Artificial Intelligence and Data Analytics

UNIT - I

Introduction, The importance of AI, Applications of AI, general issue in AI problem solving (02), production system (02), knowledge: Definition & importance, knowledge-based systems, components of knowledge-based system, intelligent agents (03), introduction to fuzzy logic, genetic algorithm, basic concept of natural language processing (03).
Lectures: 10

UNIT - II

Search and Control Strategies, Examples of Search Problems (The eight puzzle, Travelling Salesman Problem) (03), Uninformed Search (Breadth First Search, Depth First Search, Depth First Iterative Deepening Search, Bidirectional Search) and informed search (Heuristic Information, Hill Climbing Methods, Best First Search, Branch and Bound Search, A* Search) (04), Searching AND-OR Graphs, The AO* Algorithm, Game Playing: mini max search approach (04).
Lectures: 11

UNIT - III

Formalized Symbolic Logics: Propositional logic, Syntax and Semantics for Propositional Logic, Limitation of Propositional Logic (02), First order predicate Logic, Syntax and Semantics for FOPL, Properties of Well Formed Formula (02), skolemisation, Conversion to Clausal Form, inference rules, unification, resolution principle (02), Introduction to ANN, CNN and different learning algorithms (06).
Lectures: 12

UNIT - IV

Semantic networks, frame system (03), value inheritance scripts (02), LISP and other AI programming languages (03), Introduction to Data Analytics: Sources and nature of data, classification of data (structured, semi-structured, unstructured), characteristics of data, introduction to Big Data platform, need of data analytics, evolution of analytic scalability, analytic process and tools, analysis vs reporting, modern data analytic tools, applications of data analytics (04).
Lectures: 12