Syllabus : Uninformed Search Methods : Breadth First Search (BFS), Depth First Search (DFS), Depth Limited Search, Depth First Iterative Deepening (DFID), Informed Search Methods : Greedy best first Search, A* Search, Memory bounded heuristic Search.

Local Search Algorithms and Optimization Problems : Hill climbing search Simulated annealing, Genetic algorithms.

Adversarial Search : Game Playing, Min-Max Search, Alpha Beta Pruning.

Syllabus : Knowledge based Agents, Brief Overview of propositional logic, First Order Logic : Syntax and Semantic, Inference in FOL, Forward chaining, backward Chaining. Knowledge Engineering in First-Order Logic, Unification, Resolution Uncertain Knowledge and Reasoning : Uncertainty, Representing knowledge in an uncertain domain, The semantics of belief network, Simple Inference in belief network.

Syllabus : The planning problem, Planning with state space search, Partial order planning, Hierarchical planning, Conditional Planning. Learning : Forms of Learning, Theory of Learning, PAC learning. Introduction to statistical learning (Introduction only) Introduction to reinforcement learning : Learning from Rewards, Passive Reinforcement Learning, Active reinforcement Learning

Syllabus : Introduction to NLP- Language models, Grammars, Parsing. Robotics - Robots, Robot hardware, Problems Robotics can solve AI applications in Healthcare, Retail, Banking.

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