

ARTIFICIAL INTELLIGENCE (Generative + Agentic)

OVERVIEW OF ARTIFICIAL INTELLIGENCE	Definition, goals & scope of AI, Evolution: Symbolic → Statistical → Deep Learning → Generative → Agentic, Branches of AI, Narrow AI vs AGI vs Superintelligence, AI development lifecycle, AI in industry & future trends	13th October (06:00-07:00)
Intelligent Agents & Rational Decision Making	Agent definition & environments Rational agents & utility Types of environments PEAS framework Agent architectures overview	17th October (06:00-07:00) 21th October (06:00-07:00)
Problem Solving & State Space Search	Problem formulation State space representation Tree vs Graph search Complexity of search	23th October (06:00-07:00) 28th October (06:00-07:00)
Search Algorithms	Breadth First Search (BFS) Depth First Search (DFS) Uniform Cost Search Informed Search Concepts A* Algorithm	31th October (06:00-07:00)
Knowledge Representation	Propositional Logic First Order Logic Inference Systems Automated Reasoning	Dates and timings for this topics will notified you soon after getting the time slots from our Trainer
Knowledge-Based Systems	Forward Chaining Backward Chaining Rule-Based Systems Knowledge Graphs	Dates and timings for this topics will notified you soon after getting the time slots from our Trainer
Reasoning Under Uncertainty	Probability Theory in AI Bayesian Reasoning Conditional Independence	Dates and timings for this topics will notified you soon after getting the time slots from our Trainer
Decision Making in AI	Utility Theory Decision Making Under Uncertainty Markov Decision Processes (Overview)	Dates and timings for this topics will notified you soon after getting the time slots from our Trainer

Reinforcement Learning Fundamentals	RL Framework Exploration vs Exploitation Real-World Applications	Dates and timings for this topics will notified you soon after getting the time slots from our Trainer
Neural Networks	Perceptron Algorithm Activation Functions Backpropagation (Conceptual) Gradient Descent	Dates and timings for this topics will notified you soon after getting the time slots from our Trainer
Deep Learning Architectures	CNN Overview RNN & LSTM Overview Representation Learning Introduction to Transformers	Dates and timings for this topics will notified you soon after getting the time slots from our Trainer
Introduction to Generative AI	Generative vs Discriminative Models Foundation Models Self-Supervised Learning	Dates and timings for this topics will notified you soon after getting the time slots from our Trainer
Transformer Architecture	Pretraining Objectives Fine-Tuning Methods Alignment & RLHF Emergent Abilities	Dates and timings for this topics will notified you soon after getting the time slots from our Trainer
Large Language Models (LLMs)	Pretraining Objectives Fine-Tuning Methods Alignment & RLHF Emergent Abilities	Dates and timings for this topics will notified you soon after getting the time slots from our Trainer
Advanced Generative Models	GANs VAEs Diffusion Models Multimodal Models	Dates and timings for this topics will notified you soon after getting the time slots from our Trainer
Introduction to Agentic AI	AI Agents vs LLMs Tool Usage Reasoning Loops Planning & Memory in Agents	13th October (06:00-07:00)
Agent Architectures & Reasoning	ReAct Framework Chain-of-Thought Reasoning Tree-of-Thought Reasoning	17th October (06:00-07:00) 21th October (06:00-07:00)
Agent Memory & Knowledge Systems	Agent Memory Systems Vector Databases Retrieval-Augmented Generation (RAG)	23th October (06:00-07:00) 28th October (06:00-07:00)

Multi-Agent Systems	Multi-Agent Collaboration Communication & Coordination	31th October (06:00-07:00)
Autonomous AI Systems & Future	Planner–Executor, Architectures,Long-Horizon Reasoning Challenges Alignment Challenges Evaluation of LLM Systems Scaling & Optimization of AI Systems	Dates and timings for this topics will notified you soon after getting the time slots from our Trainer