



Course	Artificial Intelligence	Year / Semester	III / I
Topic	Expert System and Applications	Innovative Method Chosen	Role Play

Expert System and Applications

Expert systems are computer programs that mimic the decision-making ability of a human expert in a specific domain. They utilize knowledge engineering techniques to capture and represent the expertise of human specialists and apply it to solve problems, make recommendations, or provide decision support. Here are some common applications of expert systems:

- 1. Medical Diagnosis:** Expert systems are widely used in healthcare for diagnostic assistance. They analyze patient symptoms, medical history, and test results to suggest potential diagnoses and treatment options. Examples include MYCIN for infectious diseases and Dental for organic chemistry analysis.
- 2. Financial Decision Making:** In the financial sector, expert systems assist in investment analysis, risk assessment, and portfolio management. They analyze market trends, economic indicators, and financial data to help investors make informed decisions about stocks, bonds, and other assets.
- 3. Customer Support and Help Desks:** Expert systems are deployed in customer service to provide automated assistance and troubleshooting. They can answer frequently asked questions, troubleshoot technical issues, and guide users through product features and functionalities.
- 4. Fault Diagnosis and Troubleshooting:** In industrial settings, expert systems help diagnose equipment failures and recommend maintenance or repair actions. They analyze sensor data, equipment logs, and historical records to identify potential causes of malfunctions and suggest corrective measures.
- 5. Educational and Training Systems:** Expert systems are used in educational environments to provide personalized learning experiences and adaptive tutoring. They assess students' knowledge levels, identify areas of weakness, and recommend learning materials or exercises tailored to individual needs.
- 6. Legal and Compliance Advising:** Expert systems assist legal professionals in interpreting laws, regulations, and judicial precedents. They analyze legal documents, case histories, and statutes to provide advice on compliance requirements, contract interpretation, and legal strategies.

Details of the Implementation:

- ✚ Instructor explained the particular concepts/topic in classroom within 30 minutes.
- ✚ Three students were asked to come in front of the classroom.
- ✚ Student 1 (KEERTHI) was started to introduction of AI.
- ✚ Student 2 (PRIYANKA) was started to introduction of Expert Systems.
- ✚ Three Students was started applications of expert systems each student explain two applications
- ✚ This assisted the students in recalling the topic taught on that specific day, generating new ideas about the topic, and answering questions about the topic with ease.



Figure: Keerthika (219P1A0528) delivering Introduction



Figure: Priyanka (219P1A0555) explaining the concept of Expert Systems



Figure: Priyadharshini (21Sp1A0564) explaining Application

Coordinator

Head of the Department
Head of the Department
Department of Computer Science & Engineering
D.N.R. College of Engineering & Technology
SHIMAVARAM-5564 702.