

Generative AI Course Curriculum

Section 1: Introduction

- What is Gen AI?
- Fundamentals of Gen AI
- Generative AI Models
- Applications of Generative AI in Different Industries
- Basics of GANs and GAN model
- Summary: Basics of Gen AI

Section 2: Using Generative AI Techniques in Software Development

- Techniques of Code Generation
- Code-to-Code Synthesis
- Natural Language to Code
- Automated Software Testing with Test Case Generation
- Bug Detection and Real-Time Code Translation
- Lab Session 1

Section 3: Generative AI Techniques for Cybersecurity

- Malware, Intrusion and Threat Detection
- Behavioral Analysis And Network Security
- Generative AI-Based Security
- Predictive Modeling and Ethical Hacking
- Vulnerability Analysis with Generative AI
- Lab Session 2

Section 4: Generative AI for Improved Business

- Targeted Marketing Campaigns
- Content Creation
- A/B Testing
- Sentiment Analysis and Brand Perception
- Lab Session 3

Section 5: Generative AI in Prompt Engineering

- Language Modeling Techniques
- Fine-Tuning Models for Prompt Engineering
- Creative Writing and Storytelling with Generative AI
- Content Summarisation
- Evaluating Prompt Engineering Models
- Lab Session 4

Section 6: Generative AI in Project Management

- Project Planning and Scheduling
- Resource Allocation and Risk Assessment
- Project Progress Tracking and Predictive Analytics With Gen AI
- Task Automation and Efficiency Improvement
- Lab Session 5

Section 7: Generative AI for Business and Data Analyst

- Data Synthesis and Analysis Techniques
- Pattern Recognition, Trend Analysis, and Predictive Modelling
- Lab Session 6
- Business Insights Extraction from Large Datasets
- Data Generation and Augmentation Techniques
- Predictive Analytics and Exploratory Data Analysis Using Gen AI Models
- Lab Session 7

Section 8: Generative AI for Cloud Professional

- Cloud Resource Management
- Automated Scaling and Resource Optimisation
- Security in Cloud Environments
- Anomaly Detection and Threat Monitoring
- Dynamic Adaptation to Changing Cloud Demands
- Lab Session 8

Section 9: Generative AI for Operations

- Supply Chain Optimisation and Demand Forecasting

- Predictive Maintenance, Fault Detection
- Process Automation and Efficiency Improvements
- Inventory Management and Production Scheduling
- Monitoring and Adaptive Operations Strategies
- Lab Session 9

Section 10. Real Time Projects for Gen AI

- Developing personal assistant using Gen AI
- Building your own Chatbot to create content
- Creating voice assistant using speech synthesis
- Developing Chatbot to communicate with books, documents

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