

AI for Network Engineers • AI-NE

DURATION: 3 DAYS

PRICE: USD 2900

CLCs: 29

CE: 24

COURSE CODE: AI-NE | **FORMAT:** Kit & Lab

COURSE DESCRIPTION

The AI-NE – AI for Network Engineers course introduces network engineers to the fundamentals of Artificial Intelligence and its practical applications in networking. Participants will explore core AI/ML concepts, prompt engineering techniques, AI-driven network automation, and infrastructure design for AI workloads, while also addressing real-world integration challenges. Hands-on labs provide practical experience applying AI to monitoring, configuration, troubleshooting, and compliance in modern network environments.

COURSE OUTLINE

Section 1: AI Foundations

Module 1: Introduction to AI and Machine Learning

- History and Significance of AI
- Machine Learning vs Deep Learning
- Essential AI Terminology and Concepts
- Relevance to Network Engineering

Module 2: Fundamental AI Concepts

- Supervised Learning
- Unsupervised Learning
- Reinforcement Learning

Section 2: Prompt Engineering for Network Professionals

Module 3: Prompt Engineering Essentials

- Fundamentals of Prompt Engineering
- Crafting Effective Prompts
- Common Pitfalls and Best Practices

Module 4: Lab – Practical Prompt Engineering

- Creating and Refining Prompts
- Network Troubleshooting and Documentation

Section 3: AI-driven Network Automation

Module 5: AI for Network Monitoring and Remediation

- Automated Detection and Remediation
- Predictive Analytics in Network Management

AI for Network Engineers • AI-NE

Module 6: AI-enhanced Provisioning and Configuration

- Network Provisioning Automation
- AI-driven Configuration Management

Module 7: Lab – Implementing AI Network Automation

- AI Automation Scripts

Section 4: Network Infrastructure for AI Deployments

Module 8: Designing Networks for AI Workloads

- Infrastructure Requirements for AI
- Dragonfly and Optimized Rails Topologies

Module 9: High-Performance Networking Components

- GPU Networking: InfiniBand vs Ethernet
- Accelerators and Network Performance

Module 10: Traffic Optimization for AI Networks

- AI Workload Traffic Patterns
- Congestion Management and Optimization

Module 11: Scalability and Reliability in AI Networks

- Scalability Techniques
- High Availability and Load Balancing
- Wrap-Up and Advanced Topics

Module 12: Real-World AI Integration Challenges

- Practical Considerations
- Integration Challenges and Strategies

ACTIVITY 1

- 1.** Introduction to LLMs – Understanding what they are
- 2.** Tokens & Context – Playing with text length
- 3.** Prompt Basics – Asking questions the right way
- 4.** Prompt Refinement – Iterating for better answers
- 5.** LLMs for Troubleshooting – Using AI for BGP/OSPF issues
- 6.** LLMs for Config Generation – Automating CLI templates
- 7.** LLMs for Documentation – Summarizing configs & incidents
- 8.** LLMs for Training – Explaining RFCs in simple terms
- 9.** Open-Source LLMs – Running a small model locally
- 10.** Practical Integration – Using LLMs in NetOps automation

ACTIVITY 2

- Lab 0:** Prompt Patterns for NetOps (warm-up)
- Lab 1:** Intent → Cisco IOS-XE Config (structured)
- Lab 2:** Vendor Translation: Cisco Junos
- Lab 3:** Syslog Triage & Regex Extraction
- Lab 4:** Troubleshooting Decision Trees (BGP/OSPF)
- Lab 5:** Ansible + Jinja2 From Inventory
- Lab 6:** Network API Requests (Meraki or DNAC)
- Lab 7:** Compliance Audit (Baseline vs Running Config)
- Lab 8:** Change Plan & Peer Review Pack
- Lab 9:** Incident Timeline → Postmortem

Instructor Led Training

To view the schedule and
secure your site

SIGN UP HERE