

 AI CERTs®

AI+

Telecommunications



Executive Summary

This 5-days course on AI+ Telecommunications provides an in-depth exploration of how artificial intelligence enhances various aspects of the telecom industry. Key topics include the implementation of 5G technologies, which offer improved speed and connectivity, and the critical roles of Quality of Service (QoS) and Quality of Experience (QoE) in ensuring optimal network performance and user satisfaction. Participants will learn about AI-driven network optimization, predictive maintenance, and cybersecurity strategies to safeguard telecom infrastructure. The curriculum also covers natural language processing for customer interactions and IoT integration for smart network management. Through hands-on projects, learners will apply AI techniques to real-world scenarios, culminating in a capstone project that synthesizes their knowledge and skills in addressing contemporary challenges in telecommunications. This course equips participants with the expertise to leverage AI effectively in their organizations, driving innovation and enhancing service delivery.



Prerequisites

- **Telecommunications Knowledge:** Basic understanding of telecommunications concepts and technologies.
- **Programming Skills:** Familiarity with programming, preferably in Python.
- **Data Analysis:** Basic knowledge of data analysis techniques is beneficial.
- **AI Familiarity:** While prior experience with AI is helpful, it is not required to enroll in this course.

Exam Blueprint

Number
of Questions

50

Passing
Score

35/50 or 70%

Duration

90 Minutes

Format

**Online via AI
Proctoring platform**

Question Type

**Multiple Choice/Multiple
Response**

Exam Overview

Module	Weight
Introduction to AI in Telecommunications	9%
Data Engineering for Telecom AI	13%
AI for 5G Networks	13%
AI in Network Optimization	13%
AI for Network Security	13%
Enhancing Customer Experience with AI	13%
IoT Integration with Telecommunications	13%
AI-Integrated Network Operations Centers (NOCs)	13%
	100%

 AI CERTS®
The logo features a stylized 'AI' icon with a signal-like symbol to the left of the text 'CERTS' which has a registered trademark symbol.

AI⁺
Real Estate™

Certification Modules

Module 1

Introduction to AI in Telecommunications

1.1 AI Fundamentals in Telecommunications

1.2 AI Technologies for Telecom

1.3 Emerging Trends in AI for Telecommunications

1.4 Case Study

1.5 Hands-on

Module 2

Data Engineering for Telecom AI

2.1 Foundations of Telecom Data Engineering

2.2 Designing and Managing the Telecom Data Pipeline

2.3 Data Engineering tools and Technology

2.4 Case Study: SK Telecom's Big Data Analytics with Metatron Discovery

2.5 Hands on Exercise

Module 3

AI for 5G Networks

3.1 Introduction to 5G

3.2 AI Applications in 5G

3.3 Enhancing Network Management with AI

3.4 Case Study

3.5 Hands-on

Module 4

AI in Network Optimization

4.1 Predictive Network Management

4.2 Performance Enhancement Techniques

4.3 Traffic Management Strategies

4.4 Case Study

4.5 Hands-on

Module 5

AI for Network Security

5.1 Security Threats in Telecom

5.2 AI Security Solutions

5.3 Advanced Security Frameworks

5.4 Case Study

5.5 Hands-on

Module 6

Enhancing Customer Experience with AI

6.1 Personalized Customer Service

6.2 Service Quality Improvement

6.3 Enhancing Customer Engagement

6.4 Case Study

6.5 Hands-on

Module 7

IoT Integration with Telecommunications

7.1 IoT Fundamentals

7.2 Managing IoT Security Challenges

7.3 Enhancing Operational Efficiency with IoT

7.4 Case Study

7.5 Hands-on

Module 8

AI-Integrated Network Operations Centers (NOCs)

8.1 Transitioning to AI-driven NOCs

8.2 Automating escalations and root cause analyses

8.3 Closed-loop automation with AI and SDN integration

8.4 Designing AI-ready network architectures

8.5 Change management strategies for AI rollouts in operations

8.6 Case Study: Implementation of AI assistants in NOCs

Module 9

Ethical Considerations in Artificial Intelligence

9.1 Ethical Implications of Using Artificial Intelligence

9.2 Responsible Deployment Practices

9.3 Emerging Trends and Challenges

9.4 Case Study

9.5 Hands-on

Module 10

Capstone Project

Certification Outcome

The AI + Telecommunications certification equips professionals with the expertise to apply artificial intelligence across telecom operations. Participants will gain skills in machine learning, NLP, and computer vision to optimize network performance, enhance security, and improve customer experience. They will learn to integrate AI with 5G and IoT networks, engineer telecom data pipelines, and deploy AI-driven solutions for predictive maintenance, fraud detection, and intelligent customer support. The certification emphasizes ethical AI practices, MLOps, and real-world application through a capstone project, preparing professionals to lead AI innovation and drive operational excellence in the telecommunications industry.



Market Insight

The AI-driven telecommunications market is rapidly expanding, with increasing demand for optimized 5G networks, enhanced customer experiences, and improved security. Companies are leveraging AI technologies to streamline operations, reduce costs, and provide innovative solutions, creating significant growth opportunities in this sector.



Value Proposition

Our AI + Telecommunications course empowers professionals with the skills to leverage AI for optimizing telecom networks, enhancing security, and driving customer satisfaction. By integrating cutting-edge technologies, participants gain the expertise to lead digital transformation and innovation in the telecom industry.



Additional Features

Additional features of the AI + Telecommunications course include hands-on projects, real-world case studies, and exposure to cutting-edge technologies like reinforcement learning and IoT integration. Participants also gain practical experience with MLOps tools, enabling effective deployment and monitoring of AI models.

AI Experts



Jason Kellington

AI Expert

As a consultant, trainer, and technical writer with more than 25 years of experience in IT, I specialize in the development and delivery of solutions focused on effective and efficient enterprise IT.



Justin Frébault

AI Expert

I'm a boutique data consultant specializing in data mesh and lakehouse solutions. I've dedicated my career to helping organizations transform their approach to data, moving beyond mere knowledge.



J Tom Kinser

AI Expert

I have over forty years of experience in software development, data engineering, management, and technical training. I am a Microsoft Certified Trainer and a software developer, holding multiple certifications.



Terumi Laskowsky

AI Expert

Country Manager for Global Consulting Services in Japan, Specialties: Information Security (Compliance, Policy, Application, Host, Network)

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