AI for Network Training

Summary:

This training explores the transformative role of Artificial Intelligence (AI) and Generative AI (GenAI) in modern telecom networks. Participants will gain insights into AI technologies like machine learning, deep learning, and their applications in network optimization, automation, and security. Special attention is given to practical use cases, including predictive maintenance, AI-driven orchestration, and network security enhancements. The course also introduces tools and platforms such as OpenAI APIs, providing participants with actionable knowledge to innovate and optimize telecom networks.

Modules:

1. Foundations of AI for Networks

- Introduction to AI technologies and their role in telecom.
- Fundamentals of Machine Learning (ML) and Deep Learning (DL).
- Overview of Generative AI in telecommunications.

2. Generative AI (GenAI) in Telecom Networks

- Use cases for synthetic data generation and network simulation.
- Automating customer support with AI-driven chatbots.
- Leveraging GenAI for performance analytics and reporting.

3. Network Automation with AI

- AI-powered zero-touch provisioning and orchestration.
- Automated configuration and management workflows.

- Integration of OpenAI tools for intelligent decision-making.

4. AI for Network Optimization and Maintenance

- Predictive maintenance to minimize downtime.
- AI for real-time traffic flow and bandwidth optimization.
- Energy-efficient solutions powered by AI.

5. OpenAI Use Cases in Telecom Networks

- Real-time monitoring and troubleshooting with OpenAI APIs.
- AI-generated documentation and FAQs for customer support.
- Advanced programming and decision-making with OpenAI Codex.

6. AI for 5G and 6G Networks

- AI applications in network slicing and edge computing.
- Enhancing ultra-reliable low-latency communication (URLLC).
- Improving Quality of Service (QoS) using AI technologies.

7. AI-Powered Network Security

- Real-time threat detection and response using AI.
- Generative AI applications for security intelligence.
- Case studies in fraud prevention and anomaly detection.