



# PRATHIBIMB

## Department Newsletter

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“The walls between art and engineering exist only in our minds. ”

- Theo Jansen

प्रतिबिम्ब

THE REFLECTION OF EC @AJIET

### PROGRAM EDUCATIONAL OBJECTIVES

**PEO1:** Exhibit a desire for lifelong learning through professional and societal activities.

**PEO2:** Exhibit and apply their technical skills and knowledge in Electronics and Communication Engineering for industry and societal needs

**PEO3:** Exhibit leadership qualities, professional skills, management skills and ethics needed for successful career.

### DEPARTMENT VISION

- To be recognized as a center of excellence in the area of Electronics and Communication Engineering by nurturing the young innovative minds into skillful and ethical professionals to cater the industrial and societal needs.

### DEPARTMENT MISSION

**M1:** To establish state-of-the art laboratories to facilitate research and innovation to upgrade the knowledge and skills in healthcare sector and IoT.

**M2:** To provide industry interaction for training programs on latest technology

**M3:** To provide ethical and value based education by promoting activities addressing the societal needs.

# About A J Institute of Engineering and Technology (AJIET)

Our Institution AJ Institute of Engineering & Technology is established in 2016, AJIET is the flagship of Laxmi Memorial Education Trust (LMET). The trust was founded by Dr. A J Shetty, registered during 1991 in memory of Late Laxmi Shetty, mother of Dr. AJ Shetty, the President and Managing Director of the Trust and Sri.Prasanth Shetty, Vice-President LMET, who for saw an academic community growing in strength and repute. He believed in quality education would play a significant role in nation building. The trust oversees various Institutions, including those dedicated to Medical Sciences, Hotel Management and many more.

Currently, the trust is managing 15 Institutions which are located in Mangaluru city limits and imparting quality education in the fields of Medical, Dental, Engineering and Management Education. Thousands of economically backward citizens have been benefitted from the free medical facility provided by the trust. Provides opportunity for both students and faculties to engage with industry, society and also access to an ever-growing alumni network. Also provides excellent research support by funding multidisciplinary innovative projects essential for solving the needs of the society. AJ Institute of Engineering and Technology (AJIET) Mangalore, has an 8-year legacy of producing quality industry-ready engineers. We offer courses in B.E. in Civil, Mechanical, Electronics and Communication, Computer Science, Information Science & Engineering, AI & ML, AI & Data Science, IoT & Cyber Security including Block Chain Technology (ICB).

AJIET is one of the outstanding Engineering College located in Mangalore, and is well known for providing high quality education at a very affordable cost. Ours is the only Engineering college which is located within the city limits of Mangaluru region and the campus is spread over in a lush green campus of 11.59 acres of land. At AJIET, academics go beyond the pursuit of a professional degree. We motivate students to achieve high levels of learning by providing a supportive environment, dedicated teachers, superior delivery mechanisms and state-of-the-art infrastructure. This in turn nurtures high caliber engineers and management professionals, ready to redefine what's possible.

AJIET strives to impart quality education along with industrial exposure. We make this possible by providing world-class facilities to undertake research activities relevant to industrial and professional needs, while also promoting entrepreneurship as well as value-added education that is socially relevant. Among the branches Civil, Mechanical, Electronics and Communication, Computer Science, Information Science & Engineering are accredited by NBA during the year 2022. We also offer Research Centers in Civil, Electronics & Communication, and Mechanical Engineering, Computer Science, Physics, Chemistry & Mathematics. Every year, around 2000 students study in AJIET.

Till date, more than 2000 engineers have graduated from our Institution. From the past four years, the academic strength of AJIET is reflected in the constant and excellent results over the past 8 years – above 96% University pass percentage, and one University rank.

# About A J Institute of Engineering and Technology (AJIET)

AJIET has established IoT Club, Aero Club, Automotive Club, Radio Club, Embedded & Robotic Club, Eco Club, Industry Institute Partnership Cell (IIC) and Entrepreneurship Development Cell (EDC) for the benefit of the students. This gives a wide exposure beyond curriculum to the students.

A successful education creates a learner for life:

Over 8 years, we have evolved and perfected a unique approach to knowledge delivery in all our engineering programmes. We are deeply involved in the students' academic lives to ensure that they work towards excellence from the start. We emphasize on a curriculum that facilitates knowledge –gathering as well as higher order thinking. Our faculty engage in experimental teaching methodologies, motivating students towards high academic performance. With invaluable industry & corporate exposure, every experience and opportunity presented to them holds immense possibilities for self-development. Over 1000 students many of them are industry leaders, entrepreneurs who have stepped out of our portals.

Learning that goes beyond four walls:

For learning to be genuine and sustainable, we help students to implement theoretical concepts to practical applications. Guest lectures, technical seminars, conferences and industrial visits introduce them to workplace practices and latest technological developments. We have introduced innovative Smart Classrooms, where industry leaders conduct webinars or simulated classroom teaching in key subject areas.

At AJIET, an approach of research is instilled in our students. Students undertake research projects, they are involved in paper presentation at seminars and participate in technology fests. They also work with faculty, collaborating on projects and building deep rooted relations with A J Medical College and industries.

Holistic learning in a dynamic environment:

AJIET is a place for creative thinking and passionate pursuits. The campus is alive with the energy and enthusiasm of its students, faculty and other members, who organize events and activities, proactively. Sports & yoga forms an integral part of the curriculum as we emphasize on the physical as well as mental well-being of our students. Individual interests and talents are encouraged through interactive clubs like Aero-modelling and robotics clubs and many more.

Training & Placement:

- Placement cell organizes personality development programmes & workshops, comprising, communication skills, presentation skills, group discussions, Technical Quizzing, Aptitude tests, Mock interviews and they like, to gear up candidate's profile.
- Placement cell invites corporate companies for recruitment on campus. A fully fledged Training, Placement and Entrepreneurship cell is established in the campus and is headed by Mrs. Kavitha and Dr. Anil as Main coordinator. This department acts as a liaising window, connecting HR Departments of corporate world.
- A placement cell is also operating to have corporate relations with various MNCs' for effective placements. This ensures in connecting corporate companies located in metro cities. Major recruiters are Switch Gear, Headway, Aykan, Mu Sigma, Toshiba Mitsubishi, Tata Electronics, Toyota Kirloskar, Juspay, Delta X, EuroNext, Aarbee structure, Novigo Solution, G R Infrastructure, TCS, Wipro, Infosys, Atkins, 7 Edge, Hiwin Indo MIM, Unicourt, Mirafra, Shree Cement, Hashedin and many more

# INSTITUTE VISION AND MISSION



## VISSION OF THE INSTITUTE

“To produce top-quality engineers who are groomed for attaining excellence in their profession and competitive enough to help in the growth of nation and global society.”

## MISSION OF THE INSTITUTE

**M1:** To offer affordable high-quality graduate program in engineering with value education and make the students socially responsible.

**M2:** To support and enhance the institutional environment to attain research excellence in both faculty and students and to inspire them to push the boundaries of knowledge base

**M3:** To identify the common areas of interest amongst the individuals for the effective industry- institute partnership in a sustainable way by systematically working together.

**M4:** To promote the entrepreneurial attitude and inculcate innovative ideas among the engineering professionals.

“

The secret of getting ahead is getting started

”

- Mark Twain

# ABOUT THE DEPARTMENT

The Electronics and Communication Engineering department, established in 2016, has an intake of 120 students and was accredited by the NBA for three years in 2023. The department offers undergraduate programs in Bachelor of Engineering, Post Graduate M.Sc. (Engineering), and Doctoral degree programs. The faculty is highly qualified and provides outcome-based education, allowing students to upgrade their technical knowledge and develop skills for employment, higher education, and entrepreneurship.

The curriculum includes industrial visits, webinars, technical talks, and workshops. The department also runs IEEE, IE (I), and ISTE student's chapters, and students participate in various activities. The department also runs Embedded and Robotics clubs and radio clubs, EVSA, fostering communication, leadership, teamwork, and technical and non-technical skills. The department has spacious classrooms with LCD projectors and well-equipped laboratories. Faculty members are encouraged to develop themselves through various activities, exposure to latest technologies, and industry-ready training.

The only limit to our realization of tomorrow is our doubts of today.  
— Franklin D. Roosevelt

## From HOD's Desk



**Dr. Kiran Kumar V G**  
Associate Professor & HOD

Welcome to the Department of Electronics and Communication Engineering, AJIET. The mission of Department of Electronics and Communication Engineering AJIET is to ensure its students successful careers.

The modern era has seen rapid advancements in Electronics and Communication, including Embedded Electronics, VLSI, Microprocessors, Supercomputers, Robotics, and Healthcare. As demand for advanced technology increases, so does the demand for Electronics Engineers, with students highly sought by top companies, demonstrating the endless scope of this field.

The Department of Electronics and Communication Engineering, established in 2016, aims to provide quality education through excellent infrastructure and teaching faculty, ensuring student satisfaction.

The Department offers innovative teaching and leadership experiences, enhancing students' communication and critical-thinking skills through Industry-Department Collaboration with MoUs and enhancing their employability.

“  
If you want  
something you've  
never had, you  
must be willing to  
do something  
you've never done  
”

# DEPARTMENTAL ACTIVITIES

## Technical Webinar on “Opportunities in the VLSI (Very Large Scale Integration) Industry”

The Department Activity was organized by the department of Electronics & Communication Engineering in association with Electroverts Student Association on 8th May, 2023 from 11:30 AM onwards.

The objective of a Webinar of discussion on "Roles and Opportunities in the VLSI (Very Large Scale Integration) Industry" is to provide participants with a comprehensive understanding of the industry landscape, its various roles, and the potential career opportunities.



## Intra-departmental Competitions

The Intra-departmental Competition for ECE students showcased their technical and cultural talents. The "Best Reels Making" Competition, held on December 9th, 2023, with a theme on Inaugural Ceremony was conducted. The event was Judged by Mr. Suhandas and Mr. Ganesh U G, the event featured 10 participants, with the winner being Mr. Hardik Rai, Final Year as "Best Video Editor." The "TECH-MASTERS" Competition, held on May 11th, 2024, involved a preliminary round, a qualifier round, and a final round. The final round, held on May 15th, 2024, focused on "Circuitronics," with the best three participants awarded as Techmasters. Chirayu P, Ashik K, and V Jayesh from Second Year, were awarded as TECH-MASTERS after the final round.



## Pencil Sketch & Solo-Dance competition

The Pencil Sketch Competition and Solo Dance Competition were held on May 16th and 17th, 2024 respectively. The Pencil Sketch Competition, focusing on the "Evolution of Technology" theme, saw 11 participants, with the winner being Mr. Mithesh, second-year student judged by Mr. Manjukiran B and Mr. Suhandas. The Solo Dance Competition, allowing both Eastern and Western categories, saw 6 participants, with Mrs. Rekha Anil and Mrs. Pratheksha Rai N, Assistant Professors, judging. Ms. Shreya D K was awarded Best Dancer of ECE.



## Technical Webinar on “VIVADO Design Suites and Hardware Debug”

The Department of Electronics and Communication Engineering in association with EVSA organized a Technical Webinar on “Vivado Design Suites And Hardware Debug” on 05/06/2024 at Seminar Hall-2 from 2:30PM. The Speaker spoke on Xilinx Vivado design suites explaining the comparison between FPGA Families. He also spoke about ARTIX-7 Architecture briefing its features. The speaker then focused on ZYNQ-7000 Chip with its features. He also spoke about vivado and also spoke on how this software used for designing AMD adaptive SoCs and FPGAs. The technical webinar was found very interactive. The Students from second & third year were the attendees of the webinar. Mrs. Pratheksha Rai N and Mr. Prakash K Shetty Coordinated the Event.



# DEPARTMENTAL ACTIVITIES

## The Farewell Programme for the outgoing 2020-2024 batch

The Farewell Programme for the outgoing 2020-2024 batch was organized by the department of Electronics & Communication Engineering in association with Electrovertz Student Association on 22nd May 2024 from 2:30PM onwards at Seminar Hall-1. The event was graced by the presence of Dr. Shantharama Rai C, Principal, and Dr. P Mahabaleswarappa, Dean Academics of Our College. The formal function began with the prayer by Ms. Kavana & Ms. Deepthi, 2nd Year, followed by the welcome Speech by Ms. Ashitha ,3rd year ECE. Dr. Kiran Kumar V G , HOD addressed the gathering followed by our principal and dean, wishing the graduates to excel in their future endeavors and also about their views on students excellent feedback system ,placement. The event then followed by honouring Best Outgoing Student- Male and Female, as well as winners of different intra-departmental events conducted by EVSA, were given prizes. Mr. Prakash K Shetty and Mrs. Pratheeksha Rai N coordinated the event



## Industrial Visit to KMF, Mangaluru”

AJiet IEEE Student Branch in association with IIC organized a one-day Industrial Visit to KMF, Mangaluru for the students of ECE on 07-06-2024 from 2:00PM, aims to bridge the gap between educational institutions and organizations. The visit involved 64 students from first Year ECE and 3 faculties. The goal of the visit was to apply theoretical concepts in real-life situations at the workplace. The dairy company, DKMUL, have adopted modern quality control measures and techniques, including acidity, turbidity, moisture, Colton boiling, adulteration, lactometer reading, and microbial analysis. DKMUL is also adopting new technologies and techniques to ensure product safety and quality. The Students found this visit to be informative.



# FACULTY ACHIEVEMENTS

## FACULTY PARTICIPATION

SL.No	Date	Staff Name	Organized by	Event Name	Type of Event	No of Days
1	Jan -Apr 2024	Mrs. Rekha A	NPTEL	Computer Vision and Image Processing - Fundamentals and Applications	NPTEL Online Certification	12 Weeks



**Dr. Kiran Kumar V G has been the External Jury at the Srinivas Institute of Technology, for the Project Expo on May 8th ,2024**

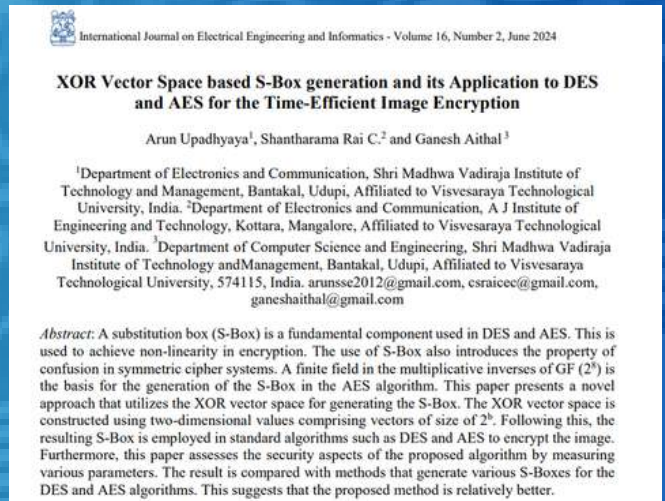
**Dr. Kiran Kumar V G has been the External Jury at Canara Engineering College for the Project Expo on April 24th, 2024**



**Mr. Suhandas has been the External Jury at Yenepoya Institute of Technology, Moodabidri for the Project Expo- YENMANTHAN-24 on May 8th ,2024.**

# FACULTY PUBLICATION

Dr. Shantharama Rai C , along with other co-authors have published a research Paper entitled "XOR Vector space based S-Box generation and its application to DES and AES for the time-efficient image encryption " published in International Journal on Electrical Engineering and Informatics on June 2024 with Printed ISSN 2085-6830, online e-ISSN 2087-5886



Dr. Kiran Kumar V G along with Co-Authors, published paper entitled "Design, Implementation and Analysis of HIBRI Cipher on IoT Platforms" Journal of The Institution of Engineers (India) Ser. B (2024). <https://doi.org/10.1007/s40031-024-01067-2>



Dr. Gnane Swarnadh Satapathi along with Co-Authors (2024), published paper entitled "Severity Analysis Automation for Detection of Non-Proliferative Diabetic Retinopathy", [doi:10.1007/978-981-99-8886-0\\_27](https://doi.org/10.1007/978-981-99-8886-0_27).



Dr. Kiran Kumar V G along with Co-Authors have edited the book titled "Futuristic Trends in Electronics & Instrumentation Engineering volume 3 Book 1" with ISBN: 978-93-6252-491-1

Mr. Prakash K Shetty along with other researchers, has published a book chapter titled "Face Mask Detection and Alert System Using Artificial Intelligence for COVID-19 Patients" in the book "Lecture Notes in Electrical Engineering" and was featured in the proceedings of the conference titled "Control and Information Sciences XIX" held at the conference ".

# STUDENT ACHIEVEMENTS

SL.No	Date	Student Name	Sem	Venue	Event Name	Award
1	29-04-2024 - 30-04-2024	Dhanush S	4	YIT, Moodbidri	Line Follower	Second Place
2	29-04-2024 - 30-04-2024	Karthik	4	YIT, Moodbidri	Line Follower	Second Place
3	29-04-2024 - 30-04-2024	Adarsh N	4	YIT, Moodbidri	Line Follower	Second Place
4	29-04-2024 - 30-04-2024	Manoj	4	YIT, Moodbidri	Robo Socar	Second Place
5	05-05-2024 - 06-05-2024	Thejas S	6	AJIET, Mangaluru	Circuitronix	First Place
6	05-05-2024 - 06-05-2024	Sanath	6	AJIET, Mangaluru	Circuitronix	First Place
7	05-05-2024 - 06-05-2024	Thejas S	6	AJIET, Mangaluru	Quiz	First Place
8	05-05-2024 - 06-05-2024	Kiran D B	6	AJIET, Mangaluru	Quiz	First Place

# STUDENT ACHIEVEMENTS

SL.No	Date	Student Name	Sem	Venue	Event Name	Award
9	05-05-2024 - 06-05-2024	Mohammed Aawan Shaikh	6	AJIET, Mangaluru	Valorant	Second Place
10	04-05-2024	Thejas	4	AJIET, Mangaluru	Videography	First Place
11	05-05-2024 - 06-05-2024	Thejas J P	4	AJIET, Mangaluru	Digital Dreams	First Place
12	09-05-2024 - 11-05-2024	Thejas J P	4	Canara Engineering college, Benjanapadavu	Candid Clicks	Second Place

## PLACEMENT DETAILS



**Ankitha**  
Placed in GlowTouch Technologies  
2.67 LPA



**Athmiya Raj A G**  
Placed in EDU TANTR



**Chethan**  
Placed in Karmic Semiconductor Pvt Ltd  
3 LPA



**Manikya**  
Placed in GlowTouch Technologies  
2.67 LPA



**Navya B R**  
Placed in Teachnook  
4-6 LPA



**Sandesh**  
Placed in Sophrosyne Semiconductors  
5.6 LPA

## ACADEMIC TOPPERS



**Mohan Singh K**  
**Vishnu Santhosh**  
**V SEM**  
**SGPA: 9.39**



**Harshith**  
**VIII SEM**  
**SGPA: 9.5**



**Seema J Rai**  
**VIII SEM**  
**SGPA: 9.5**



**Swasthik Kamath**  
**VIII SEM**  
**SGPA: 9.5**



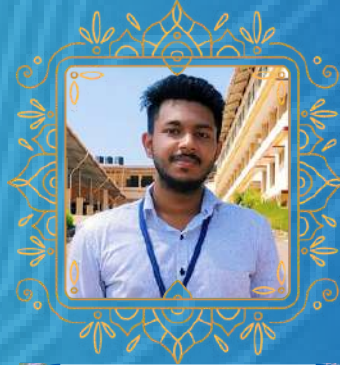
**Spoorthi**  
**VIII SEM**  
**SGPA: 9.33**



**Sanjana**  
**VIII SEM**  
**SGPA: 9.33**



**Manikya**  
**VIII SEM**  
**SGPA: 9.33**



**Vishnu Santhosh**  
**V SEM**  
**SGPA: 9.39**



**Ashitha B Y**  
**V SEM**  
**SGPA: 9.00**

## ACADEMIC TOPPERS



**Kiran D B**  
V SEM  
SGPA: 8.89



**Suhan Rai K**  
V SEM  
SGPA: 8.89



**Deepthi K M**  
III SEM  
SGPA: 9.1



**R V Dhanya**  
III SEM  
SGPA: 9.00



**Deekshitha**  
III SEM  
SGPA: 8.35



**B Vedakshi**  
III SEM  
SGPA: 8.3



**Deepa J Shetty**  
III SEM  
SGPA: 8.3

# EDITORIAL BOARD

## FACULTY EDITORS



**Editor: Dr. Kiran Kumar V G,**  
Associate Professor & HOD



**In-Charge Editor: Ms. Pratheksha Rai N,**  
Assistant Professor

## STUDENT EDITORS



**SUHAN RAI, 3rd YEAR**



**MOHD. AAWAN SHEIK, 3rd YEAR**



**THRISHUL CHARAN, 2nd YEAR**

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