

Objective(s)

The purpose of this course is to impart concepts of Artificial Intelligence and Expert System. Artificial Intelligence includes problem solving, knowledge representation, reasoning, decision making, planning, perception & action, and learning.

UNIT I

Introduction to Artificial Intelligence (AI); Scope of AI: natural language processing, robotics, expert system, Games, theorem proving, AI evolution, Knowledge Based and Rule based systems, Ethics and issues with AI

UNIT II

Search and Control strategies: Blind search, Breadth first search, Depth first search, Hill climbing method, Best First search, Branch and Bound search.

UNIT III

Neural Networks, Classification, Regression, Activation Functions, CNN, RNN, Transfer Learning, Deep Learning, Generative Adversarial Networks

UNIT IV

Natural Language Processing, Corpus, Tokenization, Stemming, Sentiment Analysis

Practical(s)

1. Search and Control strategies: Blind search, Breadth - first search, Depth First search, Hill climbing method, Best First search, Branch and Bound search.
2. Explore ChatGPT, StableDiffusion
3. Build Fruit / Vegetable / Disease classifiers
4. Sentiment Analysis from text
5. Build chatbots

Reference Book(s)

6. Rich, E. and Knight, K. 2002. Artificial Intelligence. Tata McGraw Hill.
7. Bratko, Prolog Programming for Artificial Intelligence, Pearson.
1. Gonzalez, A. and Dankel, D. 2004. The Engineering of Knowledge -Based Systems. Prentice Hall.