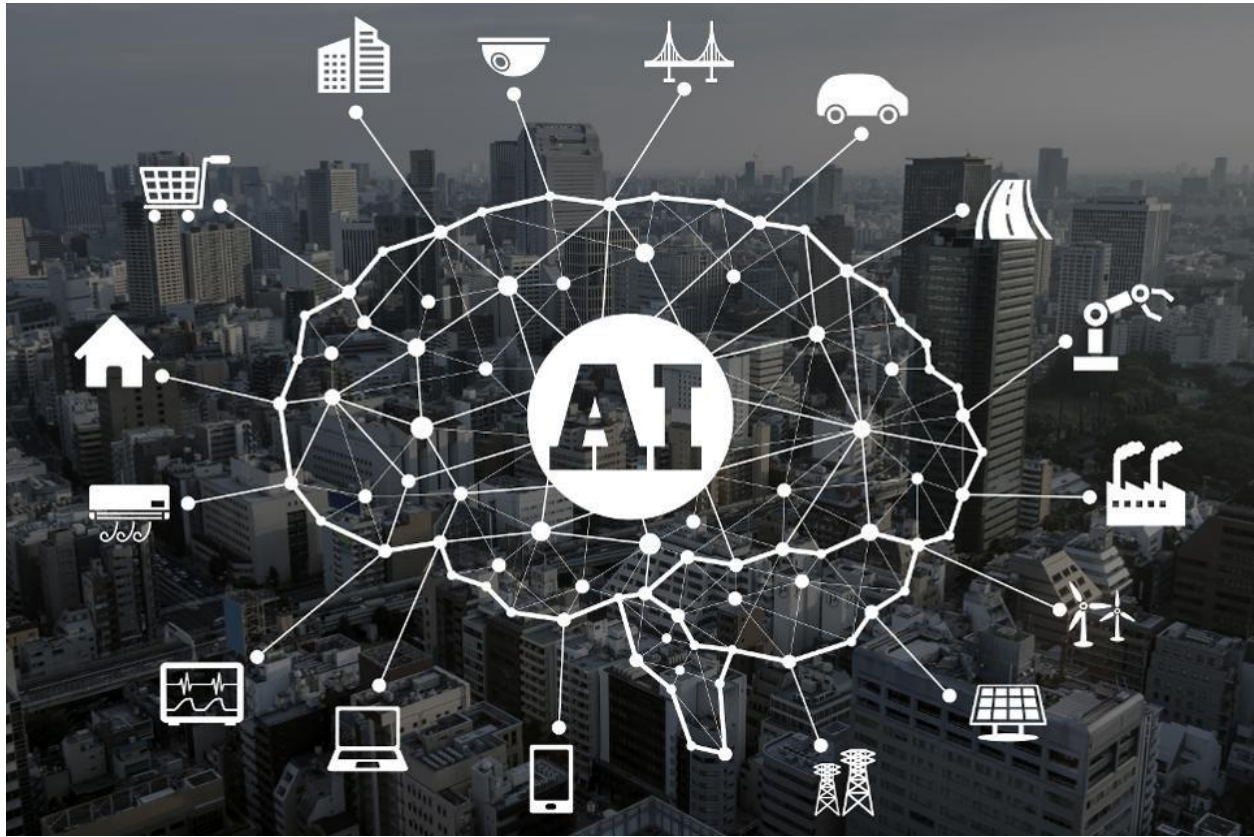


Artificial Intelligence Course using Python



AI (**artificial intelligence**) is the simulation of human **intelligence** processes by machines, especially computer systems. These processes include learning (the acquisition of information and rules for using the information), reasoning (using rules to reach approximate or definite conclusions) and self-correction

The AI course covers rule-based expert systems, fuzzy expert systems, frame-based expert systems, artificial neural networks, evolutionary computation, hybrid intelligent systems and knowledge engineering.

Learn the principles behind intelligent systems? How are they built? What are intelligent systems useful for? How do we choose the right tool for the job?

Course Content

1 OVERVIEW OF AI

- What is Artificial Intelligence?
- Philosophy of AI
- Goals of AI
- What Contributes to AI?
- Programming Without and With AI
- What is AI Technique?

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- Applications of AI
- History of AI

2 INTELLIGENT SYSTEMS

- What is Intelligence?
- Types of Intelligence
- What is Intelligence Composed of?
- Difference between Human and Machine Intelligence

3 RESEARCH AREAS OF AI

- Real Life Applications of Research Areas
- Task Classification of AI

4 AGENTS AND ENVIRONMENTS

- What are Agent and Environment?
- Agents Terminology
- Rationality
- What is Ideal Rational Agent?
- The Structure of Intelligent Agents
- The Nature of Environments
- Properties of Environment

5 POPULAR SEARCH ALGORITHMS

- Single Agent Pathfinding Problems
- Search Terminology
- Brute-Force Search Strategies
- Informed (Heuristic) Search Strategies
- Local Search Algorithms

6 FUZZY LOGIC SYSTEMS

- What is Fuzzy Logic?
- Why Fuzzy Logic?
- Fuzzy Logic Systems Architecture
- Example of a Fuzzy Logic System
- Application Areas of Fuzzy Logic
- Advantages of FLSs
- Disadvantages of FLSs

7 NATURAL LANGUAGE PROCESSING

- Components of NLP

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- Difficulties in NLU
- NLP Terminology
- Steps in NLP
- Implementation Aspects of Syntactic Analysis

8 EXPERT SYSTEMS

- What are Expert Systems?
- Capabilities of Expert Systems
- Components of Expert Systems
- Knowledge Base
- Inference Engine
- User Interface
- Expert Systems Limitations
- Applications of Expert System
- Expert System Technology
- Development of Expert Systems: General Steps
- Benefits of Expert Systems

9 ROBOTICS

- What are Robots?
- What is Robotics?
- Difference in Robot System and Other AI Program
- Robot Locomotion
- Components of a Robot
- Computer Vision
- Tasks of Computer Vision
- Application Domains of Computer Vision
- Applications of Robotics

10 NEURAL NETWORKS

- What are Artificial Neural Networks (ANNs)?
- Basic Structure of ANNs
- Types of Artificial Neural Networks
- Working of ANNs
- Machine Learning in ANNs
- Bayesian Networks (BN)
- Applications of Neural Networks

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11 AI ISSUES

12 AI TERMINOLOGY