

Information Security, Cyber Security & Al Mastery Course





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Euro

Course Description

This comprehensive 10-day course provides an in-depth exploration of information security, cyber security, and artificial intelligence AI in the context of modern digital threats. Participants will gain practical knowledge and skills in threat detection, risk management, and AI-powered security solutions. The course combines theoretical concepts with hands-on exercises to prepare professionals for the evolving landscape of digital security.

Learning Objectives

- Understand core principles of information security and cyber security
- Analyze and mitigate common cyber threats and vulnerabilities
- Apply AI and machine learning techniques to enhance security operations
- Develop strategies for implementing Al-driven security solutions
- Evaluate ethical considerations in Al-powered security systems

Course Modules

Day 1: Foundations of Information Security

- Introduction to information security concepts
- CIA triad: Confidentiality, Integrity, and Availability
- Security policies and standards
- Risk management fundamentals

Day 2: Cyber Security Essentials

- Cyber threat landscape overview
- Network security principles
- Endpoint security and access control
- Incident response basics

Day 3: Cryptography and Data Protection

- Encryption algorithms and protocols
- Public Key Infrastructure PKI
- Data classification and handling
- Privacy regulations and compliance

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Day 4: Artificial Intelligence Fundamentals

- Introduction to AI and machine learning
- Supervised and unsupervised learning
- · Neural networks and deep learning
- Al applications in cybersecurity

Day 5: AI-Powered Threat Detection

- Anomaly detection using machine learning
- Behavioral analytics and user profiling
- Al-driven intrusion detection systems
- Threat intelligence and AI

Day 6: Security Information and Event Management SIEM

- SIEM architecture and components
- Log collection and normalization
- Correlation rules and alerts
- Al-enhanced SIEM capabilities

Day 7: Al in Malware Analysis and Prevention

- Machine learning for malware classification
- Automated malware analysis techniques
- Al-powered antivirus solutions
- Zero-day threat detection using AI

Day 8: Al-Driven Network Security

- Network traffic analysis using Al
- DDoS mitigation with machine learning
- Al-based firewall and IPS systems
- Software-defined networking and AI

Day 9: Ethical AI and Security

- Bias and fairness in AI security systems
- Explainable AI for security decisions
- Privacy-preserving machine learning
- Ethical considerations in Al-powered surveillance

Day 10: Future Trends and Capstone Project

- Emerging AI technologies in cybersecurity
- Quantum computing and post-quantum cryptography
- Al-human collaboration in security operations

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• Capstone project: Designing an Al-enhanced security solution

Practical Wins for Participants

- Ability to implement Al-driven threat detection systems
- Skills to enhance existing security infrastructure with AI capabilities
- Knowledge to evaluate and select appropriate AI security solutions
- Strategies for integrating AI into organizational security policies and procedures



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