NEWS LETTER

2022 ISSUE 2

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VISION

To develop professionally competent electrical and electronic engineers having innovative skills and capabilities to work ethically in consonance with technological demands and developments of industry and society

MISSION

- To provide state–of–art resources that contributes to achieve excellence in teaching, learning and development.
- To mould Electrical Engineering professionals in synchronization with the dynamic industry requirement.
- To inculcate ethical education capable of fostering societal responsibilities.
- To enhance creative abilities, leadership skills and entrepreneurial spirit by facilitating interaction with industry

As one of the first few departments to be set up in the year 1958, the Electrical and Electronics Engineering Department offers a diploma certificate for students who complete the course. The three years' course is designed to provide a broad foundation in electrical and electronics engineering and its different applications such as the generation, storage and distribution of electricity, semiconductor technology, biomedical applications, industrial automation… digital media, and computer aided drafting.

The students are encouraged to become practically skilled through hands-on training in the laboratories designed for the purpose. The courses are also designed to enhance practical experience by collaborating with leading industries. The laboratories designed for the purpose of training students are state of the art and facilities are upgraded frequently so that they provide the right ambience for the students to move in tandem with the latest technologies.

EEE BULLETIN

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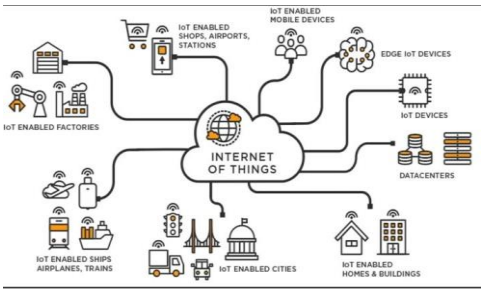
INTERNET OF THINGS(IOT) APPLICATION IN ELECTRICAL ENGINEERING

The Internet of Things (IoT) is revolutionizing the field of electrical engineering by integrating sensors, actuators, and communication technologies to create intelligent systems capable of monitoring, analyzing, and controlling various electrical devices and processes. In recent years, IoT applications have proliferated across numerous industries, offering unprecedented opportunities for innovation and efficiency in electrical engineering.

SMART GRID MANAGEMENT

IoT-enabled smart grid systems facilitate real-time monitoring and management of electrical grids, optimizing energy distribution, reducing losses, and enhancing reliability. Smart meters, equipped with IoT sensors, enable utilities to collect detailed consumption data and implement demand-response strategies to balance supply and demand.



IOT SMART GRID

SMART CONNECTION OF ANDROID

SMART BUILDING AUTOMATION

IoT technologies enable the integration of electrical systems within buildings to create smart environments that enhance comfort, safety, and energy efficiency. Automated lighting, HVAC, and security systems can be controlled remotely and adapt to occupancy patterns and environmental conditions in real-time.

REMOTE MONITORING & CONTROL

IoT-enabled remote monitoring and control systems empower electrical engineers to remotely monitor and manage equipment and processes from anywhere with internet connectivity. This capability improves operational efficiency, reduces travel costs, and enables rapid response to critical events. While IoT applications offer significant benefits, they also present challenges related to data security, privacy concerns, interoperability, and scalability. Electrical engineers must address these challenges through robust cybersecurity measures, standardized communication protocols, and scalable infrastructure designs.

In conclusion, IoT applications are transforming the landscape of electrical engineering, offering unprecedented capabilities for monitoring, control, and optimization across diverse domains. As the IoT ecosystem continues to evolve, electrical engineers play a pivotal role in harnessing its potential to drive innovation, sustainability, and efficiency in electrical systems and processes.

PREDICTIVE MAINTENANCE

IoT sensors embedded in electrical equipment can monitor performance parameters in real-time, enabling predictive maintenance practices. By analyzing data trends and detecting anomalies, maintenance interventions can be scheduled proactively, minimizing downtime and reducing operational costs.

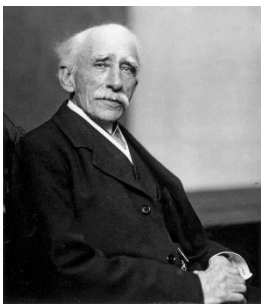
ENERGY MANAGEMENT SYSTEM

IoT-based energy management systems offer consumers and businesses granular insights into energy consumption patterns and facilitate informed decision-making to optimize energy usage. These systems enable load monitoring, energy efficiency improvements, and demand-side management initiatives

MEET THE SCIENTIST

JOHN AMBROSE FLEMING

PIONEERING THE VACCUM TUBE DIODE & ADVANCING ELECTRONICS



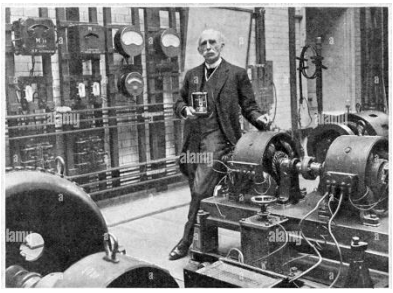
JOHN AMBROSE FLEMING

John Ambrose Fleming is renowned as the inventor of the vacuum tube diode and a pivotal figure in the development of electronics. His contributions have had a profound impact on the field of electrical engineering and have paved the way for numerous technological innovations

THE VACCUM TUBE DIODE

Fleming's most notable achievement is the invention of the vacuum tube diode in 1904. The vacuum tube diode, also known as the Fleming valve, provided a crucial breakthrough in electrical engineering by enabling the conversion of alternating current (AC) to direct current (DC). This innovation laid the foundation for the development of rectifier circuits, which are essential components in power supplies and electronic devices.

THERMIONIC DIODE



FLEMING NEAR WIRELESS DYNAMO

SCIETIFIC CONTRIBUTIONS

He authored numerous textbooks and academic papers on electrical engineering and electromagnetism, inspiring future generations of engineers and scientists. Fleming's teachings and mentorship helped shape the minds of countless individuals who would go on to make their own contributions to the field of electronics.

LEGACY & INFLUENCE

John Ambrose Fleming's legacy extends far beyond his individual achievements. His pioneering work laid the groundwork for the modern electronics industry and paved the way for subsequent advancements in semiconductor technology and solid-state electronics. The vacuum tube diode remains an important milestone in the history of electrical engineering and continues to inspire innovation in the digital age.

John Ambrose Fleming's contributions to the field of electronics are testament to his ingenuity, intellect, and dedication to scientific inquiry. His invention of the vacuum tube diode revolutionized electrical engineering and set the stage for the development of modern electronic devices and communication systems.

RADIO COMMUNICATION ADVANCEMENTS

Fleming's work on vacuum tubes significantly contributed to the advancement of radio communication technology. The diode's ability to rectify high-frequency signals allowed for the detection and demodulation of radio waves, leading to improvements in wireless telegraphy and the transmission of audio signals. These developments played a pivotal role in the expansion of telecommunications and paved the way for the advent of broadcasting.

Educator and Author:

Fleming was not only an inventor but also an educator and prolific author. He held several academic positions, including at University College London, where he taught electrical engineering. He authored numerous textbooks on electrical engineering and electromagnetism.

ACHIEVEMENTS

PROFICIENCY IN ACADEMICS

ADARSH NAIR AS

(2020 – 2023)

ABHINAV A

(2021 – 2024)

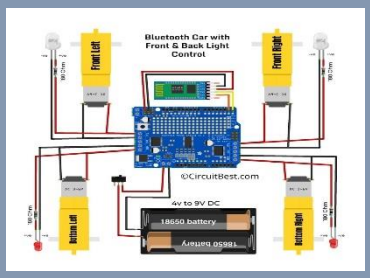
MAJOR EVENTS

VSSC ROCKET LAUNCH EVENT

CIVISTA TECH FEST

CREATIVE SPARK

Arduino Bluetooth control car with Front & Back Lights using Arduino UNO, L293D Motor Driver, HC-05



CIRCUIT DIAGRAM

AMAL M R (S4)

The Arduino Bluetooth-controlled car with front and back lights, powered by an Arduino UNO, L293D Motor Driver, and HC-05 Bluetooth module, epitomizes innovation and functionality in the realm of DIY robotics. This project seamlessly merges the versatility of Arduino programming with the convenience of wireless control through Bluetooth technology.

The Arduino UNO serves as the brain of the operation, executing commands received via the HC-05 Bluetooth module. The L293D Motor Driver facilitates precise control over the car's motors, enabling smooth navigation. Integrating front and back lights enhances both aesthetics and visibility, making the car suitable for various environments, from indoor races to outdoor exploration.

This project not only showcases the potential of Arduino-based robotics but also fosters creativity and learning among enthusiasts of all levels. It underscores the intersection of technology, engineering, and creativity in crafting interactive and engaging DIY projects.