ICE ASSOCIATION NEWSLETTER

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EDITOR'S NOTE:

Greetings,

As the editor for the 2021 edition of Sensors newsletter, I am pleased to introduce the latest issue of our newsletter. In this edition, we have included articles and features that highlight the latest research and developments in our very own department and in the field of Instrumentation and Control Engineering.

In this issue, you'll find articles that cover topics such as the papers published by our department, the patents applied, conferences attended and so on. We will also see about the latest trends and developments in our field of Instrumentation and Control engineering. We hope that these articles will be informative and insightful, and that they will inspire you to learn more about the Instrumentation and Control field and motivate you to participate in the future editions of Sensors.

We are always looking for ways to improve our newsletter and provide content that is relevant and useful to our readers. If you have any feedback or suggestions for future topics, please do not hesitate to contact us.

Thank you for your continued support and interest in Sensors.

-Tanaya

VISION AND MISSION:

The department of Instrumentation and Control has always strived for perfection, and this is achieved by following our departments Vision and Mission

Vision:

- To become a world-class centre of excellence in Instrumentation and Control Engineering.

Mission:

- To inspire our students to realise their aspirations and potential through quality education in Instrumentation and Control Engineering.
- To enhance knowledge, create passion for learning, foster innovation, and nurture talents towards serving the society and the country.
- To encourage our faculty and students to keep in pace with the latest technological developments and to pursue research in those areas.
- To enable our students to engage themselves in entrepreneurship and product development for the benefit of the global community.

LIST OF PAPERS PUBLISHED BY DEPARTMENT:

The Department of Instrumentation and Control has garnered a number of breakthroughs in numerous fields related to its domain in the year 2021. Listed below is the gist of a few of the 32 papers published by the department:

1. Performance enhancement and fault identification using Kalman filter in a resistive temperature sensor interface.

2. A graph-theoretic approach for optimizing signalized intersections under connected vehicle environment.

3. Male Breast Cancer: Another Look.

4. Missile longitudinal dynamics control design using pole placement and LQR methods – A critical analysis.

5. A Sensaptic ADAS Device using Shape Memory Alloy Wires.

6. Fine resolution smart force sensor based on lever arm mechanism using shape memory alloy spring.

7. Improving the Prediction Accuracy of Low Back Pain using Machine Learning through Data PreProcessing techniques.

LIST OF WORKSHOPS CONDUCTED BY THE DEPARTMENT:

Our department over the years has always strived toward creating a more hands-on learning experience for anyone imbibed with the passion for expanding knowledge across different domains and to achieve that very aim, the esteemed faculty of the department have conducted several workshops, a few of them being:

1. SPARC Sponsored Online workshop on "Nuclear Energy and Measurement".

2. AICTE Teaching, and Learning Academy (ATAL) sponsored Faculty Development Programme on Instrumentation, Signals and Images for the Evaluation of Physiological Systems

SIGNIFICANT CONTRIBUTIONS BY FACULTY AND STUDENTS

Dr. K. Srinivasan received the Distinguished Alumni award from Anna University, Chennai. One patent was granted to "Low voltage electrowetting-on-dielectric (EWOD) actuation using nanocomposite thin film" technology. Students of the Department won Smart India Hackathon.

PLACEMENT STATS

In the academic year 2020-2021, out of the total of 82 students who went through the placement process, a whopping 77 students cleared the process and have been placed in various core, software, and management roles in top companies, boasting a near 100% placement record for this academic year. The highest package offered has gone up to 32.7 Lakhs per Annum. With more and more students opting for on campus placements, the number of companies that visit our campus and hire our department students are also consistently keeping up with the increasing applications and hence, we are always able to maintain a near 100% placement percentage.

TECH CORNER:

AMAZON ASTRO BOT

The Amazon Astro bot is a cutting-edge robotic device designed to assist users with a wide range of tasks. It combines advanced hardware and software technologies to provide an intuitive and user-friendly experience.

Firstly, the Amazon Astro bot features a 10-inch touchscreen display that acts as its primary interface. The display is bright and responsive, allowing users to interact with the device easily. Additionally, the display is equipped with a 13-megapixel camera, which allows the robot to "see" its environment and navigate through it.

Secondly, the Amazon Astro bot is powered by advanced machine-learning algorithms that enable it to understand and respond to natural language commands. It can interpret spoken language and respond in a

conversational manner, making it easy for users to interact with the device. This is made possible by the device's advanced natural language processing (NLP) capabilities, which allow it to recognize and understand speech patterns.

Thirdly, the Amazon Astro bot is equipped with a wide range of sensors that allow it to navigate through different environments. It features depth sensors, which help it to detect obstacles and avoid collisions. The device also has a built-in LiDAR sensor that enables it to accurately map its surroundings and create a 3D model of its environment.

Lastly, the Amazon Astro bot is equipped with multiple microphones that allow it to accurately capture and process sound. This enables it to understand speech even in noisy environments, making it ideal for use in busy homes or offices. Additionally, the device features a powerful speaker system that can produce high-quality audio output, making it ideal for music playback and other audio-based applications.

In conclusion, the Amazon Astro bot is a highly advanced and capable robotic device that combines cutting-edge hardware and software technologies. Its advanced machine-learning algorithms, natural language processing capabilities, and customizable add-on modules make it a versatile and user-friendly device that can be used for a wide range of tasks. Its advanced sensors, microphone array, and speaker system ensure that it can navigate through different environments and accurately capture and process sound. Additionally, its robust security features ensure that user data is kept safe and secure at all times.
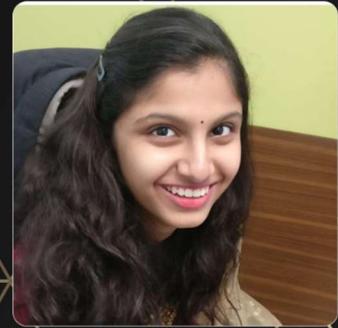
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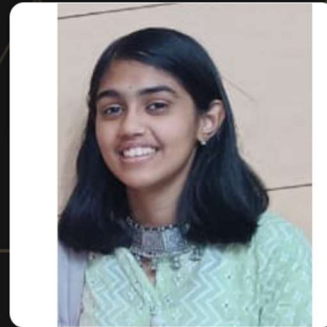
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