AICERTs™

AI+ Network™

Introduction to AI CERTs

AI CERTs™ is a leader in AI and blockchain certification, offering premier programs designed to help individuals excel in these rapidly advancing fields. Our certifications are crafted to connect theoretical knowledge with practical application, ensuring learners are ready to make an immediate impact in their careers.

AI CERTs™ was established with the goal of providing high-quality, accessible certifications that enable individuals to succeed in the digital era. Our objective is to nurture a new generation of tech leaders who go beyond participation to drive innovation in the industry

Acknowledgements

We would like to express our deepest gratitude to all the Subject Matter Experts (SMEs), industry professionals, and teams who generously dedicated their time, expertise, and insights to developing the AI CERTs™ Certification Scheme. The combined efforts of experts from various fields, such as cybersecurity, artificial intelligence, education, and professional training, have been vital in ensuring the program's relevance, rigor, and alignment with industry needs.

Contributors

The successful creation and validation of the certification scheme involved several key stakeholders and teams:

- Subject Matter Experts (SMEs): A diverse group of AI and cybersecurity professionals provided their expertise to ensure the certification content is comprehensive and in line with current industry standards

- Academic Partners: We appreciate the contributions from distinguished academic institutions, whose research and frameworks have shaped the theoretical underpinnings of the certification.

- Industry Advisors: We extend our special thanks to our partners from leading organizations for sharing insights on the latest market trends and emerging technologies, ensuring the certification effectively addresses the real-world challenges faced by today's AI professionals.

- Internal Development Teams: Our instructional designers, content creators, and technical staff worked diligently to convert expert knowledge into a structured and accessible certification scheme for professionals worldwide.

- Compliance and Accreditation Teams: Their careful work in aligning the certification with ISO/IEC 17024:2012 standards have ensured that the scheme meets the highest levels of international accreditation.

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Exam Information

- This AI+ Network certification delivers a comprehensive curriculum designed to enhance learner's skills in both networking and artificial intelligence. It consists of essential topics such as network types, protocols, infrastructure design, and security, as well as advanced subjects like network virtualization, 5G, IoT, and AI-driven optimization techniques. Learners will gain proficiency in automation tools and policy-driven management, equipping them to meet the industry's dynamic demands.

- The certification also focuses on integrating AI into networking for optimization, security, and management. Through practical labs and projects, you will create AI-powered solutions for threat detection, diagnostics, and resource allocation. Additionally, Learners will explore emerging trends like blockchain technology and the future of AI in networking, positioning individuals to thrive in innovative roles that blend networking expertise with AI knowledge.

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Exam Prerequisites

The following prerequisites are recommended to maximize your learning:

- **Foundational Networking Knowledge:** Basic understanding of networking fundamentals.
- **Python Programming:** Familiarity with programming languages such as Python.
- **AI and Machine Learning Understanding:** Fundamental knowledge of AI and machine learning concepts.
- **Hands on experience with Network Management Tools:** Experience with network management tools and technologies is a plus.

Exam Specifications

Number of Questions

50

Passing Score

35/50 or 70%

Duration

90 Minutes

Exam Options

Online, Remotely Proctored

Question Type

Multiple Choice/Multiple Response

Item Format Details

- **The exam will primarily consist of multiple-choice questions with single-response options.**
- **Additional item types may be included as necessary, such as:**
  - Manipulating snippets of code (e.g., SQL)
  - Interpreting data visualizations

- The exam will be administered using Proctoring 365, AI CERTs' proprietary remote proctoring solution, ensuring a secure and reliable testing environment for all candidates.

- (**Note:** exam time includes 5 minutes for reading and signing the Candidate Agreement and 5 minutes for the testing system tutorial.)

Exam Description

TARGET CANDIDATE	
NETWORKING PROFESSIONALS	• Network Engineers • System Administrators • Cloud Architects
DATA SCIENTISTS AND ANALYSTS	• Data Engineers • Machine Learning Engineers • AI Analysts
IT PERSONNEL	• DevOps Engineers • Technical Support Specialists
ASPIRING NETWORKING PRACTITIONERS	• Students pursuing degrees in networking, AI, or related fields • Career Changers looking to transition into networking domain
BUSINESS LEADERS AND EXECUTIVES	• Chief Technology Officers (CTOs) • IT Managers overseeing network infrastructure
EDUCATORS AND TRAINERS	• University Professors teaching courses on AI and networking • Corporate Trainers developing and delivering training programs

Exam Objective Statement

- **Understand AI and Networking Principles:** Comprehend the fundamental concepts of artificial intelligence (AI) and its role in networking, emphasizing optimization and automation.
- **Apply AI for Network Performance Enhancement:** Implement AI techniques to improve network efficiency, including traffic management, load balancing, and resource distribution.
- **Utilize AI Algorithms for Network Security:** Use AI algorithms for real-time threat detection and automated responses to address network vulnerabilities, reducing security risks.
- **Leverage Machine Learning Models for Traffic Analysis:** Employ machine learning models to analyze network traffic patterns, identify anomalies, and optimize bandwidth usage.
- **Develop Smart Network Management Strategies:** Formulate proactive strategies for managing networks that utilize AI to anticipate problems and boost operational effectiveness.
- **Engage in Network Monitoring and Diagnostics:** Learn and apply monitoring techniques, leveraging AI tools to identify, diagnose, and resolve network issues swiftly.

- **Familiarize with AI-Driven Network Automation Tools:** Gain knowledge of various AI-based tools that automate network configurations and enhance management processes.
- **Capstone Project Integration:** Combine the knowledge and skills acquired throughout the course in a capstone project that tackles real-world networking challenges, focusing on AI implementations.

To ensure that exam candidates demonstrate the necessary skills, the AI+ Network exam (Exam Code: AIC-NET-101) will assess their knowledge across the following domains, along with their respective weightings:

Module	% of Examination
Networking Foundations	10%
Advanced Networking Technologies	16%
AI in Networking	16%
Network Automation and Orchestration	16%
AI-Enhanced Network Security	13%
Practical Labs and Hands-On Projects	13%
Emerging Trends and Future Directions	13%
Total	100%

Objectives

The information provided below is intended to help you prepare for your certification exam with AI CERTs. While this resource is valuable, it does not cover every concept and skill that may appear on your exam. The exam domains, previously identified in the objectives listing, represent the primary content areas assessed. Each objective within these domains corresponds to specific tasks relevant to the job role(s) being evaluated. Additional information beyond the domains and objectives offers examples of concepts, tools, skills, and abilities pertinent to those areas. This content is derived from industry expert analysis related to the certification job role(s) and may not directly align with all aspects of the training program or exam content. We strongly recommend engaging in independent study to familiarize yourself with any concepts mentioned here that may not have been explicitly addressed in your training materials.

Module 1

Module 1: Networking Foundations (13%)

1.1 Basic Networking Concepts

1.2 Networking Protocols and Standards

1.3 Network Infrastructure and Design

1.4 Introduction to Network Security

Module 2

Module 2: Advanced Networking Technologies (16%)

2.1 Network Virtualization and Cloud Networking

2.2 Emerging Network Architectures

2.3 Advanced Routing and Switching

2.4 Network Storage and Data Centers

Module 3

Module 3 AI in Networking (16%)

3.1 Introduction to AI and Machine Learning

3.2 AI-Driven Network Optimization

3.3 AI for Network Security and Threat Detection

3.4 AI-Enhanced Network Management

Module 4

Module 4 Network Automation and Orchestration (16%)

4.1 Fundamentals of Network Automation

4.2 AI-Driven Network Orchestration

4.3 Policy-Driven Network Management

4.4 Case Studies in Network Automation

Module 5

Module 5 AI-Enhanced Network Security (13%)

5.1 Advanced Threat Detection with AI

5.2 Secure Network Design and Architecture

5.3 AI for Cybersecurity Intelligence

5.4 Ethical Considerations in AI-Driven Security

Module 6

Module 6: Practical Labs and Hands-On Projects (13%)

6.1 Network Simulation and Emulation

6.2 AI-Driven Network Automation Projects

6.3 AI for Network Security Projects

6.4 Capstone Project (Using Google Colab and Azure cloud)

Module 7

Module 7: Emerging Trends and Future Directions (13%)

7.1 Future of AI in Networking

7.2 AI-Powered IoT Networks

7.3 Blockchain and AI in Networking

7.4 Continuous Learning and Career Development

Recertification Requirements

To maintain your certification status, AI CERTs require recertification every 1 year. Candidates will be notified 3 months before their recertification due date. Candidates need to apply for recertification following the guidelines provided in the candidate handbook.

Contact Us for Recertification Inquiries

For any questions or to initiate the recertification process, please reach out to our support team. We are here to assist you with your recertification needs. Email: support@aicerts.io

Code of Conduct

All AI CERTs-certified professionals must adhere to the AI CERTs Code of Conduct, which emphasizes integrity, confidentiality, continuous competence development, fairness, and compliance with applicable laws and regulations. Certified individuals are expected to avoid conflicts of interest, respect intellectual property rights, and uphold ethical behavior in all professional activities. Any violation of this code may result in suspension or revocation of certification. Certified professionals agree to these terms as a requirement for maintaining their certification.

Acronyms

Acronym Expanded Form

- AI - Artificial Intelligence
- ML - Machine Learning
- IoT - Internet of Things
- SDN - Software Defined Networking (implied in network virtualization and emerging architectures)
- NOC - Network Operations Center (implied in network management)
- WAN - Wide Area Network (implied in advanced routing and switching)
- LAN - Local Area Network (implied in network infrastructure and design)
- VPN - Virtual Private Network (implied in network security)
- VM - Virtual Machine (implied in network virtualization and cloud networking)
- QoS - Quality of Service (implied in AI-driven network optimization)

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Contact

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