# REPORT ON EXPERT TALK

## AI-Driven Measurement, Signal Processing and Intelligent Control in Electrical Engineering

**Department of Electrical and Electronics Engineering**

**New Horizon College of Engineering**

| | |
|---|---|
| **Date** | 13th November 2026 |
| **Time** | 11:00 AM – 1:00 PM |
| **Venue** | Tejas Seminar Hall |
| **Participants** | 3rd Semester Students |
| **Resource Person** | **Mr. Sridhar Ashokan** |
| **Designation** | Platform Validation Engineer, Intel. |
| **Faculty Coordinator** | Prof. Anitha. A, Sr. Assistant Professor – EEE |
| **Organised by** | Department of Electrical and Electronics Engineering, in association with IEEE NHCE Student Branch and DEIS Student Branch Chapter |

### 1. Introduction

The Department of Electrical and Electronics Engineering, New Horizon College of Engineering, organized an Expert Talk titled "**AI-Driven Measurement, Signal Processing and Intelligent Control in Electrical Engineering**" on 13th November 2026 at Tejas Seminar Hall. The session was conducted from 11:00 AM to 1:00 PM for the benefit of the 3rd semester students. The programme was organised in association with the IEEE NHCE Student Branch and the Dielectrics and Electrical Insulation Society (DEIS) Student Branch Chapter.

### 2. Resource Person

The invited resource person was **Mr**. **Sridhar Ashokan**, Platform Validation Engineer at Intel. The session introduced students to the electrical and electronic principles that form the foundation of computer hardware and connected these fundamentals to the role and applications of Artificial Intelligence (AI) in everyday life.

### 3. Objectives of the Expert Talk

- To familiarise students with the fundamentals of electricity, voltage, electrical signals and basic computer electronics.
- To explain how binary states, transistors and logic gates enable computers to process information.
- To introduce the functions of computer motherboard components, power supply units and internal power distribution.
- To create awareness of Artificial Intelligence, its learning process, major types and real-world applications.
- To highlight the importance of responsible AI use, including data privacy, transparency and safety.

### 4. Proceedings of the Session

The session began with an overview of electricity generation, transmission and distribution, followed by an explanation of how computers represent information using binary states. The resource person explained that the ON and OFF states form the basis of digital computing, with high voltage representing binary 1 and zero voltage representing binary 0.

The presentation provided an introduction to the computer motherboard and its key features,

including copper traces, integrated circuits and expansion slots. The functions of three basic electronic components—transistors, capacitors and resistors—were discussed. Students were introduced to the sequence through which electrical power enables computer operation: power supply, rapid transistor switching, logic-gate operations and computation.

The session also covered common internal computer voltage rails, including +12 V, +5 V and 1.2 V, and explained the role of the Power Supply Unit (PSU) in converting household AC into suitable DC supply levels, stepping down voltage and providing protection against power disturbances. The distinction between conductors such as copper and gold and semiconductors such as silicon was highlighted, along with their roles in computer circuits and chips. The presentation further illustrated the distribution of power among the CPU, GPU, RAM, storage and cooling fans.

In the concluding technical segment, the resource person introduced Artificial Intelligence and explained how AI systems learn through data ingestion, pattern recognition and iterative improvement. The evolution from rule-based AI to machine learning and deep learning/neural networks was discussed. Applications in healthcare, finance, transportation, and creative and knowledge-based work were presented. The session also addressed societal considerations such as productivity, workforce reskilling, bias, inaccurate outputs, data privacy, transparency and safety.

## 5. Felicitation and Interaction

As a mark of appreciation, the resource person was felicitated by the faculty members. The programme included the presentation of mementos. Faculty members and students participated in the event, and the photographic documentation captures the technical session and felicitation.

## 6. Outcomes of the Guest Lecture

- Students developed an introductory understanding of the relationship between electricity, electronic components and computer operation.
- They gained awareness of binary representation, transistor switching and the role of logic gates in digital computing.
- They became familiar with the basic functions of motherboard components, power supply units and computer power rails.
- They gained an overview of AI learning methods, its evolution and applications across different sectors.
- They recognized the importance of considering bias, data privacy, transparency and safety in the development and use of AI.

## 7. Conclusion

The expert talk provided 3rd semester students with a useful introduction to the electrical and electronic foundations of computers and their connection to the rapidly developing field of Artificial Intelligence. By linking basic concepts such as voltage, binary states, electronic components and power conversion with contemporary AI applications, the session helped students appreciate how controlled electrical energy and electronic circuits make modern computing possible. The Department of Electrical and Electronics Engineering expresses its sincere gratitude to Mr. Sridhar Ashokan for sharing his knowledge and insights.

## Photographic Documentation












Head of the Department
Department of Electrical and Electronics Engineering
New Horizon College of Engineering
Ring Road, Kadubisanahalli, Bellandur Post
Bangalore - 560103, Karnataka, India