID NEELS PONKUMAR**
Professor

**DR. A. SELWIN MICH PRIYADHARSON**
Professor and Head

## Editing & Graphics Design

**SURYA S (VTU 11569) 8TH SEMESTER**
**K NEELI MADHAV REDDY (VTU 18321) 6TH SEMESTER**
**VISHNUVARDHAN (VTU 21140) 4TH SEMESTER**

# Vel Tech

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

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