

SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution



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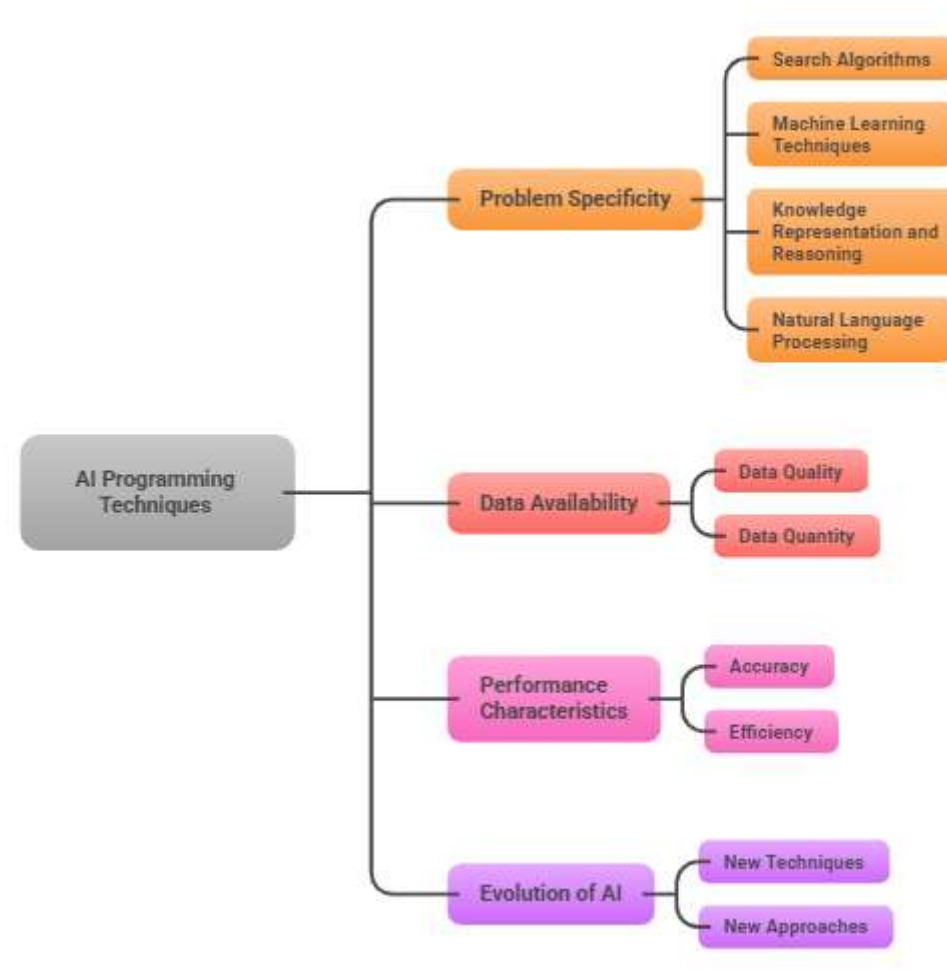
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

23EET308 -AI Techniques For Electrical Engineering **III YEAR V ISEM**

UNIT 2 –NEURAL NETWORKS AND INTELLIGENCE SYSTEM

TOPIC 2: Knowledge Representation And Learning Process in AI

Let's Recall !!



Topics for discussion

- To Understand how machines represent real-world logic.
- Understand the concept of Knowledge Representation (KR)
- Understand the Learning Process in AI
- To Analyze the bridge between data and actionable wisdom.
- To Evaluate Supervised vs. Unsupervised learning models.
- To Apply logic structures to engineering problems.

Understanding Advanced AI Solutions

DT-Empathize

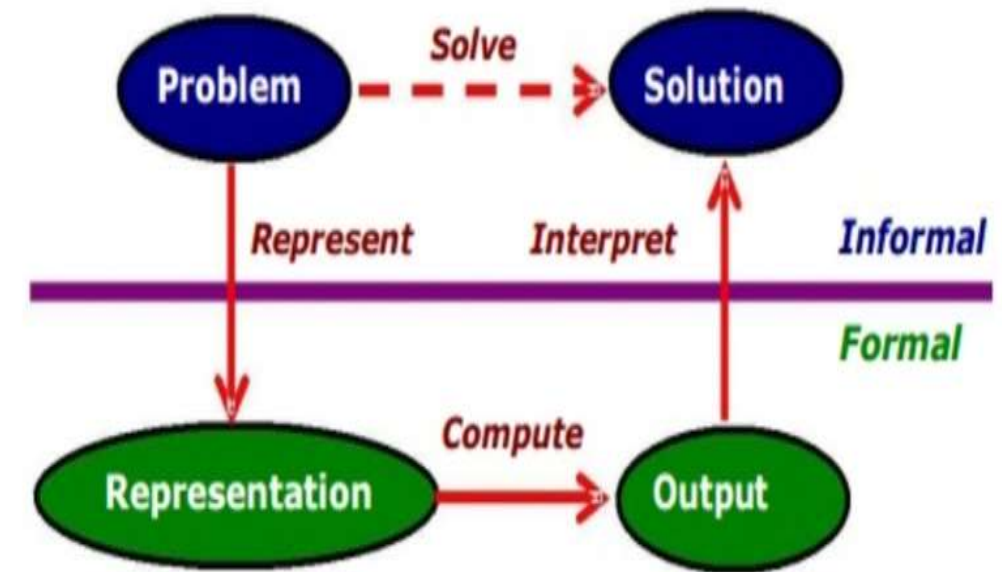
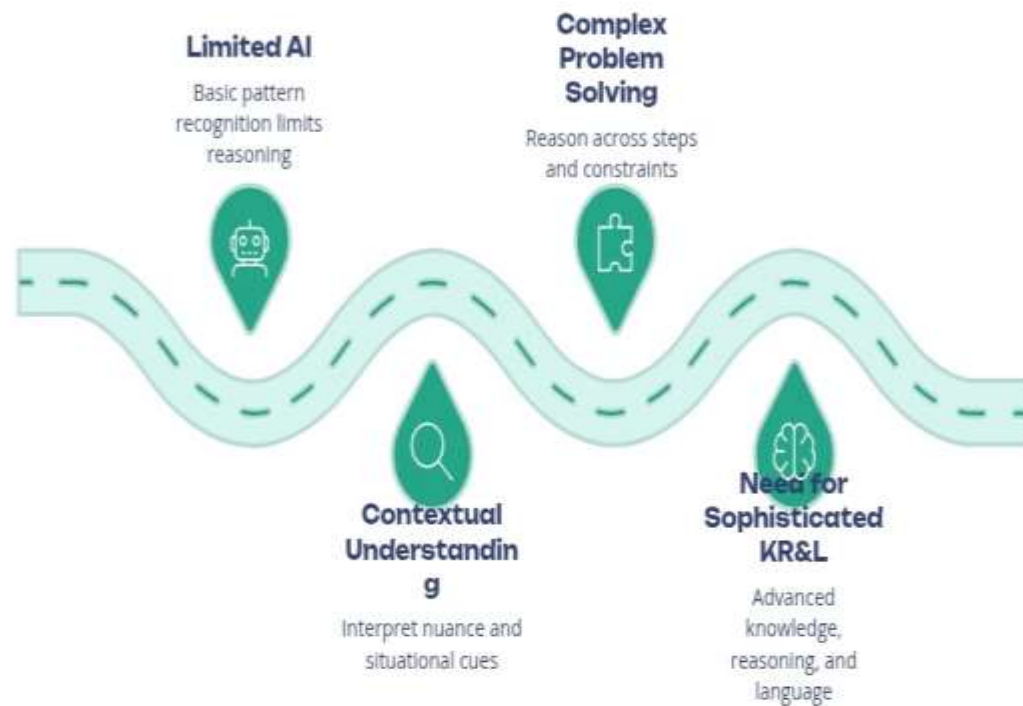
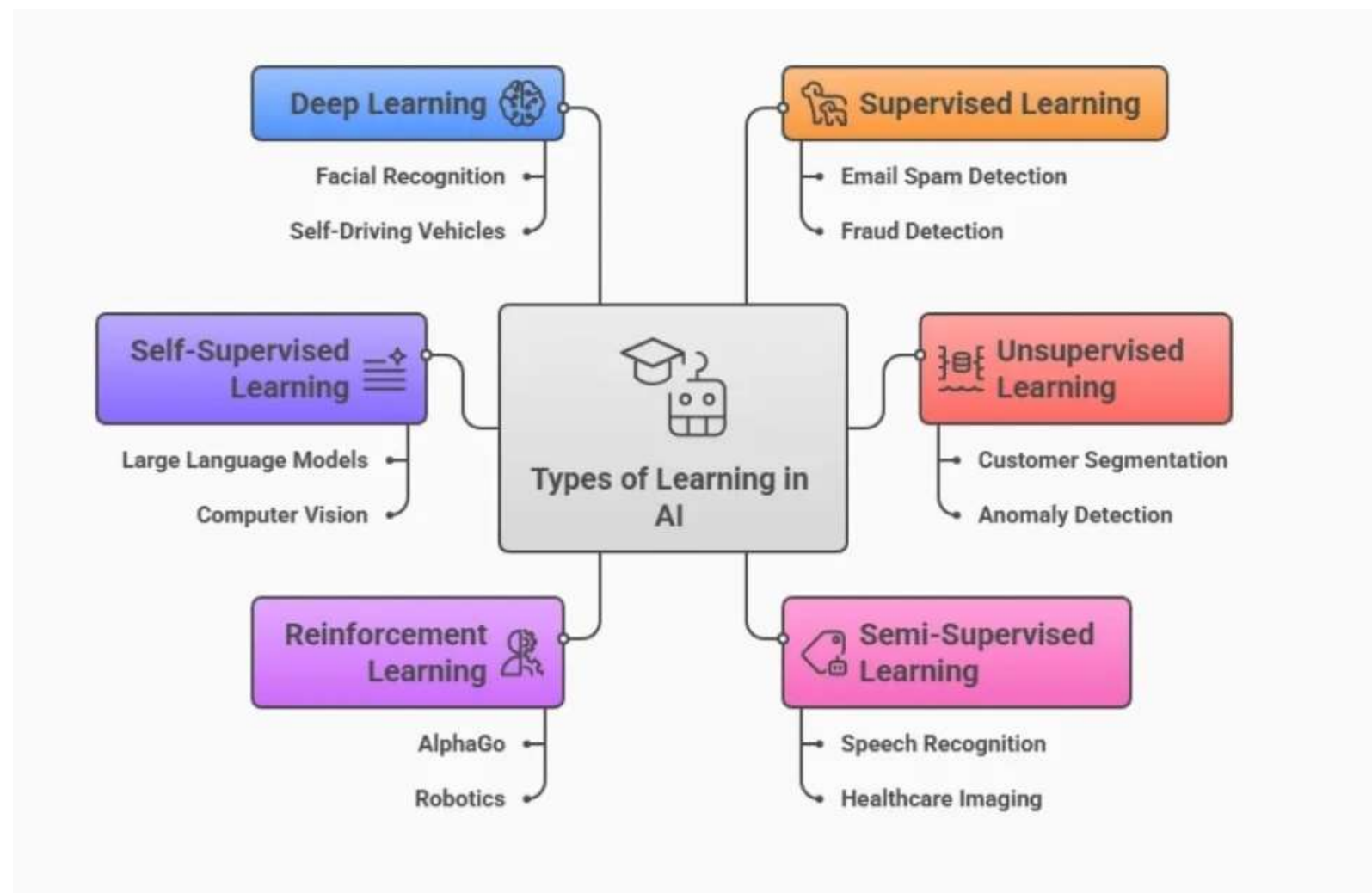


Fig. Knowledge Representation Framework

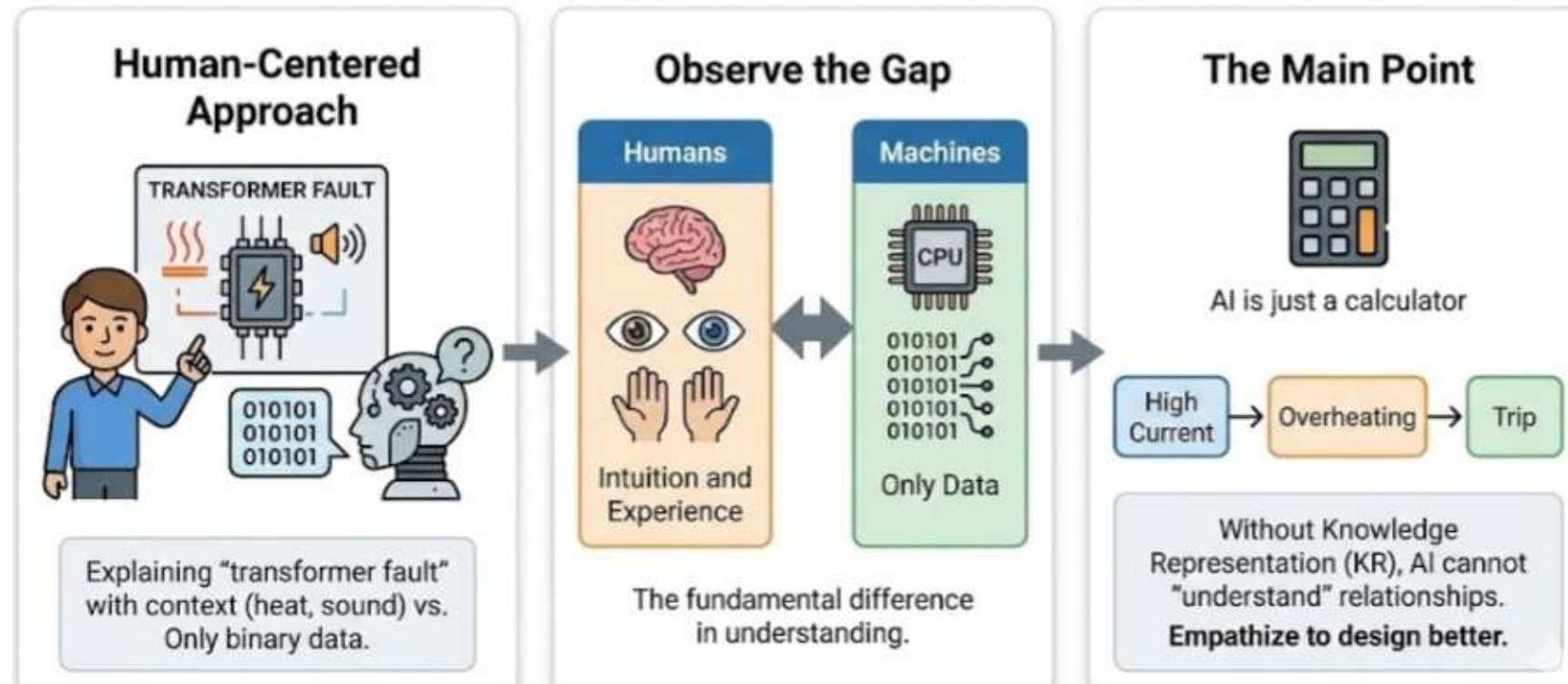
Learning Process in AI

The learning process in AI is how an artificial intelligence system improves its performance on a specific task over time by acquiring knowledge from data and experience, without being explicitly programmed for every scenario.



Empathize: Understanding the Machine's Struggle

DT-Empathize



The Main Point :

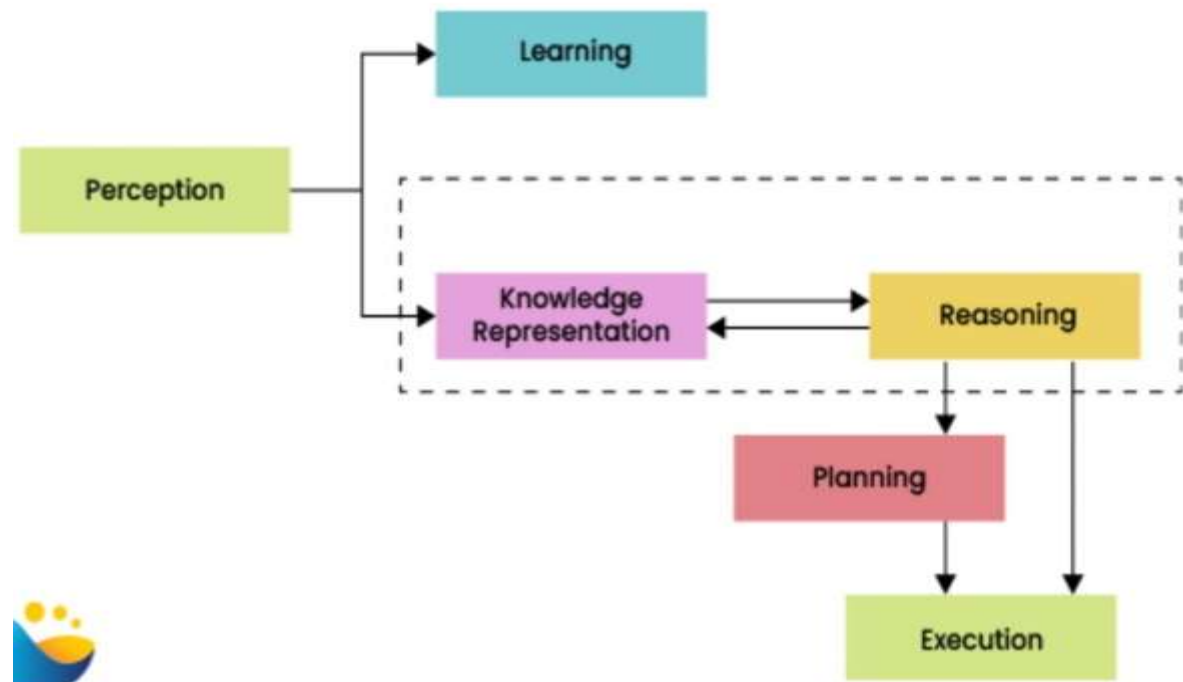
Without Knowledge Representation (KR), an AI is just a calculator. It cannot "understand" relationships (e.g., High Current -> Overheating -> Trip). We must empathize with this limitation to design better systems.

Define: The Representation Gap

Problem Statement

How do we structure unstructured real-world data so that a machine can reason like an engineer?

AI Knowledge Cycle



Core Technical Content: Knowledge Representation

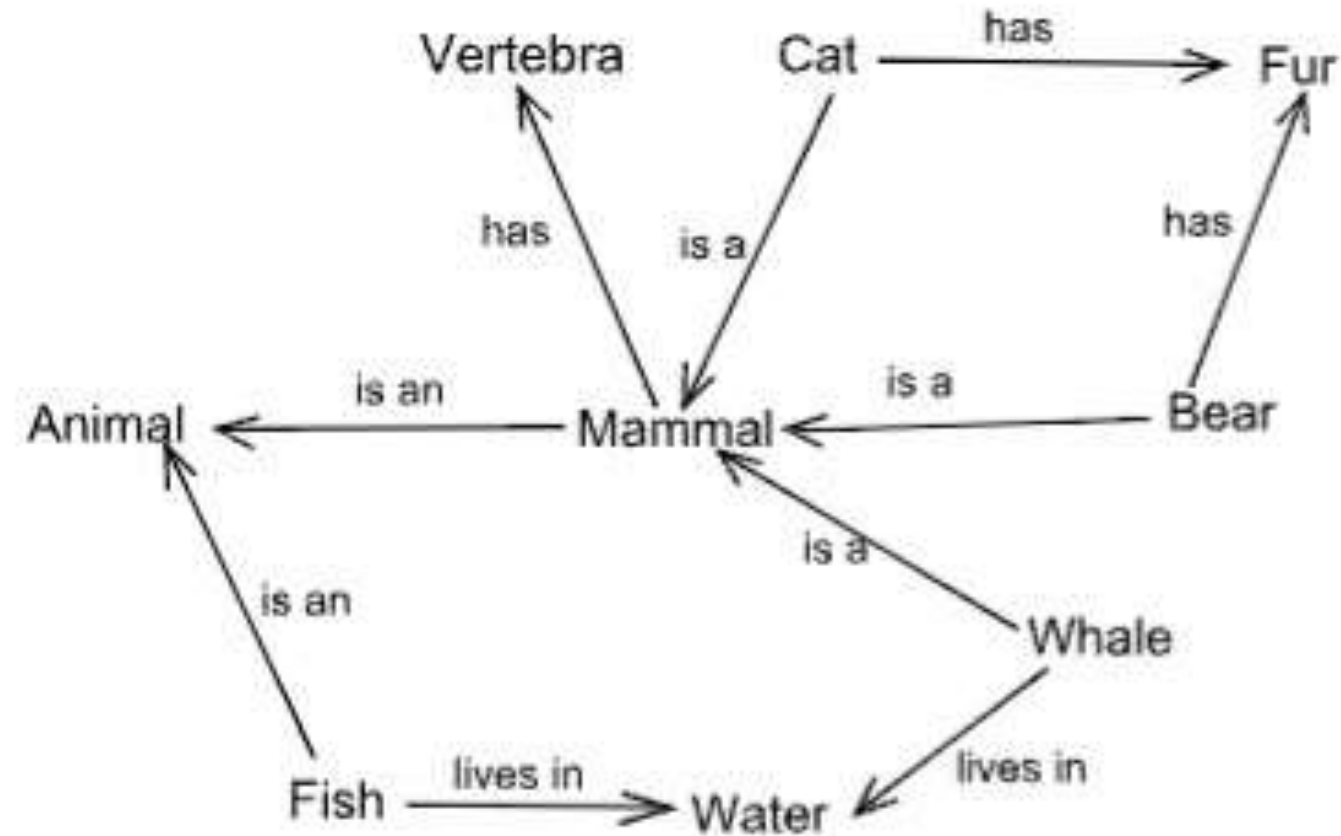


KR is the method used to encode knowledge in an intelligent agent's Knowledge Base (KB) to enable reasoning.

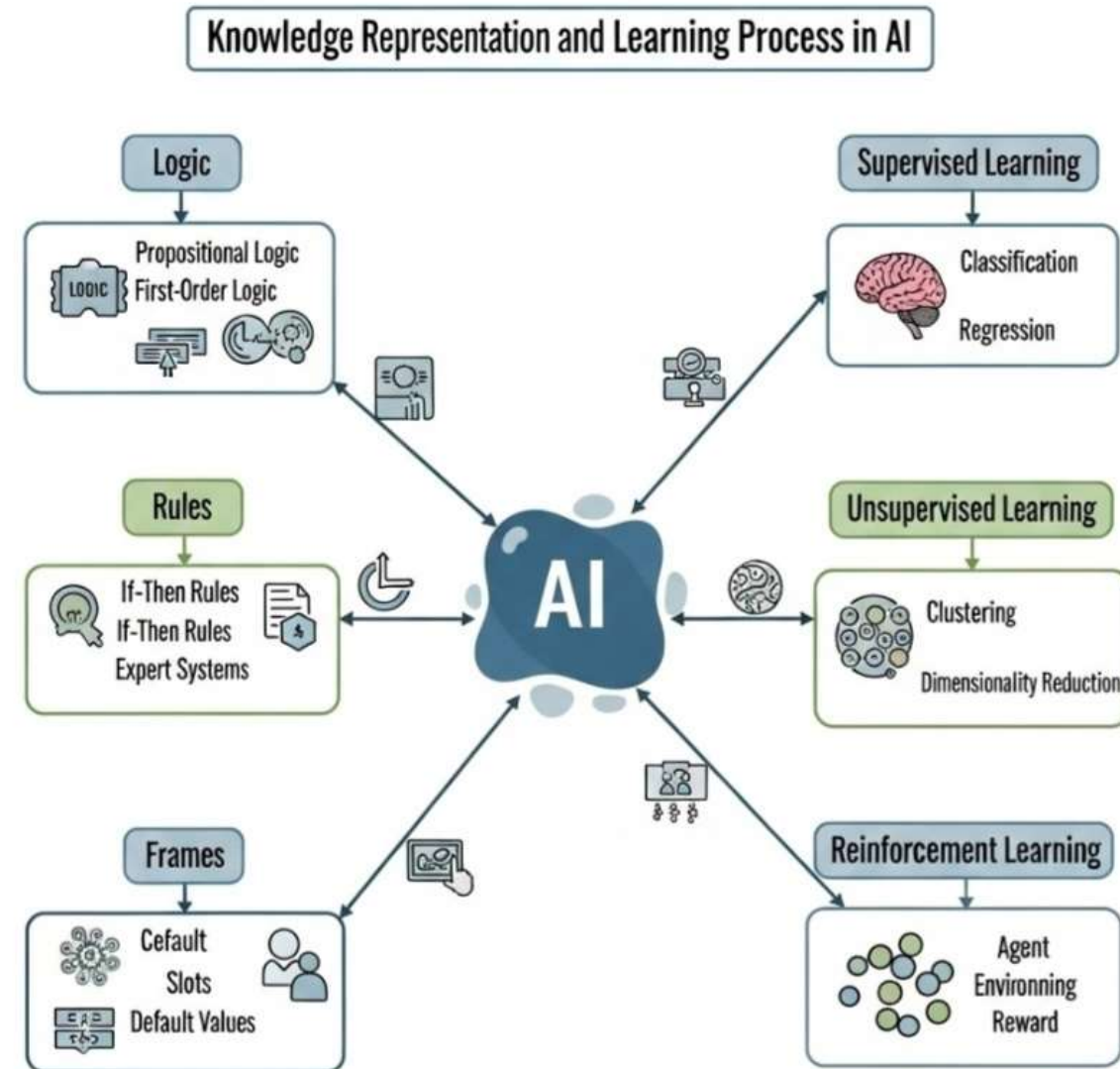
Core Technical Content – The Learning Process

Learning is the improvement of performance (P) on a task (T) with experience (E).

Build a Semantic Network



Summary



THANK YOU