CSC412 KNOWLEDGE-BASED SYSTEMS

Learning Outcomes

- Define the various schemes for Knowledge Representation.
- Associate knowledge representation methodologies with appropriate application areas.
- Efficiently use the knowledge representation tools and techniques that form the foundation for symbolic reasoning systems.
- Gain skills in the use of available environments and shells for rapid knowledge-based systems development and implementation.

Content

Data, Knowledge and Information; Introduction to Knowledge Based systems (KBS): Definition, Components, Types; Knowledge Acquisition and Elicitation; Knowledge Representation; Representing knowledge using rules, frames, ontologism, Semantic nets etc.; Inferencing: Forward Chaining, Backward Chaining; Reasoning; Uncertainty; Case-based reasoning; Representing common-sense knowledge. AI development languages, environments and shells. Knowledge-based shells. Identifying and selecting a knowledge-based development tool. Problem requirements definition. Introduction to knowledge engineering; Term project.

Pre-requisites

- CSC113 Discrete Mathematics
- CSC121 Programming and Problem Solving
- CSC215 Introduction to Artificial Intelligence
- CSC222 Automata Theory
- CSC323 Machine Learning

Delivery

Lectures and Tutorials