



MaiCoE

Malaysia AI
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APPLIED CYBERSECURITY

WITH MACHINE LEARNING & SECURE CLOUD

HRD Corp Claimable Course ID: 10001662115

Strengthen **your digital defense** with **Applied Cybersecurity with Machine Learning & Secure Cloud Fundamentals**. Learn how to detect threats, protect cloud environments, and apply AI-driven security techniques. Gain practical skills through real-world scenarios to safeguard systems, data, and organizations in today's rapidly evolving cyber threat landscape.

More Info

www.maicoe.org

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Programme Overview

This 2-day training programme provides participants with a practical and integrated understanding of modern cybersecurity, machine learning, and secure cloud fundamentals in response to today's rapidly evolving digital threat landscape. As cyber attacks become more automated, adaptive, and sophisticated, traditional rule-based and signature-based security controls are no longer sufficient on their own. Organisations increasingly rely on intelligent, data-driven approaches to detect threats early, reduce operational risk, and improve incident response effectiveness.

The course begins by examining current global and regional cyber threat trends, common attack techniques, and real-world breach scenarios affecting organisations across industries. Participants are introduced to recognised cybersecurity frameworks and Malaysian regulatory requirements, enabling them to understand how security operations align with governance, compliance, and risk management obligations. The programme then progresses to the role of machine learning in cybersecurity, explaining how supervised and unsupervised models are used for threat detection, anomaly identification, phishing prevention, and fraud monitoring.

Through guided demonstrations and practical examples, participants gain exposure to applying basic machine learning techniques for cybersecurity use cases, including interpreting model outputs and understanding common operational challenges such as false positives, alert fatigue, and explainability. The course concludes by exploring secure cloud and IoT architectures, highlighting shared responsibility models, infrastructure security considerations, and how machine learning can be embedded into cloud-based security operations.

By the end of the programme, participants will have a clear, practical understanding of how cybersecurity, machine learning, and cloud technologies work together to strengthen organisational resilience, improve threat detection, and support secure digital transformation initiatives.

67%

of companies rely on AI/ML to detect and handle security threats.

Source: Electro IQ 2025



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Key Takeaways

By the end of this programme, participants will be able to:

- **Identify** modern cyber threats, attack patterns, and business impacts.
- **Apply recognised cybersecurity frameworks and Malaysian regulatory requirements.**
- **Explain how machine learning** enhances threat detection beyond traditional security tools.
- **Perform basic ML-based detection** for cybersecurity use cases.
- **Understand secure cloud and IoT architectures** with embedded cybersecurity and ML principles.

“ Applied Cybersecurity with Machine Learning & Secure Cloud Fundamentals is a very useful course because it helps us understand how modern cybersecurity works in today’s digital and cloud-based environments. The course shows how machine learning can be applied to detect cyber threats, analyze security data, and improve system protection. It also provides important knowledge about securing cloud infrastructure and managing cyber risks. Overall, I believe this course strengthens our understanding of advanced cybersecurity techniques and prepares me to handle real-world security challenges more effectively. ”

Rayner Alfred
Professor of Computer Science (AI)
Malaysia AI Centre of Excellence

Who is this programme for?

This programme is designed for :

- ✓ IT & Security Professionals
- ✓ SOC Analysts / Engineers
- ✓ Cloud & DevOps Engineers
- ✓ Technical Managers & Executives
- ✓ ICT Practitioners transitioning into cybersecurity or AI



Programme Curriculum

MODULE 1: Global Cyber Threat Landscape & Attack Evolution

Purpose: Understand cyber threats, attackers, attack methods, and business impacts.

Topics covered includes

- Global cybercrime trends
- Threat actors & motivations
- Malware, phishing, ransomware, APTs
- Attack lifecycle & business impact

MODULE 2: Cybersecurity Frameworks, Law & Governance

Purpose: Understand cybersecurity frameworks, laws, governance, and incident response for organizational security compliance.

Topics covered includes

- NIST CSF, ISO 27001, CIS Controls
- PDPA 2010 & Amendment 2024
- Cyber Security Act 2024
- Governance & incident response

MODULE 3: Fundamentals of Machine Learning for Cybersecurity

Purpose: Understand how machine learning supports cybersecurity through key concepts, learning types, security tasks, and common algorithms.

Topics covered includes

- Why ML is needed in cybersecurity
- Supervised vs unsupervised learning
- ML tasks in security
- Common algorithms overview

MODULE 4: Artificial Intelligence in FP&A, Forecasting and Budgeting

Purpose: To understand machine learning security use cases, behavioral analytics, and how security architectures integrate with SIEM and SOAR for effective threat detection.

Topics covered includes

- ML use cases in SOCs
- Behavioral analytics
- Security analytics architecture
- SIEM & SOAR integration

MODULE 5: Hands-On ML Demo for Cybersecurity

Purpose: Understand applying machine learning to detect spam, phishing, anomalies, and evaluate security models.

Topics covered includes

- Security datasets overview
- Feature engineering
- Spam/phishing detection (Naive Bayes)
- Anomaly detection (clustering/outliers)

MODULE 6: Secure Cloud & IoT Infrastructure Fundamentals

Purpose: Understand secure cloud and IoT infrastructure, responsibilities, architecture, identity, encryption, and access control.

Topics covered includes

- Cloud models & shared responsibility
- Secure cloud architecture
- Identity, encryption, access control
- IoT & Industry 4.0 security



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Programme Curriculum

MODULE 7: Integration, Best Practices & Future Readiness

Purpose: To understand best practices for integrating AI in cybersecurity, addressing operational challenges, ensuring explainability, ethics, governance, and preparing for future AI-driven cyber threats.

Topics covered includes

- Operational challenges in AI security
- Explainability & trust
- Ethics & governance
- Future trends & AI-driven attacks

Programme Highlights



In-person session

Engage directly with AI industry experts in an interactive, face-to-face learning environment designed to provide practical insights into the latest advancements in AI and their real-world applications in business.



Cutting-edge content

Learn through a practice-oriented curriculum developed by MAICOE, integrating real industry case studies and insights from HRD Corp Accredited Trainers to deliver relevant, impactful, and experience-driven learning.



Capstone project

Develop a practical AI strategy and implementation roadmap that aligns with your organisation's goals, governance requirements, and long-term strategic vision.



Certificate of completion

Distinguish yourself with a certificate from MAICOE, an HRD Corp Registered Training Provider, delivered by Accredited Trainers and recognised for industry-relevant, future-focused executive education.



Accredited Trainers



Professor Ts. Dr. Rayner Alfred is an HRD Corp Accredited Trainer, and AI expert specialising (World Top 2% Scientist) in applied artificial intelligence, data analytics, and intelligent decision-support systems. With extensive experience leading research and industry collaborations in Malaysia and worldwide, he focuses on responsible AI adoption for strategic and high-impact applications.

His work spans AI governance, risk management, and technology-driven innovation, supporting organisations in navigating compliance requirements while creating measurable business value. Prof. Rayner has delivered executive-level programmes and advisory engagements that bridge advanced AI concepts with practical implementation, equipping finance leaders to drive ethical, transparent, and value-oriented AI transformation.



Ts. Josh Lee Ren Ting is a technologist, systems engineer, and industrial trainer with expertise in software engineering, enterprise networking, cybersecurity, IoT, and cloud infrastructure. He serves as the Chief Technology Officer at Sri Komputer Sdn. Bhd., where he designs secure and optimized technology infrastructures for industry clients.

Josh holds multiple professional certifications including ECNS, ECNP, CCNA, HCNA, Sophos Firewall Engineer, and Fortinet Network Security Associate. As a trainer with Sabah Skills & Technology Centre, he delivers Industry 4.0, IoT, networking, and cybersecurity programmes, focusing on practical skills and real-world problem solving.



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MAICOE Advantages

- ✓ **Practical, Industry-Driven Learning:** Programmes designed with real-world case studies and applied implementation frameworks.
- ✓ **Executive-Focused Professional Development:** Specialised training for senior leaders to drive transformation and measurable outcomes.
- ✓ **HRD Corp Registered Training Provider:** Recognised for delivering claimable, high-impact workforce development programmes.
- ✓ **Accredited Trainers & Industry Experts:** Led by certified professionals with deep expertise in AI, finance, risk, and governance.
- ✓ **Trusted Partner for Future Skills Upskilling:** Committed to empowering organisations with AI-ready talent and strategic capabilities.
- ✓ **Verified Digital Certificates:** Upon completion of the program, participants will be awarded a verified digital certificate of participation by Malaysia AI Centre of Excellence training program.



✓ **Program Details:**
14 Hours (2-days)

✓ **Program Fee:**
RM4,500.00



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<https://maicoe.org/training-and-certifications>