

POWER VISION

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

MAGAZINE

**Transforming Ideas into
Powerful Realities!**

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**Kongunadu College of Engineering and Technology
(Autonomous)**

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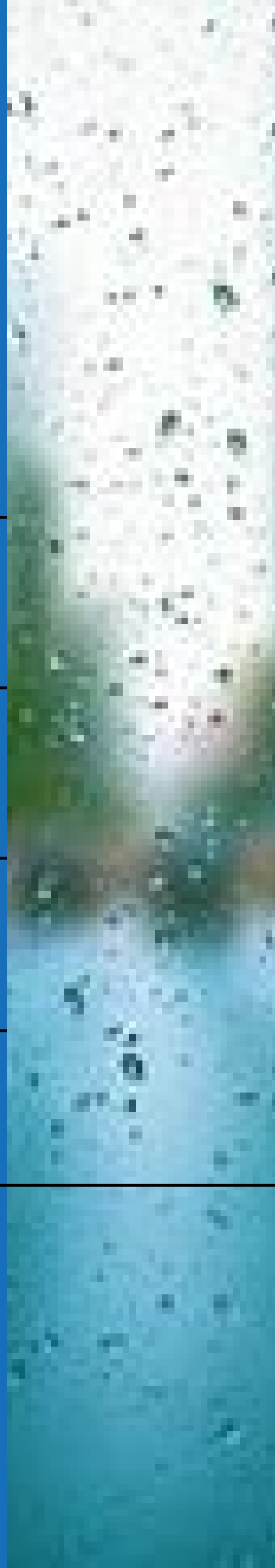
THE PULSE OF THE MOMENT

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NON-TECH

Discovering New Horizons: A Glimpse into Power Vision



Preface

Welcome to Power Vision – Your Gateway to the Dynamic World of Power Engineering! In this premier edition, we invite you to embark on a captivating journey through the electrifying landscapes of innovation, sustainability, and excellence within the realm of power engineering.

Power Vision is not just a magazine; it's a testament to the transformative power of electricity in shaping our world. From cutting-edge technologies to visionary projects, each page is meticulously crafted to inspire and inform, showcasing the latest advancements and trends in the field.

Join us as we explore the forefront of power engineering, uncovering the groundbreaking research, impactful initiatives, and remarkable achievements that are driving progress and shaping the future of energy. Whether you're a seasoned professional, an aspiring engineer, or simply a curious mind eager to learn, Power Vision promises to enlighten and empower.

So, immerse yourself in the illuminating world of power engineering with Power Vision as your guide. Let us ignite your curiosity, spark your imagination, and empower you to make a difference in the electrifying journey ahead. Welcome to Power Vision – where the future of power awaits!

MICROGRIDS AND DISTRIBUTED ENERGY SYSTEMS



The global energy sector is undergoing a transformation due to the rising demand for energy and the need to reduce greenhouse gas emissions. Decentralized energy solutions using renewable energy sources offer an effective way to address these challenges. Distributed Energy Resources (DER), installed close to consumers, improve energy efficiency and security by balancing power supply and demand. By analyzing load profiles, energy systems can be optimized for different regions, from small communities to large metropolitan areas.

A key innovation in decentralized energy is the microgrid, a self-sustaining electrical network that can function independently or in connection with the main grid. Microgrids use renewable energy, energy storage, and advanced control systems to ensure stable power supply. They enhance grid resilience by providing backup power during outages and enabling electricity access in remote areas. This is especially beneficial for off-grid hotels, mining sites, military bases, hospitals, and areas with unreliable electricity supply.

Microgrids stabilize the main grid, reduce transmission losses, and support renewable energy integration. Their ability to store energy makes them a reliable solution for fluctuating sources like solar and wind power. With expertise in metering, inverter/converter technologies, and energy storage, we provide turn-key microgrid solutions and components to ensure reliable, efficient, and sustainable energy distribution.

Sridhar R
IV YEAR

1

IV BAG MONITORING AND ALERT SYSTEM BASED ON THE INTERNET OF THINGS

Intravenous (IV) drip monitoring systems play a crucial role in healthcare by ensuring the safe and effective administration of fluids and medications to patients in hospitals, clinics, and home care settings. Traditional IV drip systems require manual supervision, which can be challenging for healthcare providers due to their busy schedules. A common issue arises when the IV bottle runs out without immediate replacement, leading to potential risks such as reverse flow, dehydration, or incorrect dosage. To address this, smart IV drip monitoring systems have been developed to automate the process and enhance patient safety.

These systems incorporate sensors to track critical parameters like fluid level, flow rate, and infusion time. The data is then transmitted wirelessly to a cloud server or mobile application, allowing healthcare professionals to remotely monitor IV status. Additionally, automated alerts notify nurses or caregivers through alarms, notifications, or text messages when intervention is needed. The system is built using components such as load cells, ESP32 microcontrollers, buzzers, LCD displays, and Blynk software.

The primary advantages include real-time monitoring, error reduction, and improved patient safety. It allows medical staff to oversee multiple patients from a centralized location, minimizing risks like low fluid levels or blockages. The system is particularly useful in large hospital wards and remote healthcare facilities. In conclusion, smart IV drip monitoring systems enhance patient care by ensuring timely medication delivery, reducing human error, and providing better management of intravenous therapy.

Let me know

Harish M
III YEAR

AI-DRIVEN GRID MANAGEMENT: THE FUTURE OF POWER DISTRIBUTION

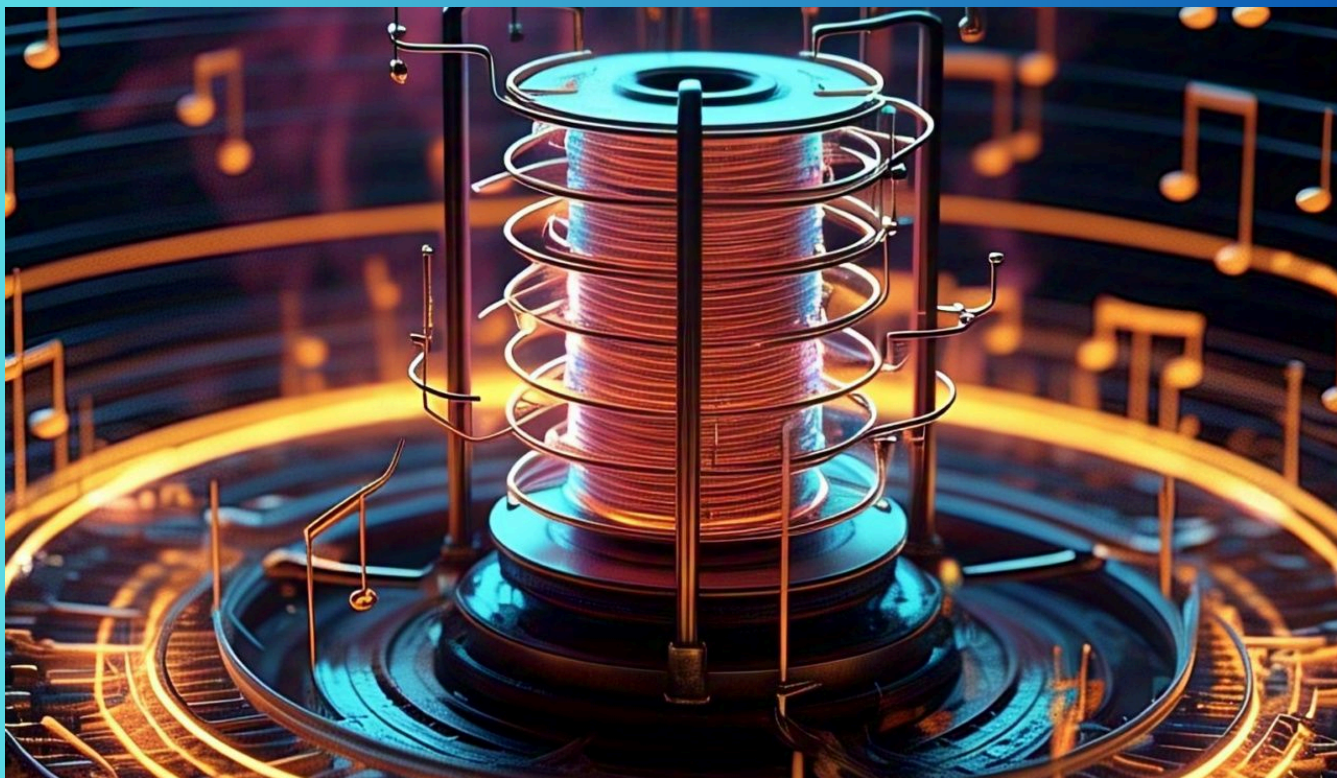


The tiny light-emitting diodes (LEDs) in LED bulbs have revolutionized the way we illuminate our homes and businesses. These compact diodes are much more efficient at converting electricity into light than traditional light bulbs. Incandescent bulbs, which rely on a filament to produce light, are significantly less efficient, requiring about four times more electricity to generate the same amount of light as an LED. This stark difference in energy consumption translates into substantial savings on electricity bills over time.

Beyond energy efficiency, LED bulbs also have impressive longevity, meaning you won't have to replace them as frequently. While their initial purchase price can be higher than traditional bulbs, the long-term savings are substantial. Considering the reduced need for replacements and the significant reduction in energy usage, LED bulbs can save you around 90% compared to the more frequent purchase and operation of regular incandescent bulbs. This makes LEDs both a sustainable and economically wise choice, offering immediate and long-term financial benefits.

Pooja S
III YEAR

MUSIC TESLA COIL PLASMA ELECTRIFYING SOUND AND LIGHT



A Music Tesla Coil Plasma is a high-voltage Tesla Coil modified to produce sound and music by modulating its electrical discharge. Unlike traditional speakers, it generates audio by controlling the frequency of electrical arcs, creating plasma-based sound waves. This is achieved using pulse-width modulation (PWM) or interrupters to control the arc's vibration frequency, allowing it to play musical notes.

These coils are often used in science exhibits, concerts, and entertainment shows, producing both electrical arcs and synchronized music. The plasma arcs not only generate sound but also create stunning visual effects, making them a fusion of science, engineering, and art.

Music Tesla Coils demonstrate the potential of wireless energy and plasma physics while offering a unique way to experience sound. Despite their mesmerizing performance, they require careful handling due to high-voltage risks, making safety measures essential during operation.

Adhiathya A

II YEAR

4

HEAD TRANSPLANT

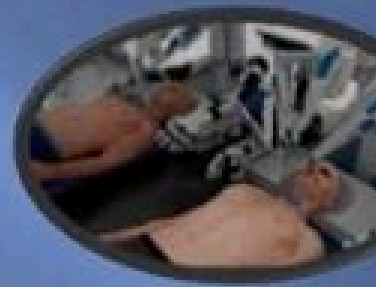
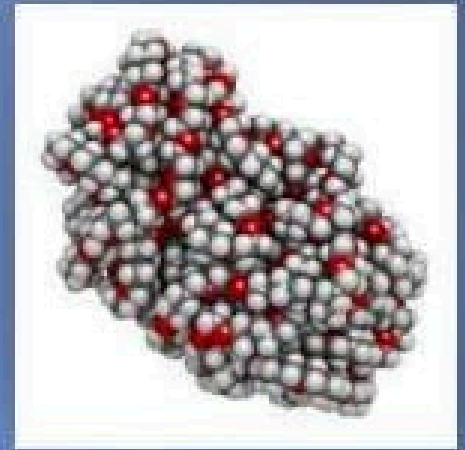
POSTER

AI ROBOT HEAD TRANSPLANT

The concept uses artificial intelligence (AI) and robotics to transplant a patient's head onto a healthy donor body. The procedure is intended to help patients with terminal illnesses, neurodegenerative diseases, and paralysis.

HOW IT WORKS

The procedure uses AI algorithms and real-time molecular-level imaging to precisely reconnect the nerves, spinal cord, and blood vessels. High-speed robotic systems to prevent brain cell degradation and ensure compatibility. Polyethylene glycol (PEG) to help "glue" the spine back together. The procedure involves a four-week induced coma to allow the transplant sites to heal.



BENEFITS

The procedure aims to improve quality of life and speed up recoveries. The procedure improves functionality and aesthetic appearance. The procedure could help patients with paralysis recover using a brain-computer interface.



USING AI ROBOTS

Polyethylene glycol (PEG) has been proposed as a potential aid in head transplants, particularly in the critical challenge of spinal cord fusion. PEG is a biocompatible polymer that has shown promise in medical applications for nerve repair due to its ability to promote cellular fusion and reduce nerve damage.

CHALLENGES & ETHICAL CONSIDERATIONS

- ❖ Spinal Cord Fusion
- ❖ Rejection Risks
- ❖ Psychological Effects
- ❖ Ethical Concerns

CONCLUSION

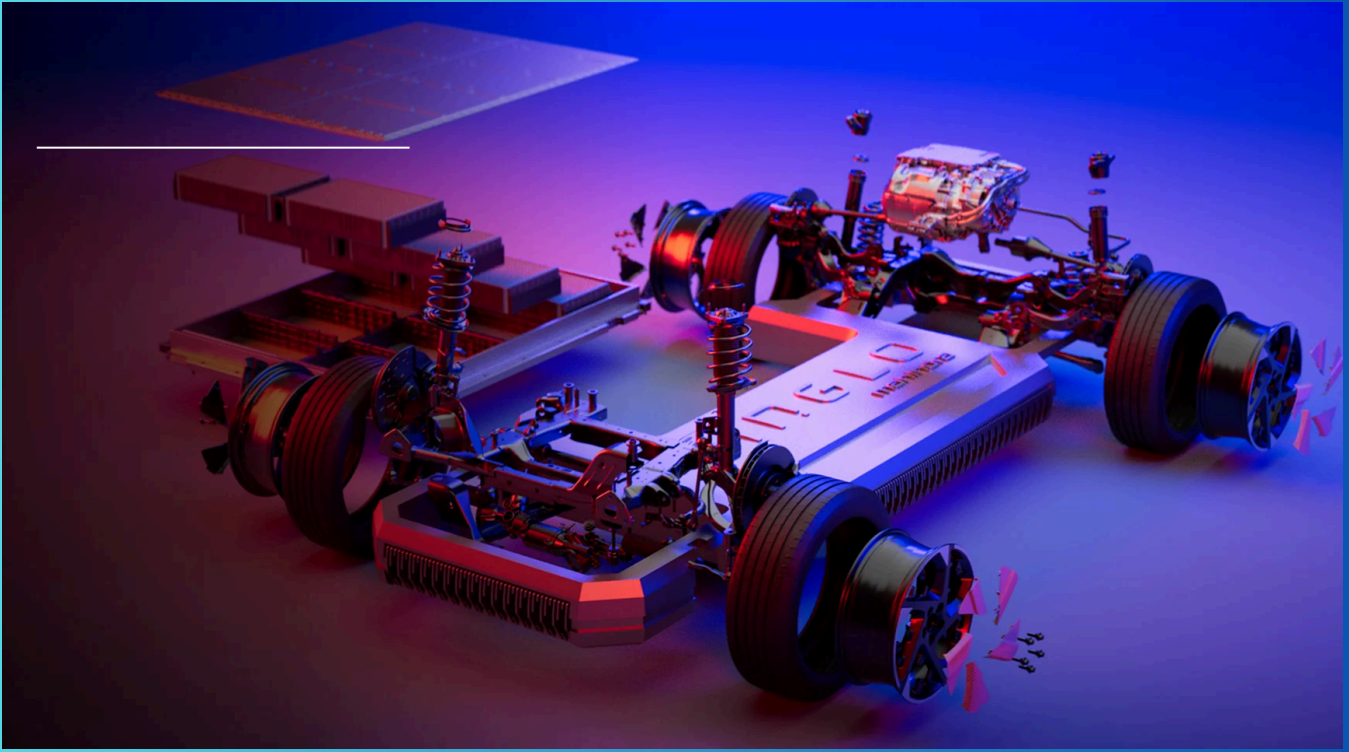
While still in the realm of theoretical and experimental science, AI-driven robotic systems could enhance surgical accuracy, reduce human error, and improve patient outcomes in complex procedures like head transplants.

Harisha M
III YEAR

THANK YOU

outcomes and speed could help restore appearance. The communicate during interface chip.

INGLO Platform in Electric Vehicles (EVs)



The INGLO platform is a groundbreaking solution designed to transform Electric Vehicles (EVs) by integrating modular architecture, AI-driven energy management, and advanced battery systems. This platform offers scalability that supports a wide range of EV types, allowing manufacturers to efficiently produce various models with minimal adjustments. A key feature is the AI-based Battery Management System (BMS), which continuously monitors the battery's health, ensuring optimal performance and longevity while supporting solid-state batteries for improved energy density and faster charging.

The platform also incorporates wireless charging and ultra-fast DC charging technologies, drastically reducing downtime for EVs. It enables vehicle-to-grid (V2G) capabilities, allowing EVs to feed electricity back into the grid, promoting energy efficiency and sustainability. Additionally, regenerative braking and renewable energy integration further enhance the environmental benefits of EVs.

By combining cutting-edge technology with a focus on sustainability, the INGLO platform is positioned to revolutionize the future of electric mobility. It offers manufacturers an innovative solution to streamline production while ensuring consumers experience reliable, eco-friendly, and efficient electric vehicles, contributing to a cleaner, greener transportation future.



SOUFUL LINES

மனம் மகிழ்ந்த ஆசிரியருக்கு

விண்ணைத் தாண்டி சொர்க்கம் சேர வைத்தாய்
அந்த சொர்க்கத்தில் சுற்றுலா பயணிக்க
வைத்தாய்
இரவில் தூங்கும் பொழுது ஆயிரம் ஜன்னல்
வைத்து
நிலவை ரசிக்க வைத்தாய் இன்னும்
பலவோ.....!!!!
எத்தனை இன்பம்
எத்தனை அன்பு
எத்தனை மகிழ்ச்சி
எத்தனை அரவனைப்பு
எத்தனை ஆலோசனை
உன்னால் சுவாசித்த நாட்கள் சில ஆனால்
இன்றும் கூட பல...
என் இரவில் நில ஒலி தோன்றி ஒலிக்குதடி...!!
என் தனிமையில்.....
உன் சொற்களைக் கண்டு மனம் மகிழுதடி....
பித்து பிடித்து என் மனம்முட்கள் துடிக்குதடி....
பிரிய மனம் இல்லாமல் தவிக்குதடி.....
ஒரு நாள் நீ வரவில்லை என்றாலும்.....!!!!
உன் பணிகள் கேள்வி கேட்குதடி காரணம்
இல்லாமல் இறுதியில் தவிக்குதடி....

வாழ்க்கை

வாழ்க்கை ஒரு ஓரமின்றி ஓடும்
நதியாய்,
அந்தரங்கமும் வெளிப்புறமும்
இசையும் ஓசையாய்.
நினைவுகளின் படிமம், நாட்களின்
சிறகு,
கண்ணீர் தரும் நேரங்களில்,
நகைச்சுவையும் இன்பம் கூடும்.
உதயத்தில் புதுமுகம் காண, இரவில்
சிந்தனை,
உறவுகள் தோற்றம், வெற்றியில்
நிலைப்பாடு.
சோதனைகள் கடந்து, வலிமை பெறும்
மனம்,
இனிய வாழ்க்கை வருகையில்,
இழப்புகள் குணமாகும்.
வெற்றியும் தோல்வியும் ஒரே
பயணத்தில்,
எல்லா வழிகளும் செல்லும் திசைகள்
மூன்றே.
அதிகம் கற்றால் மகிழ்ச்சி, அன்பில்
வாழ்ந்தால் அமைதி,
வாழ்க்கை சாகசமாய், சுகமும்
துன்பமும் அஞ்சலியில்

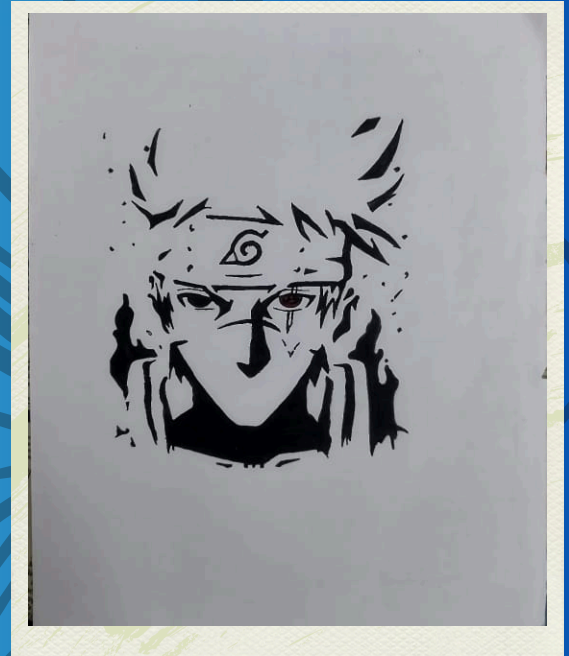
Kishaa
III YEAR

Bhuvanesh
II YEAR

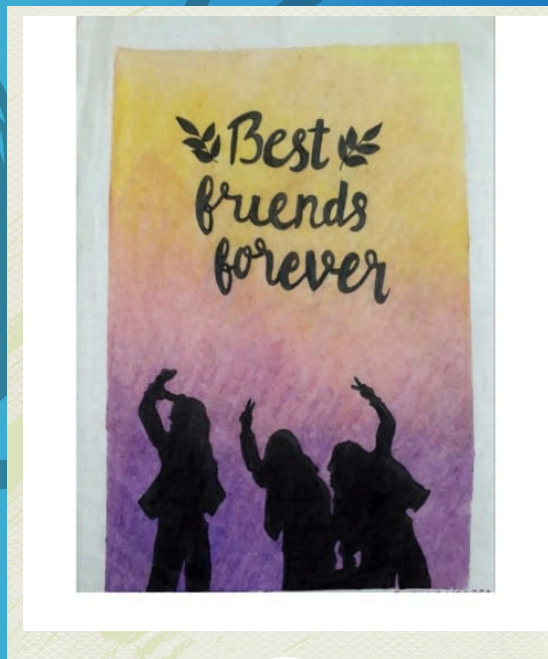
ELEGANT STROKES



Harish
III YEAR

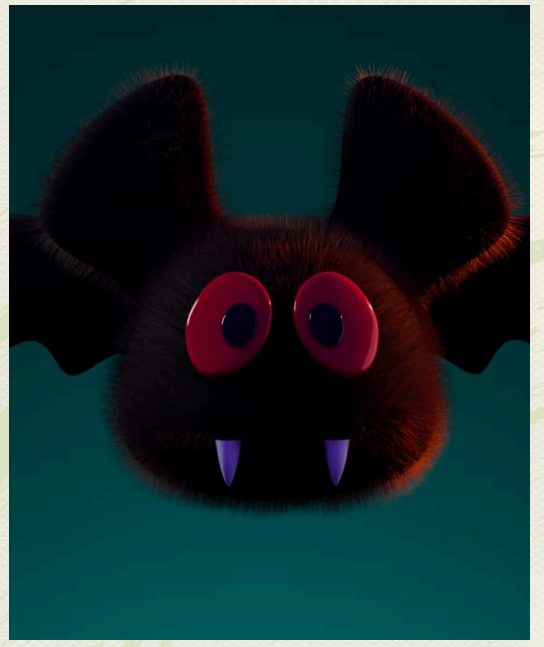


Santhosh kumar
III YEAR



Sona
III YEAR

ELEGANT STROKES



Akilan
III YEAR



Kishaa
III YEAR



Dharshana
III YEAR

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College Vision & Mission

VISION

“To become an Internationally Renowned Institution in Technical Education, Research, and Development by Transforming the Students into Competent Professionals with Leadership Skills and Ethical Values.”

MISSION

- **Providing the Best Resources and Infrastructure.**
- **Creating a Learner-Centric Environment and Continuous -Learning.**
- **Promoting Effective Links with Intellectuals and Industries.**
- **Enriching Employability and Entrepreneurial Skills.**
- **Adapting to Changes for Sustainable Development.**

Department Vision & Mission

VISION

“To be a pioneer in Electrical and Electronics Engineering and to create electrical engineering experts with social responsibilities, for global industry needs.”

MISSION

- **To facilitate the student's continuous learning with the best infrastructure and environment.**
- **To provide the students with skills, knowledge, and opportunities to function as members of multi-disciplinary teams.**
- **To Empower the students towards popular needs of industry, research, and development**
- **To enable the students to learn ethics, values and contribution to the society.**