IT2011 - Artificial Intelligence and Machine Learning

Department of Information Technology, Faculty of Computing

Year 2 semester 1 (2025)

Tutorial 03

Group Activity: Real-World Expert Systems

Objectives:

To understand how real-world Expert Systems were designed and applied in different domains. Your group will research one of the classic expert systems and present findings on its structure, reasoning method, use case, and impact.

Instructions:

1. Form a group of 6 students.
2. Choose one of the following real-world expert systems:
   - MYCIN (Healthcare)
   - DENDRAL (Chemistry)
   - XCON (Computing)
   - HEARSAY (Military/Voice Recognition)
3. Research how the system was developed and how it worked.
4. Prepare a poster.
5. Submit your completed worksheet.

Research Template (Complete as a Group)

Selected Expert System: _____

1. What problem did this expert system solve?

_____

2. What reasoning method was used? (e.g., forward chaining, backward chaining)

_____

3. What were its core components? (e.g., knowledge base, inference engine)

_____

4. What was the real-world impact or benefit of this system?

_____

5. How were rules or knowledge encoded into the system?

_____

6. How is this system different from modern AI approaches like Machine Learning?

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