

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

ACADEMIC YEAR 2021-22 / EVEN SEMESTER

**INTERNAL FACULTY SEMINAR REPORT**

Department of EEE has organized internal seminar on "Expert Systems" for second, third and final year EEE students on 23.04.2022.

**Objective:**

- To impart knowledge to students on the basics of Artificial Intelligence
- To provide adequate knowledge on different types of Expert Systems and its applications in the field of Electrical and Electronics Engineering.
- To facilitate the use of Artificial Intelligence techniques in their final year projects and seminar presentations.

**Beneficiaries: Total: 62 (II, III&IV Year EEE Students)**

**Time: 3.00 P.M to 4.00 P.M**

**Resource Person (Internal): Dr.M.Meenalochani, Assistant Professor/EEE**

Dr.M.Meenalochani, AP/EEE started her lecture with the basics of intelligence shown by human beings and the human methodology for providing solutions to various problems faced by them. Then, she introduced the concept of Artificial Intelligence and how it can be impinged to a computing device to solve any problem. She clearly stated that Artificial Intelligence can be accomplished by studying how human brain thinks, how humans learn, decide, and work while trying to solve a problem, and then using the outcomes as a basis of developing intelligent software and systems. She gave examples of different social media websites which track human searches and provides recommendations based on their search using Artificial Intelligence techniques. The students were able to recognize the processes involved in web search which may be a product, song, movie etc. and how they are getting recommendations.

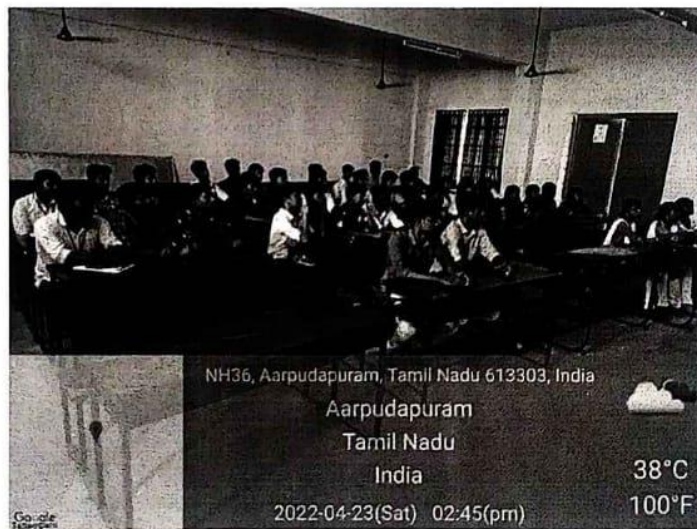
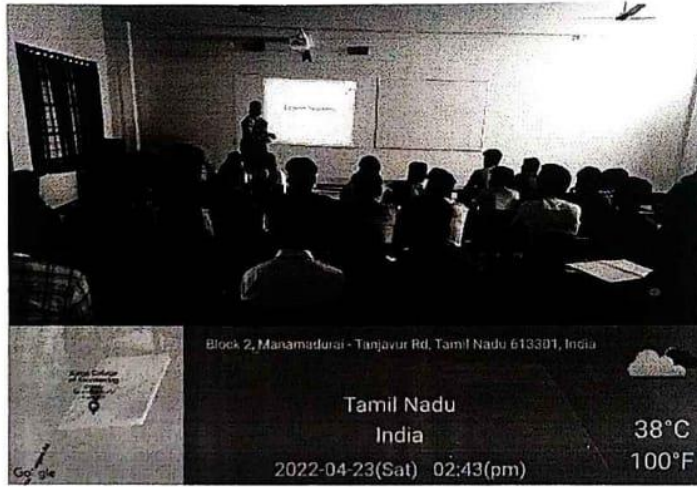
Then she explained that an expert system is a computer program that uses Artificial Intelligence (AI) technologies to simulate the judgment and behavior of a human or an organization that has expert knowledge and experience in a particular field. Typically, an expert system incorporates a knowledge base containing accumulated experience and an inference or rules engine -- a set of rules for applying the knowledge base to each particular situation that is described to the program. The system's capabilities can be enhanced with additions to the knowledge base or to the set of rules. Current systems may include machine learning capabilities that allow them to improve their performance based on experience, just as humans do. Expert systems have played a large role in many industries including in financial services, telecommunications, healthcare, customer service, transportation, video games, manufacturing, aviation and written communication. A more recently developed expert system, ROSS, is an artificially-intelligent attorney based on IBM's Watson cognitive computing system. ROSS relies on self-learning systems that use data mining, pattern recognition, deep learning and natural language processing to mimic the way the human brain works.

She also explained that an expert system includes the following components: a knowledge base, an inference engine, an explanation facility, a knowledge acquisition facility, and a user interface. The knowledge base represents facts about the world. The inference engine is the central processing unit of the expert system. An inference engine works on rules and regulations to solve complex problems. It uses information from the knowledge base. It smartly selects factual data and rules, and processes and applies them to answer the user's query. It also gives proper reasoning about the data in the knowledge base. This helps detect and deduce complex problems and prevents recurrence. And the last, the inference engine formulates conclusions.


**Outcome:**

- Enhance the knowledge on Artificial Intelligence
- Students are able to understand the concepts and operation of Expert Systems, their advantages over conventional techniques and their applications
- Students shall select Artificial intelligence techniques for their Project work, Paper Publication, Conference presentation and PCÉ activities.


**Snapshots:**



**Dr.M.Meenalochani AP/EEE delivering lecture during Internal Seminar**

  
**Faculty In-Charge**

  
**HoD/EEE**

  
**Principal**