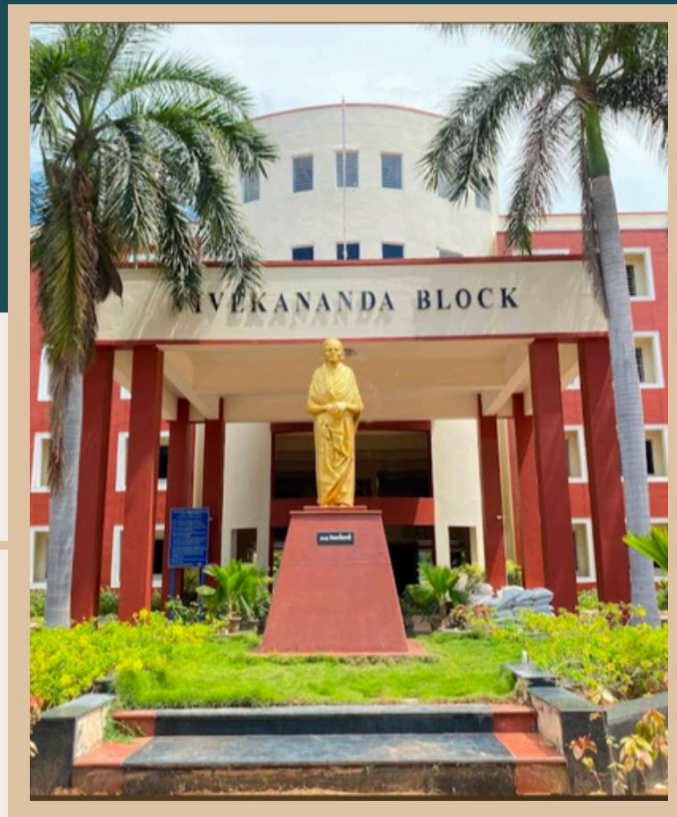


VELAMMAL COLLEGE OF ENGINEERING AND  
TECHNOLOGY  
(AUTONOMOUS)  
MADURAI

# WINDOWS

SEE THROUGH

## ECE ASSOCIATION



DEPARTMENT OF ELECTRONICS AND  
COMMUNICATION ENGINEERING





## **Velammal College of Engineering and Technology(AUTONOMOUS) Madurai**

### **Vision:**

- To emerge and sustain as a center of excellence for the technical and managerial education upholding social value.

### **Mission:**

- Imparted with comprehensive, innovative and values based education.
- Exposed to the technical, managerial and soft skill resources with emphasis on research and professionalism.
- Inculcated with the need for a disciplined, happy, married and peaceful life.

### **Goals:**

- Uncompromising regularity and punctuality.
- Academic excellence depth in subject and general knowledge
- Sustainable placement or Higher education.
- Curiosity of learning, research and development.
- Proficiency in communication skills.
- Professional values and Social ethics.
- Keeping good health and following good habits.



## CHAIRMAN'S MESSAGE

Every young Indian of this great country should dream big!. It is not enough if they only dream but they should work hard to make it a reality! We at Velammal College of Engineering and Technology, Madurai, provide the necessary platform to many aspiring youths of this region to become very enterprising Engineers, so that they could provide the right kind of engineering solutions to propel our nation to greater heights! We sincerely believe in imparting quality engineering education laced with deep social values to ensure that every individual who is graduated from our Institution not only become a competent Engineer but also a very responsible citizen! It is high time that we got away from the age old practice of testing "standardized testing" to "creative teaming"! It has been our earnest endeavor to produce such Engineers who could offer very creative solutions! Life would not provide any warranties and guarantees and it provides only possibilities and opportunities! We want all our budding Engineers to remember this and make the best use of them. We are on an incredible journey and we expect every Velammalian to do the right thing, at the right time, the right way and for the right reason!". Please come and join us in our exhilarating journey!



**Shri.M.V.Muthuramalingam, Chairman  
Velammal Educational Trust**

## PRINCIPAL'S MESSAGE



"Branding is the art of becoming knowable, likable and trustable". As per John Jantsch words, VCET is a known, liked and trusted technical Institution in Madurai. VCET has emerged and sustaining as a center of excellence imparting technical and managerial skills to the southern district students of Tamil Nadu inculcating soft skills to brand as a professional Engineer. From its inception in 2007, various accreditations with NAAC, NBA has been achieved. The attracting feature of VCET is its infrastructure and state-of-the-art laboratories. VCET faculty members are highly experienced and committed to provide comprehensive technical education. The systems established in this college ensures that the engineering professionals graduating from VCET are capable of meeting the global standards. Consistent campus placements and our alumni occupying premier positions in the leading organizations worldwide, stand as a testimony to the quality of education imparted in our Institution. I proudly share that, I am a part of VCET and being the Principal of the Institution makes me always creative, analytical and innovative in ideas and implementing the same.

**Dr.P.Alli, Principal**



# DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



A hearty welcome to the Department of Electronics and Communication Engineering, Velammal College of Engineering and Technology, Madurai. Since its inception in 2007, the department of ECE has been the front runner in imparting quality technical education to the students. The department has well qualified and motivated faculty members passionate towards moulding the younger generation. The rich technical ambience, highly enthused faculty members, state of the art laboratories and the able support from the management have made the students perform with distinction in the career pursuit. Moreover, the department of ECE is making huge strides in Research and Development. It has procured funded projects from DRDO, AICTE and DST to the tune of Rs 3.1crores. Students relish the placement in top Multinational companies like TCS, CTS, Wipro, Accenture, Aricent, HP, UST Global, Zoho, Athena Healthcare etc. The department also has a worldwide reach with its vibrant alumni network. Working shoulder with shoulder with the institution, it is constantly aiming towards reaching greater heights to serve the needs of the society and meet the aspirations of the student community.

## **Vision:**

To emerge as a vibrant Centre of repute, moldings students to excel in Electronics and Communication Engineering with ethical responsibility

## **Mission:**

To excel in producing competent Electronics and Communication Engineering professionals by

- Imparting strong theoretical background in the fundamental concepts.
- Providing self-directed learning opportunities to meet variety of career choices
- Training students to realize ethical responsibilities for betterment of mankind.
- Entailing the students in Research and Development activities.

## HOD'S MESSAGE



**Dr.S.Vasuki, Dean (Research and Development), Head/ECE**

A hearty welcome to the Department of Electronics and Communication Engineering of Velammal College of Engineering and Technology, Madurai. Since its inception from 2007, the department of ECE has been the front runner in imparting quality technical education to the students. The department has well qualified and experienced faculty members who are passionate towards moulding the younger generation. The rich technical ambience, highly enthusiastic faculty members, state of the art laboratories and the able support from the management have made the students perform with distinction in their career pursuit. Moreover, the department of ECE is making huge strides in Research and Development. It has procured funded projects from DRDO, AICTE and DST worth of Rs. 258.716 lakhs in a short span of three years. Students have proved themselves by getting placed in top MNC companies like TCS, CS, Wipro, Accenture, Aricent, HP, UST Global, Zoho, Athena Healthcare, etc. The department has also got a worldwide reach with its vibrant alumni network. Working in close association with the institution, the department constantly aims to reach greater heights in order to serve the needs of the society and meet the aspirations of the student community.





# ASSO - SQUAD



**Dr.S.Vasuki, Dean  
(R&D), Head/ECE,  
Convenor (ECE Association)**



**Mr.A.Suban  
Asst.Prof ECE,  
Staff advisor  
(ECE Association)**



**Ms.A.Alaimaahal  
Asst.Prof ECE,  
Staff advisor  
(ECE Association)**





# OFFICE BEARERS

## SECRETARIES

**SUNDARAJAPANDIAN R**  
(III ECE A )

**NIVASH V**  
(III ECE B)

## JOINT SECRETARIES

**SANJAY BHARATH A**  
(III ECE A)

**SAFFRIN M**  
(III ECE A)

**HARISH A**  
(III ECE B)

**HARISHMA R**  
(III ECE B)

## STEERING COMMITTEE MEMBERS

**YUVAN SANKAR RAJA S**  
(III ECE A )

**NANDHANA V P**  
(III ECE A)

**DINESH K**  
(III ECE B)

**VARSA SHRRI N**  
(III ECE B)

**DRAVID S K**  
(II ECE A)

**VIJAYALAKSHMI T**  
(II ECE A)

**GUNAMATHANKANTH S**  
(II ECE B)

**LAKSHIKA S**  
(II ECE B)

## JOINT STEERING COMMITTEE MEMBERS

**PRAVEEN KUMAR M**  
(II ECE A)

**HARINI V**  
(II ECE A)

**JEFREY ESSAC G**  
(II ECE B)

**DHIVYA DHARSHINI B**  
(II ECE B)

**EVENTS TO BE CONDUCTED**  
**(2024-2025) ODD SEMESTER**

<b>S.No.</b>	<b>Date</b>	<b>Name of the event</b>
<b>1</b>	<b>05-09-2024</b>	<b>Teachers Day Celebration</b>
<b>2</b>	<b>13-09-2024</b>	<b>Literary Events Contest- Essay Writing, JAM, Quiz (II-ECE)</b>
<b>3</b>	<b>27-09-2024</b>	<b>Circuit Debugging Contest</b>
<b>4</b>	<b>04-10-2024</b>	<b>Seminar on “Development of Coding for Real Time Applications using UI/UX and AI” by Alumni of ECE Department</b>
<b>5</b>	<b>15-10-2024</b>	<b>Short Film Contest on Theme “5G and Vehicular Communication”</b>
<b>6</b>	<b>25-10-2024</b>	<b>VCET-ECE APP Challenge Contest</b>
<b>7</b>	<b>30-10-2024</b>	<b>Poster Presentation Contest on topic “Advancements in Non Orthogonal Multiple Access (NOMA): Towards Spectrally Efficient and Low-Latency Wireless Communication in 6G Networks”</b>
<b>8</b>	<b>05-11-2024</b>	<b>Guest Lecture – I</b>

**EVENTS TO BE CONDUCTED**  
**(2024-2025) EVEN SEMESTER**

<b>S.No</b>	<b>Date</b>	<b>Name of the event</b>
<b>9</b>	<b>24-01-2025</b>	<b>Adzap Contest</b>
<b>10</b>	<b>31-01-2025</b>	<b>Dr. S. R. Ranganathan Trophy Contest</b>
<b>11</b>	<b>12-02-2025</b>	<b>Intradepartmental Paper Presentation Contest</b>
<b>12</b>	<b>27-02-2025</b>	<b>Multimedia Presentation contest on theme “Organic Light Emitting Diodes (OLEDs)”</b>
<b>13</b>	<b>05-03-2025</b>	<b>Best Manager Contest</b>
<b>14</b>	<b>11-03-2025</b>	<b>Hardware Hackathon Contest – II ECE Students</b>
<b>15</b>	<b>28-03-2025</b>	<b>Guest Lecture – II</b>
<b>16</b>	<b>01-04-2025 to 04-04-2025</b>	<b>Hardware Hackathon Contest- III ECE Students</b>
<b>17</b>	<b>05-04-2025</b>	<b>Association Valedictory</b>



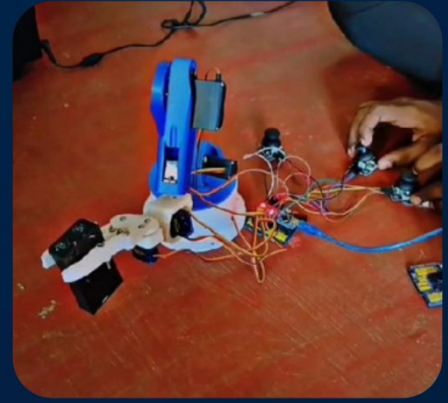
# Project Corner





# ROBOTIC ARM

Robotic arms, or robotic manipulators, are advanced mechanical systems designed to replicate the functionality of a human arm. These devices are crucial in industries requiring precision, strength, and consistency, such as manufacturing, healthcare, and logistics.



## Key components of robotic arms include:

- Joints and Links: Joints, or actuators, enable movement in rotary or linear forms, while links are rigid segments connecting these joints.
- End Effector: This is the tool at the arm's end that interacts with the environment, such as grippers, welding torches, or cameras.
- Sensors: These provide feedback on the arm's position, speed, and force, including encoders, force sensors, and vision systems.
- Controllers: The control system, including microcontrollers for simpler tasks and PLCs for more complex operations, directs the robotic arm's movements.
- Power Supply: Provides the necessary energy, which can be electric, hydraulic, or pneumatic.

## Technologies in robotic arms involve:

- Kinematics: Forward kinematics calculates the end effector's position from joint angles, while inverse kinematics determines the required joint angles for a target position.
- Dynamics: Studies the forces and torques needed for movement.
- Control Systems: Include PID control for precise movements and machine learning for adaptive control.
- Machine Vision: Uses cameras and image processing for guidance and control.
- Artificial Intelligence: Enhances decision-making and adaptability.

## Applications are diverse:

- Manufacturing: Tasks like welding and assembly.
- Healthcare: Surgical robots and rehabilitation devices.
- Warehousing: Sorting and packaging goods.
- Research and Development: Experimentation and innovation.
- Agriculture: Automating planting and harvesting.

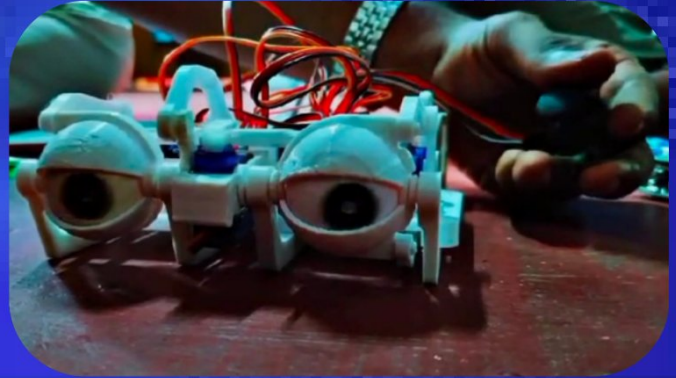
By

B.S.HARISH PRASANTH-III ECE A  
A.HARIHARAN-III ECE A  
N.SIVAKUMAR-III ECE A  
A.KARTHICK-III ECE A



# ROBOTIC EYES

Robotic eyes, or artificial vision systems, are advanced devices designed to emulate biological vision. They are crucial in robotics, medical prosthetics, and surveillance.



## Key Components:

**Camera:** Converts visual data into digital signals, with common types being CCD and CMOS.

**Image Processing Unit:** Analyzes data using algorithms for object detection and image segmentation.

**Lens:** Focuses light onto the camera sensor; types include fixed, zoom, and fish-eye lenses.

**Microcontroller/Processor:** Manages the system and processes data; examples include Raspberry Pi and NVIDIA Jetson.

**Communication Interface:** Transfers data via USB, UART, SPI, I2C, or wireless methods like Wi-Fi and Bluetooth.

## Technologies:

**Machine Vision:** Interprets visual information.

**AI:** Enhances image processing with machine learning.

**Computer Vision:** Enables decision-making based on visual inputs.

**IR and Thermal Imaging:** Sees in low light or through obstructions.

**LiDAR:** Provides depth perception and 3D mapping.

**Applications:** Include medical prosthetics (e.g., Argus II), robotics (e.g., drones), surveillance (e.g., smart CCTV), automotive (e.g., Tesla's Autopilot), and AR/VR (e.g., Microsoft HoloLens).

**Challenges:** Include power consumption, data processing speed, integration complexity, cost, and environmental factors. Future advancements aim at miniaturization, enhanced AI, bio-inspired designs, increased resolution, and interdisciplinary research.

By

N.K.VIJAY-III ECE A

R.SUNDARAJAPANDIAN-III ECE A

A.SANJAY BHARATH- III ECE A

P.VINITH-III ECE A



# ***DIGITAL RETINOMETER***

## **Introduction:**

>This project is about digital retinoscope, which is used in the field of optometry.

>A digital retinoscope is an instrument, used to measure the refractive error of a Person's eye.

>our innovation will be a portable cost effective digital retinoscope.

## **Conceptualization and plan:**

The goal of our project is to develop an innovative and cost effective digital retinoscope that combines the precision and efficiency of an auto-refractor. -traditional retinoscopy techniques are time consuming and require significant expertise, making them less accessible in resource limited settings. auto refractors offer efficiency, but can be costly.

-our solution bridges this gap by leveraging digital technology to create an affordable, automatic retinoscope.

## **Software components:**

Embedded c:

C is a low level language so it enables the developer to write an efficient code which is essential in digital retinoscope. It has real time capabilities and they are easily operatable.

Smart focus adjustment:

We use a infrared photodetective sensors for smart focus adjustment in the human eye it detects the motion of the eyes and refractive error point and automatically adjusts to it.

Multi language enablement:

The report that is sent to the patient's mobile via bluetooth and wifi connection is designed in such a way that, it can be viewed in multilanguages

Sensor technology and image processing software:

Imaging sensor and technology are the main domain of our project. Right from the image capturing followed by focusing-alignment data transfer-file size etc...everything comes under imaging and sensor technology. the camera system not only captures the reflex but also eye's anatomical features.

BY

AGASTINA VIYAGAPPAN-II ECE A



# WALRONE - DRONE SUBMARINE

## Introduction:

This project entails the design and implementation of a hybrid unmanned aerial vehicle (uav) capable of dual-mode operation, traversing both terrestrial and aerial environments. The objective is to engineer a versatile platform that can seamlessly transition between land mobility and flight, leveraging advanced mechatronics and control systems.

## Procedure:

Uav's terrestrial mode is facilitated by a drivetrain comprising brushless dc motors connected to high-torque wheels, designed for various terrains. The aerial mode employs a quadcopter configuration with four brushless outrunner motors and high efficiency propellers, managed by a sophisticated flight controller (e.g., Pixhawk or ArduPilot). The frame is constructed using lightweight, high-strength materials such as carbon fiber and aluminum to ensure durability without compromising agility. Power distribution is managed via a centralized power distribution board (PDB), which allocates power from a high-capacity lithium-polymer (LiPo) battery to all subsystems. The onboard electronics include an inertial measurement unit (IMU) for stability and orientation control, GPS for navigation, and ultrasonic or LiDAR sensors for obstacle detection and avoidance.

## Application:

Education and research surveillance and security reconnaissance  
Wildlife observation  
Amphibious vehicle

## Conclusion:

Energy efficiency is a critical focus, with optimization algorithms implemented to balance power consumption across aerial and terrestrial operations, maximizing operational endurance. This hybrid uav project represents a significant advancement in multi-modal drone technology, with potential applications in surveillance, search and rescue, environmental monitoring, and beyond. The development process involves rigorous prototyping, simulation, and field testing to validate performance and reliability in diverse operational scenarios.

By  
ROHAN MC-II ECE A  
VIMAL RAJ N-II ECE A





# **ARTISAN'S CORNER**





**M.SAFFRIN**  
(III ECE A)



**A.K.SOMINA**  
(III ECE B)



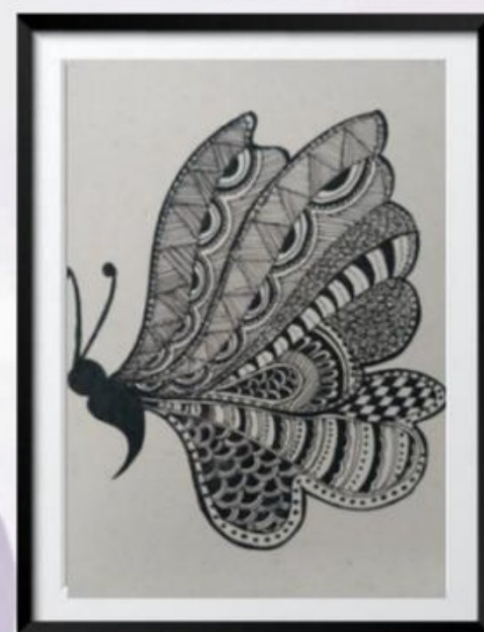
**A.ARUL JOCASTA**  
(III ECE B)



**R.ALAGU UDHAYASHREE**  
(III ECE A)



**K.S.VINITHA**  
(III ECE A)



**R.HARISHMA**  
(III ECE B)





**K.HARUNI**  
(III ECE B)



**V.LAKSHMI DEEPIKA**  
(III ECE A)



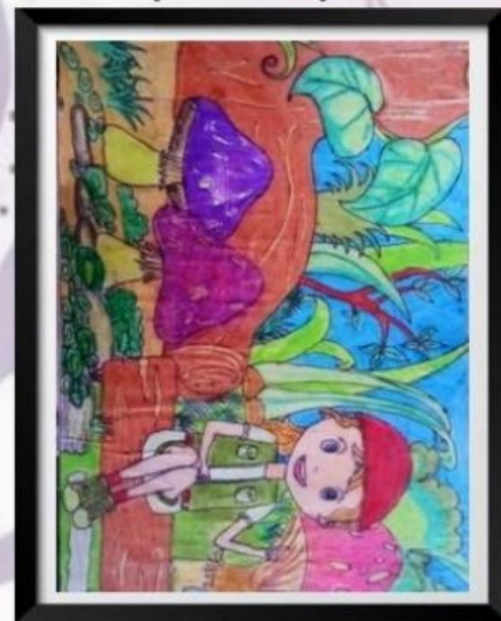
**S.SHANMATHI**  
(III ECE B)



**DEVATHARSINI**  
(II ECE B)



**G.B.AARTEE**  
(III ECE B)



**A.MASKURA FATHIMA**  
(III ECE B)





STUDENTS  
FANTASY



# SUCCESS



*Success is a mystery, can  
never be unraveled! Success  
is a secret, can never be  
decoded! Success is a  
mirage, can never be figured  
out! Success is a mirage  
can never be figured out!  
Success is an obscure can  
never be determined!  
Finally, Success is a fable  
can never be a fact!!*

---

V.SAMYUKTAA  
III ECE A





# ADULTHOOD'S SILENT BATTLE

*In lonesome, where thoughts array,  
Trust fades like the light of day.  
Loved ones once so near, now gone,  
Adulthood hits harsh at a new dawn.*

*An Introverts's heart, with so much care,  
Faces a world that's rarely fair.  
Voices loud, intentions masked,  
In solitude, the comfort remains unmasked.*

*Fear not young hearts..the path is ahead,  
Though burdens rise and tears are shed.  
In every trial, a lesson blooms  
In isolation's murmurs, courage looms.*

*IN ADULTHOOD'S BATTLES, I find my way,  
With trusted souls who light my day.  
For though I walk this path alone,  
I carry with me a heart of stone.*

*ADULTHOOD THOUGH HARSH IT SEEMS,  
GUIDES US TO OUR DEEPER DREAMS*

*Agastina.P*

*II EEE A*



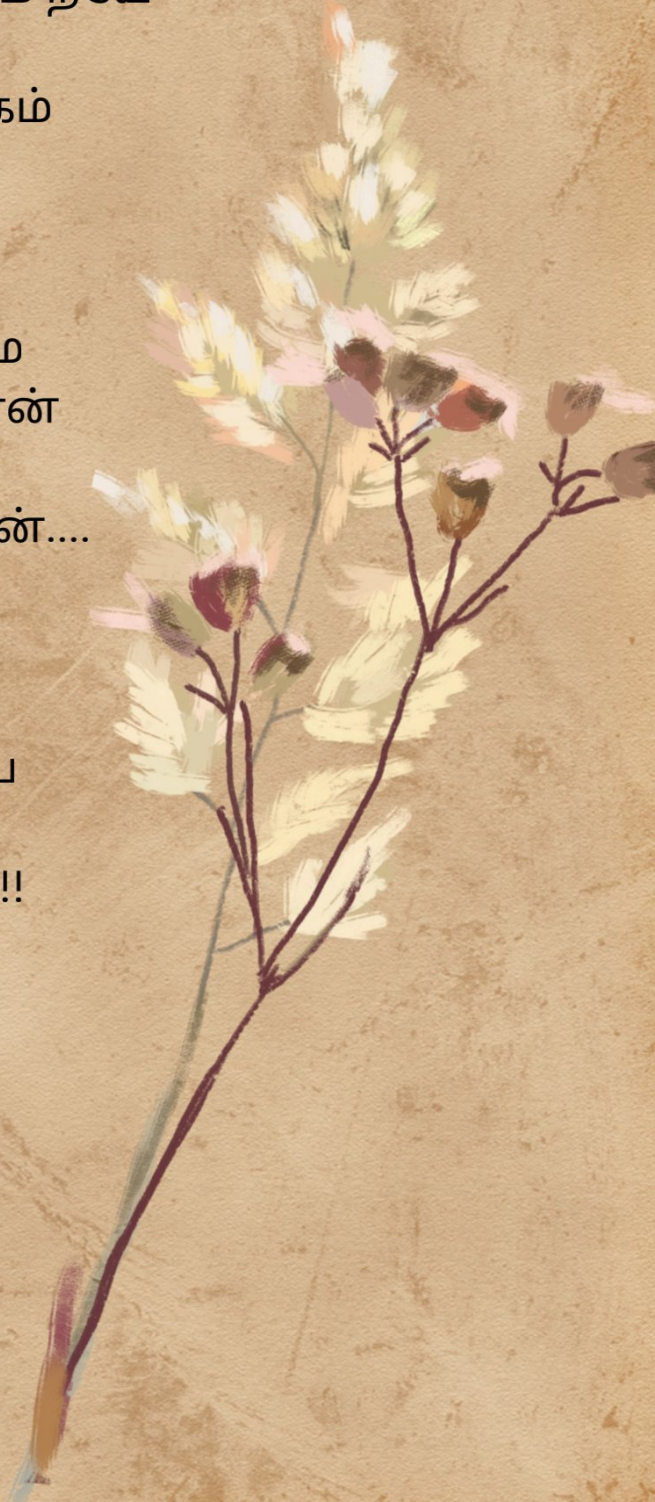
அன்னையே.....

முகம் தெரியாத என்னை முழுவதுமாக  
சுவாசித்த தாயே ...!!  
சுவாசம் தந்தவளும் நீயே  
சுவாசிக்க கற்றுக்கொடுத்தவளும் நீயே  
உன்னை கவனித்ததை விட  
என்னை கவனித்ததே அதிகம்

பேச கற்றுக்கொடுத்த உன்னிடமே  
பேச்சுத்திறமையை காட்டினேன்  
அதனால் என்னமோ  
சிறிதளவு மனம் உருகி நிற்கிறேன்....

பிறக்கும்போதே உந்தன் வலியை  
உணர்ந்ததால் என்னமோ  
அழுதே பிறந்தேனோ.....!!!  
என் தாயே.....!!

ஹருனி  
III ECE B







அப்பா  
பிறந்ததும் கையில் ஏந்தினாய்..  
வளர்ந்ததும் தோளில் தாங்கினாய்  
பள்ளிகூடம் வாசல் வரை உன்தன்  
கையைப் பிடித்துக் கொண்டேன்!  
ஓடி வந்து அனைத்து கொண்டேன்  
உன்னைப் பிரிய மனமின்றி..

ஓடி உழைத்து வியர்வை சிந்தினாய் !  
எனக்காக  
உன் வாழ்வை முழுதும் அர்ப்பணித்தாய்..

கண்களில் கோபத்தை  
வெளிப்படுத்தினாலும் உள்ளத்தில் பாச  
மழை பொழிந்தாய்!

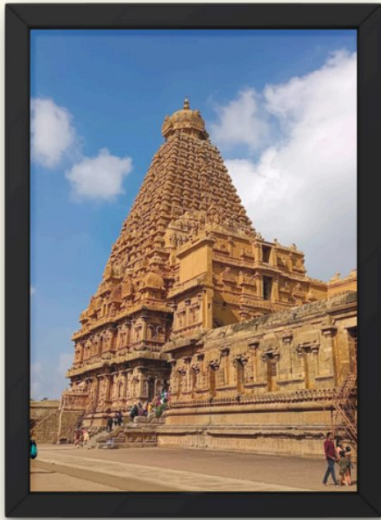
அப்பா  
உன் அன்பு அளவற்றது அதை  
உணர்ந்தேன் நான் இன்று..  
தெய்வத்தை இதுவரை கண்டதில்லை  
யாரும்! நான் கண்டு  
கொண்டிருக்கிறேன் தினமும்  
கண் எதிரே :



சோமினா.அ.கி  
III-ECE B



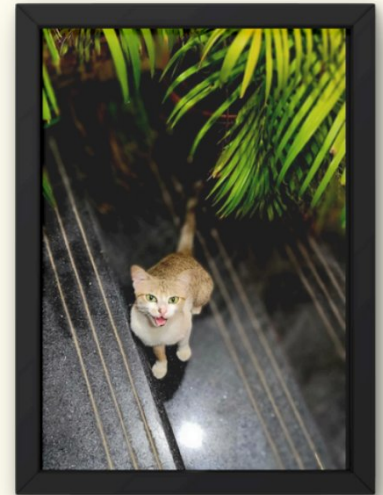
# PHOTOGRAPHY



VARSA SHRI N  
(III ECE B)



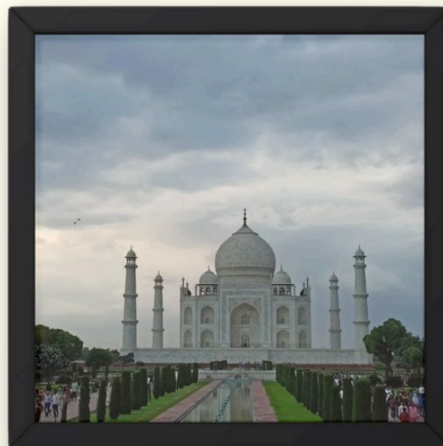
SHANMATHI S  
(III ECE B)



SEEMA FARHANA M  
(II ECE A)



ASMITHA T  
(III ECE B)



SOMINA A K  
(III ECE B)



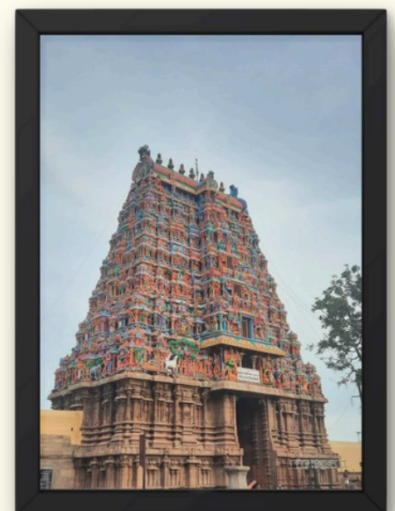
AKASH G P  
(II ECE A)



ARUL JOCASTA S  
(III ECE B)



VISWA SHANKAR R S  
(III ECE B)



ERAM PRABHA R P  
(II ECE A)



# VCET START-UPS





## OMNIEFFICIENT SOLUTIONS



**N. Suresh Kumar**  
Founder



**Dr. K. Kavitha**  
Founder



**Dr. B. Sridevi**  
Founder

Received a fund of Rs.9.75 Lakh by MSME on a Project titled "Redpal-A Wristwatch Based Assistance For Old Age People"

MSME Number : UDYAM-TN-32-0019888

VELAMMAL COLLEGE OF ENGINEERING AND TECHNOLOGY (Autonomous), Madurai





## DIVERSIFIED SOLUTIONS

**OBJECTIVES**

To Promote Research and Development activities on Signal Processing.  
To Provide Services for clients need on capacity, channel estimation, Beam framing, synchronization, MIMO etc technologies.

**MISSION**

To render global service in signal processing driven by our passion for innovation.

**VISION**

To be leaders in customer satisfaction, employee empowerment, and to serve with dignity.



**Mr. A. SUBAN**  
PRESIDENT & FOUNDER



**Mr. M. VIGNESHWARAN**  
VICE PRESIDENT



**Mr. S. S. AATHITHYA NILAVAN**  
CHIEF EXECUTIVE OFFICER



**Mr. M. G. PRASANNA VENKATESH**  
CHIEF FINANCIAL OFFICER



**Mr. S. VASANTH**  
MANAGING DIRECTOR



**Mr. S. HARSHAN**  
CHIEF R&D OFFICER

VELAMMAL COLLEGE OF ENGINEERING AND TECHNOLOGY (AUTONOMOUS), MADURAI



## MULTIPLEXING TECHNOLOGIES

Velammal College of Engineering and Technology (Autonomous), Madurai





**Mr. A. Suban**  
Founder & Director



**Mr. V. Veera Pandi**  
Chief Executive Officer



**Mr. P. Gopinath**  
Chief Operation Officer

**MISSION**

To be a strategic partner of global hi-tech product manufacturers for co-creating new generation technology products. Provide innovative and leading-edge technology solutions throughout the product lifecycle.

**VISION**

To be a reliable Embedded Solutions Partner of leading Global Players in Infotainment, networking and industrial automation domains.

**OBJECTIVE**

To be a strategic partner of global hi-tech product manufacturers for co-creating new generation Technology product. To provide innovative and leading edge technology solutions throughout the product life cycle.



**Mr. B. Surya**  
Chief Technology Officer



**Mr. K. Vishal**  
Board of Directors



**Mr. D. Sathish Kumar**  
Board of Directors



# VCET START-UP



## NEOFINITY SOLUTIONS

NEOFINITY SOLUTIONS

### VISION AND MISSION

- To create unique and innovative Healthcare Solutions in Neonatal Unit
- To develop life saving devices in Neonatal care

### OBJECTIVES

- To design and develop wearable biomedical devices.

VELAMMAL COLLEGE OF ENGINEERING AND TECHNOLOGY  
(AUTONOMOUS), MADURAI



Ms.S.Shivani Suvatheka  
Managing Director



Mr.A.Al Mohamed Bilal  
Director of Administration



Mr.A.Vishal Jonathan  
Director of Operation



Dr.P.Karthikeyan  
Advisor-R&D

# VCET START-UP



## GREEN HEAL TECHNOLOGIES

### VISION AND MISSION

- To make a positive impact on society and the environment.
- To continually innovate and build a strong brand that is well-recognizable and well-regarded by customers.
- To attract and retain customers through excellent customer service and high-quality products and services.

### OBJECTIVES

- To develop projects based on Embedded systems to aid assistance to clients and provide solutions to the challenges faced by them.
- To ultimately become successful and have a sustainable business that provides values to its customers.

VELAMMAL COLLEGE OF ENGINEERING AND  
TECHNOLOGY (Autonomous), Madurai



Mr.T.J.ARWIN  
PARASU  
PRESIDENT



Mr.L.VINOTH KUMAR  
ADVISOR(TECHNOLOGY DEVELOPMENT)



Mr.A.THANASEELAN  
CHIEF EXECUTIVE OFFICER



Mr.S.NITHIN NARAYANAN  
DIRECTOR OF OPERATIONS



Mr.J.JAGAPRATHABAN  
DIRECTOR OF MARKETING

# VCET START-UP



## VITALSENSE

### VISION AND MISSION

"To empower individuals to take control of their health and improve their overall well-being through innovative and accurate health monitoring technology, education and personalized guidance."

### OBJECTIVES

- Develop and market cutting-edge health monitoring devices that are accurate, easy-to-use, and affordable.
- Invest in research and development to stay at the forefront of health monitoring technology.

VELAMMAL COLLEGE OF ENGINEERING AND TECHNOLOGY  
(AUTONOMOUS), MADURAI



Mr.V.Karthick  
Director



Mr.N.S.Raaja Kartikeya  
Director of Operations



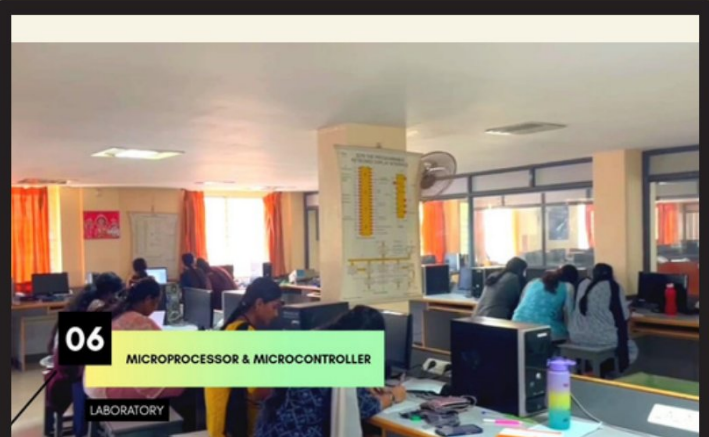
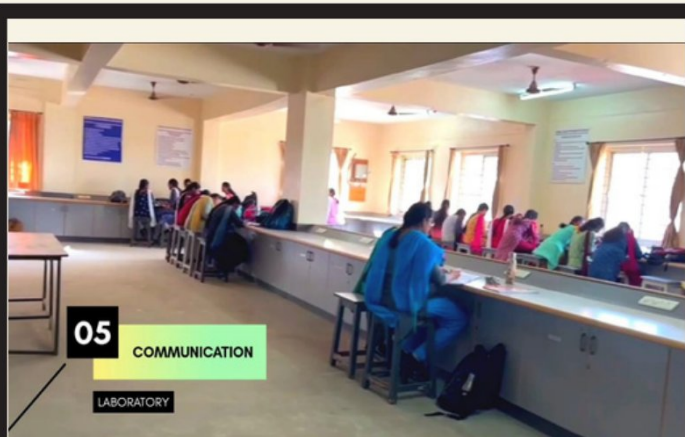
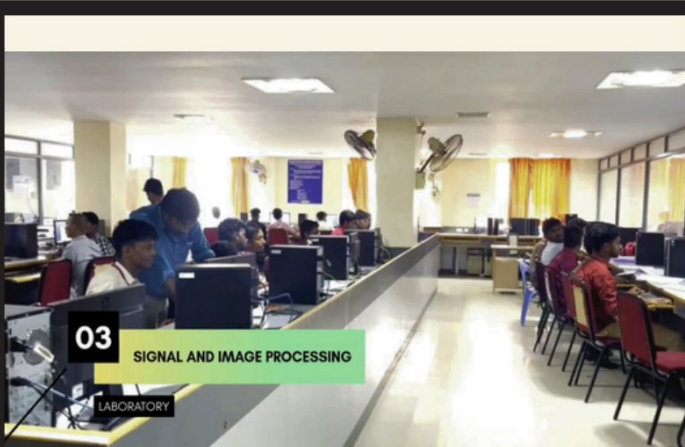
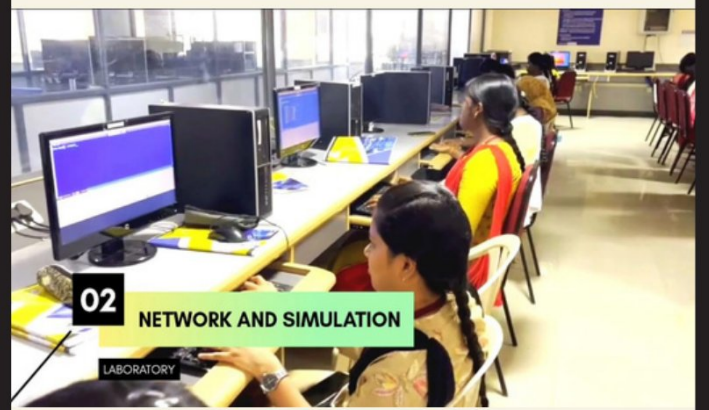
Ms.S.Ammu Nishitha  
Managing Director



Mr.S.Dinesh  
Executive Officer



# ECE LABORATORIES





## NEW RESEARCH LAB      **COMRAD LAB**

The Department of Electronics and Communication Engineering of Velammal College of Engineering and Technology (VCET) Signed Memorandum of Understanding (MoU) with COMTEK Scientific Instruments, Bangaluru for Research and Consultancy Project collaboration On 30.12.2021. As a part of MoU signed, COMRAD [COMTEK Sponsored Research and Development] LAB equipped with devices worth of Rs. 15 Lakhs was established and inaugurated jointly by Hon'ble Vice-Chairman of Velammal Educational Trust Shri. Ganesh Natarajan, Director of COMTEK Scientific Instruments Shri. S. Jayakumar & The Principal of VCET Dr. N. Suresh Kumar. The Programme was convened by Dr. S. Vasuki, Dean (Student Affairs) & Head/ECE and Coordinated by Mr. A. Suban, Assistant Professor/ECE. Also, a research dialogue was delivered by Shri. S. Jayakumar, where various research methodologies on UV VIS NIR Spectroscopy based measurements of absorbance and transmittance fluorescence and its real time applications was addressed by him. Besides, heads of various departments & Deans, learned faculty members interacted with him and ways of commercializing their developed prototype with proper validation in the market was discussed.



## **AVIAN AEROSPACE**

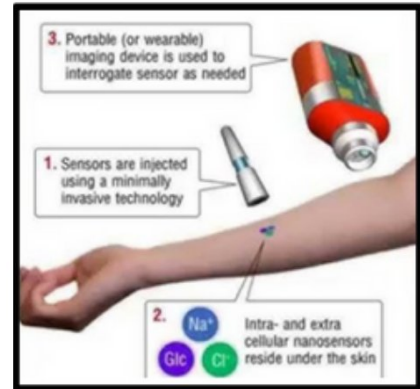
Avian Aerospace Company Funded more than 10 Lakhs. The research works on unmanned system of ROV, Drones, Ornithopter, surface vehicle, Bots and etc. This company is Providing Internship for the students every year. It Conducted 3 national level workshop and created knowledge thrust among students on unmanned systems. It was funded for 2 projects with of 3 lakhs during 2015 and 30k during 2023. Along with VCET applied more than 15 proposals to the funding agencies and with the help of Avian aerospace, college has received 3 funded projects from DST & MSME worth of 65 Lakhs. Avian Aerospace is Training the faculties by providing internship in their company and also given an offer to our Student from 2023 batch. Avian aerospace is having regular tie up with VCET for carrying R&D works





# **FACUTY ARCADE**

## **NANO SENSORS**



Nano sensors have emerged as a transformative technology in the field of VLSI, which involves the process of creating integrated circuits by combining thousands of transistors into a single chip. The integration of nano sensors in VLSI systems promises significant advancements in performance, energy efficiency, and functionality, paving the way for innovative applications in various sectors such as healthcare, environmental monitoring, and electronics.

### **MINIATURIZATION AND PRECISION**

Nano sensors, due to their extremely small size, can be integrated into VLSI circuits with minimal impact on the overall footprint of the chip. This miniaturization allows for more sensors to be embedded within a single chip, enabling highly precise monitoring and control of various parameters such as temperature, pressure, and chemical composition at the nanoscale. This precision is crucial in applications requiring high sensitivity and accuracy.

### **ENHANCED PERFORMANCE AND EFFICIENCY**

The integration of nano sensors into VLSI systems can lead to enhanced performance and efficiency. For instance, temperature sensors at the nanoscale can provide real-time thermal management, optimizing the performance of the chip by preventing overheating and reducing power consumption. Similarly, nano sensors can monitor electrical characteristics such as voltage and current with high accuracy, facilitating better power management and extending the lifespan of the chip.

## **APPLICATIONS**

### **HEALTH MONITORING**

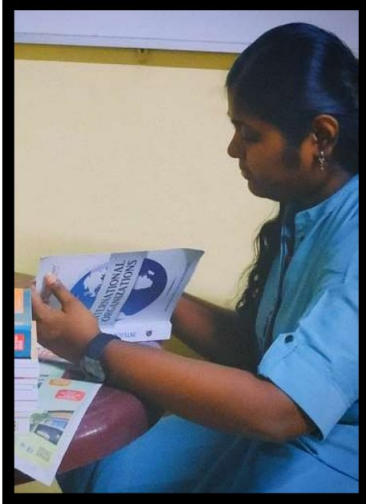
Nano sensors in VLSI enable continuous health monitoring by being integrated into wearable or implantable devices to track vital signs like heart rate and glucose levels. This real-time data, processed by VLSI circuits, enhances patient care with timely alerts and personalized diagnostics.

### **ADVANCED ELECTRONICS**

Nano sensors boost advanced electronics by enhancing gesture recognition, motion sensing, and biometrics in consumer devices, while improving precision monitoring in industrial automation and signal processing in telecommunications, driving next-gen technologies.

-DR.P.SUVEETHA DHANASELVAM,  
PROFESSOR,  
DEPARTMENT OF ECE

# ALUMNI CORNER



**Subashi S, B.E.,  
UPSC Aspirant**

Helo everyone, I'm Subashi, one among the 'Corona Batch' of 2020-2024, embarked on a unique odyssey, our college journey painted with the hues of a global pandemic. The initial allure of online classes gave way to an aching nostalgia for the vibrant campus life. Yet, amidst the challenges, our Electronics and Communication department stood as a beacon of innovation and camaraderie. A crucible of intellect and creativity, our department nurtured a spirit of exploration. From the electrifying energy of workshops, Competitions and symposia to the quiet contemplation of NPTEL courses, SIH, MSME our experiences were as diverse as they were enriching. The ECE Association was our second home, and the hallowed halls of our laboratories, our sanctum for knowledge and memories (labuh dhane).hrough laughter, tears, and tireless pursuit, I discovered strengths I never knew I possessed. The bonds forged here are as enduring as steel, and the mentors who guided us are stars that continue to illuminate our PAtHs. I am a product of their nurturing care, and for that, I am eternally grateful. This institution is more than a college; it's a haven where dreams take flight. The values instilled within these walls are the bedrock of my aspirations to serve the nation. To the budding engineers who follow in our footsteps, I urge you to savor every moment, to embrace challenges as opportunities, and to let your spirits soar. Your college years are a canvas upon which to paint a masterpiece of memories. Thank you.

Hi everyone,

I'm Vigneshwaran M, and I graduated in 2024 with a major in Electronics and Communication Engineering (ECE). Now, I'm channeling my creativity as a UI/UX Designer at Maghil Technologies. I believe that I was the only UI/UX designer in my batch. While many of my peers were focused on coding and similar tasks, I was drawn to the creative process of designing. What started as a relaxing hobby during my college days eventually evolved into a passion and now my profession. My college experience played a crucial role in shaping both my professional and personal development. The faculty members in the department taught me invaluable skills and values that I carry with me today. One of the most memorable aspects of my college days was the time I spent outside the classroom, particularly in the office of my project guide, Mr. A. Suban. More than just a mentor, he became a well-wisher and a brother-like figure who supported me throughout my journey. I am also grateful to all the faculty members, their support and guidance have been instrumental in my growth and success. To current students, my suggestion is simple: don't pursue a path you don't love or that feels burdensome. Instead, seek out what brings you joy and relaxation, and consider how you can turn that passion into a profession. Thank You.



**Vigneshwaran M, B.E.,  
UI/UX Designer,  
Maghil Technologies**



# **VIDEO EDITORS**

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# **WEBSITE EDITORS**

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# MAGAZINE EDITORS

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## CHIEF EDITORS

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**Dr.S.Vasuki,**  
Dean (R&D) & Head/ECE

**Mr.A.Suban,**  
Asst.Professor/ECE

**Ms.Alaimahal,**  
Asst.Professor /ECE