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Vol.03. issue.17 20.03.2024

IGNITE 2024

A DAILY NEWSLETTER

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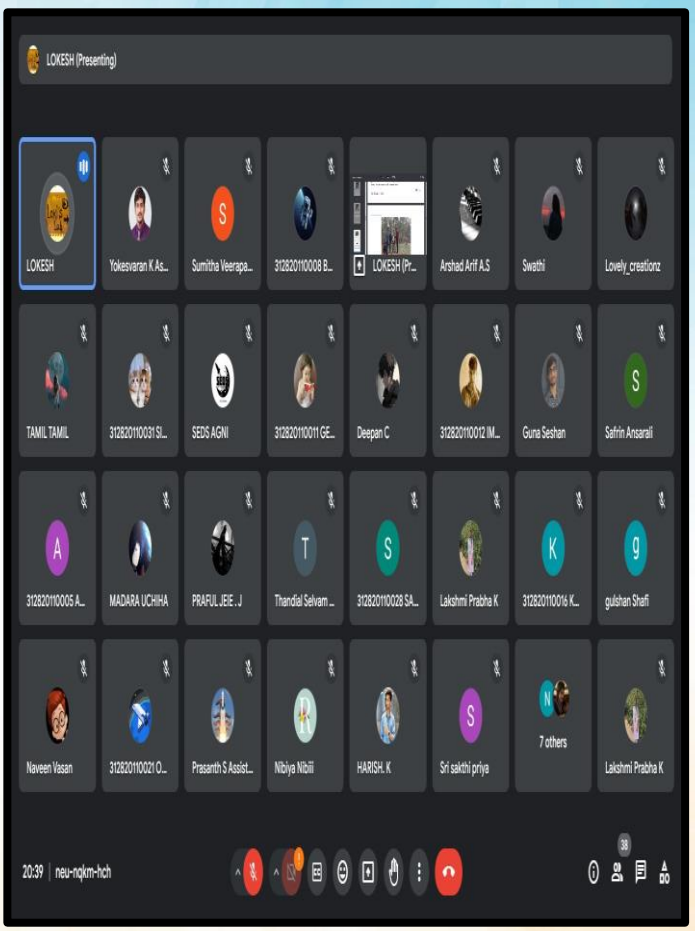
WEBINAR



The Department of Aerospace Engineering has Conducted a Webinar on the topic "**Rocket Propulsion**" on 18th March by **Mr.S.P.Lokesh , Propulsion Engineer , Space Field Private Limited** through the Google Meet platform for students of Aerospace Engineering.

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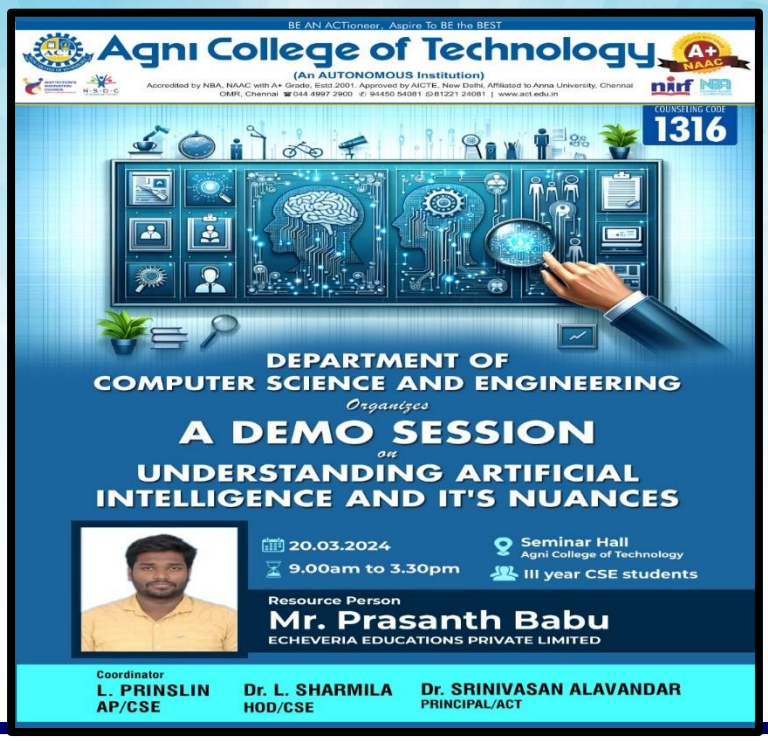
EXTENSION ACTIVITY

On behalf of Agni College of Technology, a two-day workshop on **"Exploring Drone Technology for Communication Engineers"** was conducted by three esteemed faculty members: Dr. M. Balaji Madhavan, Training Head, Mr. T. Thandial Selvam, Assistant Professor, Department of Aerospace Engineering and Mr. K. Ganesh Kumar, Assistant Professor, Department of Mechatronics Engineering at St. Joseph's Institute of Technology, OMR, Chennai, on March 18th and 19th, 2024.

HANDS ON TRAINING



The Department of Computer Science and Engineering has organized a Demo Session and hands on training on **"Understanding Artificial Intelligence and Its Nuances"** coordinated by **Dr. L. Sharmila**, Professor and HoD/CSE, and Mrs. L. Prinslin, Assistant Professor for **III year CSE Students,** on 20th March 2024 conducted in the Seminar Hall, Agni College of Technology**. Mr.Prasanth Babu,** Echeveria Educations Private Limited, encouraged the students to work on the live projects in **Artificial Intelligence.**

GALLERY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AGNI WOMEN LEADERSHIP AWARD 2024
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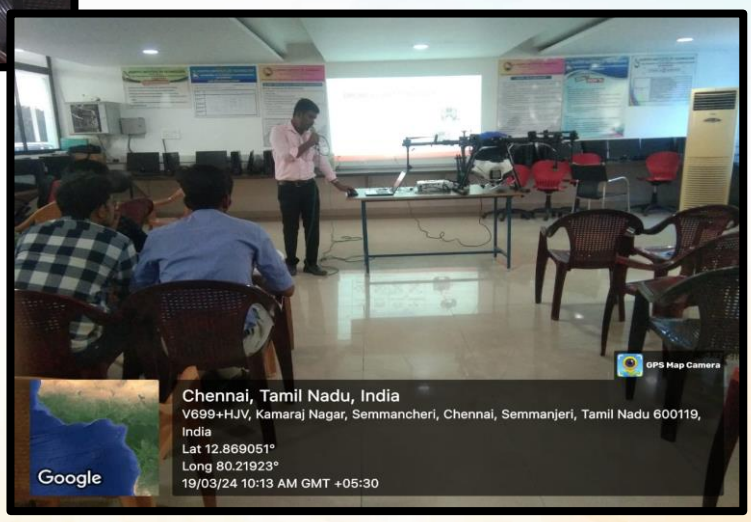
WORKSHOP



Mr.Thandial Selvam , Assistant Professor , Department of Aerospace Engineering, has Coordinated with Garuda Aerospace in Conducting Workshop on "**Exploring Drone Technology for Communication Engineers**" at St. Joseph's Institute of Technology on 18th & 19th March , 2024

PAPER PUBLICATION

IRJMETS

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ANOMALY DETECTION USING FEATURE EXTRACTION IN ECG

Dr. N. Sureka*1, Glazinta Mirabel. S.F*2, Rajalakshmi. M*3, Deepak Raj. J*4, Pranitha. B*5

*1Assistant Professor, Biomedical Department , Agni College Of Technology, Chennai, Tamil Nadu, India.

*2,3,4,5Student, Biomedical Department , Agni College Of Technology, Chennai, Tamil Nadu, India.

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ABSTRACT

The Research suggests a real -time electrocardiogram (ECG) abnormality detection system leveraging the Raspberry Pi microcontroller and AD8232 ECG sensor. Through meticulous feature analysis, the system accurately identifies irregular patterns indicative of cardiac conditions like arrhythmias and myocardial ischemia. Optimized for the Raspberry Pi platform, it offers cost -effective real-time monitoring and diagnosis, enhancing accessibility to cardiovascular healthcare. With the potential for deployment in diver se clinical settings, this innovative system enables timely intervention, promising significant improvements in patient outcomes. Its affordability, scalability, and effectiveness mark it as a valuable tool for healthcare providers, poised to advance cardiovascular healthcare delivery.

Keywords: ECG Abnormality Detection, Feature Analysis, Real-Time Monitoring.

I. INTRODUCTION

Cardiovascular diseases (CVDs) remain a significant global health concern, responsible for a substantial portion of morbidity and mortality worldwide. Timely detection and management of cardiac abnormalities are critical for improving patient outcomes and reducing healthcare burdens associated with CVDs. In recent years, technological advancements have paved the way for innovative solutions in healthcare, particularly in the realm of real-time monitoring and diagnosis. This paper presents a novel approach leveraging the Raspberry Pi microcontroller and AD8232 ECG sensor for real-time electrocardiogram (ECG) abnormality detection. Thro ugh meticulous feature analysis, the system demonstrates remarkable accuracy in identifying irregular patterns indicative of various cardiac conditions, such as arrhythmias and myocardial ischemia. This introduction outlines the significance of the propose d system, its potential impact on cardiovascular healthcare delivery, and its key attributes, including affordability, scalability, and effectiveness in diverse clinical settings.

II. EXISTING SYSTEM

The current landscape of ECG abnormality detection systems p redominantly comprises traditional, stationary setups that rely on bulky hardware and specialized equipment. These systems are typically costly to procure, maintain, and operate, limiting their accessibility, especially in resource-constrained environments. Moreover, the deployment of such systems often necessitates extensive infrastructure and trained personnel, further impeding their widespread adoption.

While there have been advancements in portable ECG devices aimed at addressing the need for more acces sible monitoring solutions, they often compromise on accuracy and reliability for the sake of portability and affordability. These devices may lack sophisticated anomaly detection capabilities or comprehensive diagnostic features, hampering their ability t o accurately detect complex cardiac abnormalities.

Despite these limitations, there is a growing interest in leveraging anomaly detection techniques within ECG monitoring systems. By employing machine learning algorithms and data analytics, these systems a im to identify and classify abnormal cardiac rhythms or patterns indicative of underlying cardiovascular conditions. However, the adoption of anomaly detection approaches in ECG monitoring is still in its nascent stages, with challenges related to algorithm accuracy, interpretability, and real -time implementation.

In summary, while the existing landscape of ECG abnormality detection systems offers some solutions, there are significant limitations regarding accessibility, accuracy, and integration with modern healthcare infrastructure. The incorporation of anomaly detection techniques holds promise for improving the detection and diagnosis of cardiovascular diseases, but further research and development are needed to overcome existing challenges and realize their full potential in clinical practice.

Ms. Glazinta Mirabel, Ms. Rajalakshmi, Ms. Pranitha, and Mr. Deepak Raj IV year students, Department of Biomedical Engineering have successfully published a paper on the title "**Anomaly Detection using Feature Extraction in ECG**" in the International Research Journal of Modernization in Engineering Technology and Science, which was guided by Dr. Sureka N, Head/BME on 3rd March, 2024.

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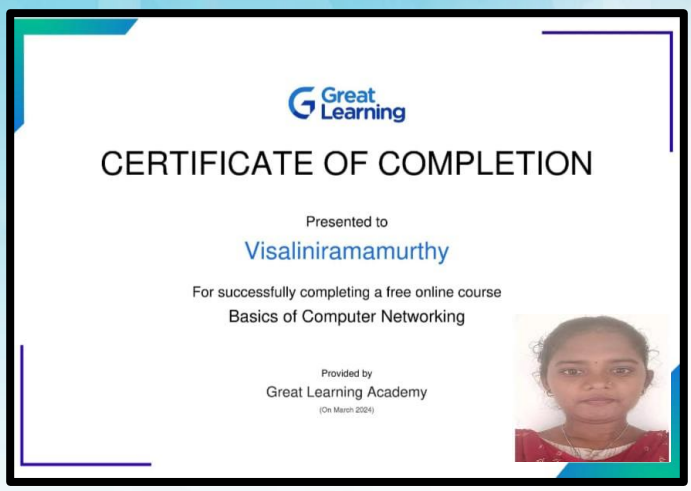
IIC MEETING

Dr. A. Kalaimurugan, IIC President, and **Dr. P. Purushothaman,** IIC Convener, conducted the department **IIC coordinator meeting** to discuss the Innovation Ambassador report submission and idea/prototype submission in the **Yukti portal** on 20th March 2024.

STUDENT PARTICIPATION

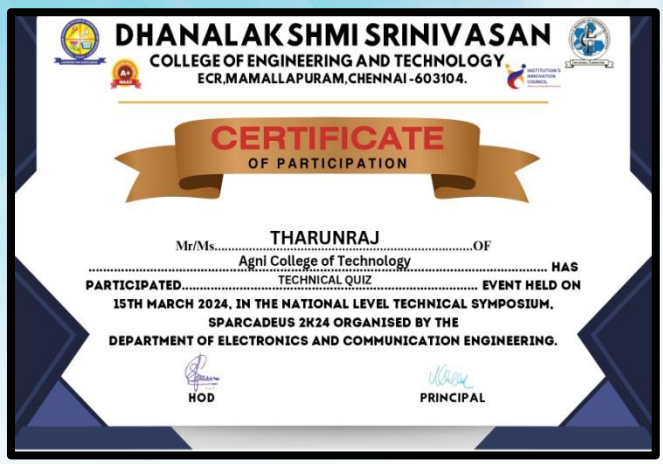
E. Santhosh, Preethi S, and Aravind S, II Year Students, Department of Electronics and Communication Engineering, have successfully completed an online course **"Basics of Computer Networking"** provided by Great Learning Academy on March 2024.

STUDENT PARTICIPATION



R. Visalini, Vignesh S., and Sarukesh, II Year students, Department of Electronics and Communication Engineering, have successfully completed an online course **"Basics of Computer Networking"** provided by Great Learning Academy on March 2024.

STUDENT PARTICIPATION


DHANALAKSHMI SRINIVASAN
COLLEGE OF ENGINEERING AND TECHNOLOGY
ECR,MAMALLAPURAM,CHENNAI-603104.

CERTIFICATE
OF PARTICIPATION

Mr/Ms. THARUNRAJ OF Agni College of Technology HAS PARTICIPATED TECHNICAL QUIZ EVENT HELD ON 15TH MARCH 2024, IN THE NATIONAL LEVEL TECHNICAL SYMPOSIUM, SPARCADEUS 2K24 ORGANISED BY THE DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

HOD PRINCIPAL


DHANALAKSHMI SRINIVASAN
COLLEGE OF ENGINEERING AND TECHNOLOGY
ECR,MAMALLAPURAM,CHENNAI-603104.

CERTIFICATE
OF PARTICIPATION

Mr/Ms. TARUNRAJ G OF Agni College of Technology HAS PARTICIPATED TECHNICAL CONNECTION EVENT HELD ON 15TH MARCH 2024, IN THE NATIONAL LEVEL TECHNICAL SYMPOSIUM, SPARCADEUS 2K24 ORGANISED BY THE DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

HOD PRINCIPAL


DHANALAKSHMI SRINIVASAN
COLLEGE OF ENGINEERING AND TECHNOLOGY
ECR,MAMALLAPURAM,CHENNAI-603104.

CERTIFICATE
OF PARTICIPATION

Mr/Ms. TARUNARAJ G OF Agni College of Technology HAS PARTICIPATED MEME CREATION EVENT HELD ON 15TH MARCH 2024, IN THE NATIONAL LEVEL TECHNICAL SYMPOSIUM, SPARCADEUS 2K24 ORGANISED BY THE DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING.

HOD PRINCIPAL

G. TarunRaj, II Year Student, Department of Electronics and Communication Engineering has participated in various events such as **"Technical Quiz, Technical Connection and Meme Creation"** at Dhanalakshmi Srinivasan College of Engineering and Technology on 15.03.2024.

STUDENT PARTICIPATION

Immanuel Joshua, II year, Department of Computer Science and Engineering, has successfully completed a certificate course on **"Python Pandas"** organized by Great Learning on 19th March 2024.

STUDENT PARTICIPATION

Great Learning

CERTIFICATE OF COMPLETION

Presented to

N.Harshnee

For successfully completing a free online course

Introduction to Information Security

Provided by

Great Learning Academy

(On February 2024)

To verify this certificate visit verify.mygreatlearning.com/HJXSEVSU

Harshnee N, II year, Department of Computer Science and Engineering, has successfully completed a certificate course on **"Introduction to Information Security"** organized by Great Learning on 19th March 2024.

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PROJECT REVIEW - 2

The Department of Electrical and Electronics Engineering had conducted **Second Review** for final year students. It was reviewed by the project coordinator, Ms. Anuja Prashant Diwan, AP-EEE and faculties on 18th March 2024.

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DEPARTMENT MEETING

The Department of Biomedical Engineering conducted their department meeting.Dr. Sureka N, Head and other department faculty members had a discussion on academic performance of students and other future activities of the department, on 20th March, 2024.