COURSE OVERVIEW HE0933
AI in Industrial Security

Course Title
AI in Industrial Security

Course Date/Venue
Session 1: April 21-25, 2025/Glasshouse Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
Session 2: October 26-30, 2025/Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE

Course Reference
HE0933

Course Duration/Credits
Five days/3.0 CEUs/30 PDHs

Course Description

This practical and highly-interactive course includes real-life case studies and exercises where participants will be engaged in a series of interactive small groups and class workshops.

This course is designed to provide participants with a detailed and up-to-date overview of Artificial Intelligence in Industrial Security. It covers the role of AI in industrial security and the differences between traditional and AI-driven security approaches; the machine learning (ML) and deep learning (DL) and supervised and unsupervised learning; the role of neural networks in security applications and AI algorithms commonly used in industrial security; the common threats in industrial cybersecurity and AI as a tool for cyber threat detection; and the AI-based anomaly detection in industrial networks and incident response and mitigation.

Further, the course will also discuss the computer vision and facial recognition in security, AI-based behaviour analysis and anomaly detection; the integration of AI with CCTV, access control and ethical concerns and regulatory compliance; the security vulnerabilities in industrial IoT (IIoT), AI-driven IIoT threat monitoring and role of AI in predictive maintenance for security; the AI-based risk assessment in IIoT environments and data collection and preprocessing for AI Models; and the AI for intrusion detection and prevention and AI-driven access control systems.

During this interactive course, participants will learn the AI in predictive risk assessment, AI for network security monitoring and machine learning for anomaly detection; the user behavior anomalies, AI-based identity and access monitoring; preventing data leaks with AI-driven analysis and integrating AI with HR security policies; the AI-driven object and person detection, real-time crowd behavior analysis, perimeter security monitoring and AI-assisted facial recognition and tracking; the AI for Industrial facility security, AI-based weapon and threat detection and AI for perimeter and border security; the AI-powered emergency response systems, predicting and mitigating industrial accidents and AI-assisted disaster management; the recovery real-time AI-based communication during crises; the AI-driven robotics in security, malware detection and prevention, phishing and social engineering prevention and security information and event management (SIEM); the AI for automated incident response, data encryption, privacy protection and ethical and legal aspects of AI in security; the role of blockchain in AI security applications, enhancing data integrity using blockchain and AI and AI-driven smart contracts for security enforcement; the predictive threat intelligence using AI, AI in cyber threat landscape mapping and AI-driven forensic analysis; and the AI-based decision support systems in security and AI in industrial security infrastructure.

Course Objectives

Upon the successful completion of this course, each participant will be able to:-

- Apply and gain a comprehensive knowledge on artificial intelligence in industrial security
- Discuss the role of AI in industrial security and the differences between traditional and AI-driven security approaches
- Identify machine learning (ML) and deep learning (DL), supervised and unsupervised learning, the role of neural networks in security applications and AI algorithms commonly used in industrial security
- Recognize the common threats in industrial cybersecurity and apply AI as a tool for cyber threat detection, AI-based anomaly detection in industrial networks and incident response and mitigation
- Apply computer vision and facial recognition in security, AI-based behaviour analysis and anomaly detection, integration of AI with CCTV and access control and ethical concerns and regulatory compliance
- Discuss security vulnerabilities in industrial IoT (IIoT), AI-driven IIoT threat monitoring, role of AI in predictive maintenance for security and AI-based risk assessment in IIoT environments
- Carryout data collection and preprocessing for AI Models, AI for intrusion detection and prevention and AI-driven access control systems
- Employ AI in predictive risk assessment, AI for network security monitoring and machine learning for anomaly detection
- Identify user behavior anomalies, apply AI-based identity and access monitoring, prevent data leaks with AI-driven analysis and integrate AI with HR security policies
- Carryout AI-driven object and person detection, real-time crowd behavior analysis, perimeter security monitoring and AI-assisted facial recognition and tracking

- Implement AI for Industrial facility security, AI-based weapon and threat detection and AI for perimeter and border security
- Recognize AI-powered emergency response systems, predict and mitigate industrial accidents and apply AI-assisted disaster management and recovery including real-time AI-based communication during crises
- Apply AI-driven robotics in security, malware detection and prevention, phishing and social engineering prevention and security information and event management (SIEM)
- Carryout AI for automated incident response, data encryption, privacy protection and ethical and legal aspects of AI in security
- Define the role of blockchain in AI security applications, enhance data integrity using blockchain and AI and apply AI-driven smart contracts for security enforcement
- Illustrate predictive threat intelligence using AI, AI in cyber threat landscape mapping and AI-driven forensic analysis
- Apply AI-based decision support systems in security and implement AI in industrial security infrastructure

Exclusive Smart Training Kit - H-STK®

*Participants of this course will receive the exclusive "Haward Smart Training Kit" (**H-STK®**). The **H-STK®** consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.*

Who Should Attend

This course provides an overview of all significant aspects and considerations of artificial intelligence in industrial security for industrial security managers, cybersecurity analysts, risk assessment specialists, industrial automation engineers, process control engineers, IoT and embedded systems engineers, AI and machine learning engineers, data scientists, chief security officers (CSOs), operations managers, compliance officers and other technical staff.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

30% Lectures
20% Practical Workshops & Work Presentations
30% Hands-on Practical Exercises & Case Studies
20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations: -

- British Accreditation Council (BAC)

  Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

- The International Accreditors for Continuing Education and Training (IACET - USA)

  Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

  Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units** (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

  Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Course Fee

US$ 5,500 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:

Mr. John Burnip, EHS, SAC, STS, NEBOSH-ENV, NEBOSH-IGC, NEBOSH-IFC, NEBOSH-PSM, NEBOSH-IOG, TechIOSH, is a **NEBOSH Approved Instructor** and a **Senior Security Consultant** with over **30 years** of practical **Offshore & Onshore** experience within **Oil**, **Gas**, **Refinery**, **Petrochemical** and **Nuclear** industries. His wide experience covers **NEBOSH** International General Certificate in Occupational Health & **Safety**, **NEBOSH** National Certificate in Construction Health & Safety, **NEBOSH** Certificate in Process Safety Management, **NEBOSH** Environmental Management Certificate, **NEBOSH** Certificate in Fire Safety, **NEBOSH** International Oil & Gas Certificate, Industrial **Security** & Asset Protection, **Security Threat** Identification, **Risk** Analysis & Evaluation, **Security** Planning & Design, **Security Policy** Development, **Integrated Security Systems** Management, **Safety & Loss** Prevention, **Security Engineering & Emergency** Management Planning, **Security Incident** Management, **Information Security & Confidentiality** Management, **Security Crisis** Management, **Strategic Security** Management, **Security Report** Writing, **Security Risk** Management, **Strategic Planning**, **Terrorism**, **Security Management**, **Security Risk Assessment**, **Physical Asset** Protection, **API 780** standards, HCIS New Security Directives & Process, **Risk-Based** Screening, **Threat & Vulnerability** Assessments, **Residual Risks** Calculation, **Countermeasure Risk** Scores Development, Advanced **Intrusion Detection** Systems, **Perimeter & Building Barriers** Design, **Intellectual Property** Protection, Interdependency & External **Infrastructure Security**, **Quantitative Risk** Assessments, **Risk Registers** Maintenance, **Security Situation** Reporting, **Operating Access Control System**, **Security Operations** Management, **Security** Investigations & Criminal Evidence, **Security Risk Assessment**, Supervising **Security** Operation Team, Industrial **Security** & Asset Protection, **Security Threat** Identification, **Risk** Analysis & Evaluation, **PHA**, **HAZOP**, **HAZCOM**, **HAZMAT**, **HAZID**, **Hazard & Risk Assessment**, **Emergency Response Procedures** Behavioural Based Safety (**BBS**), **Confined Space Entry**, **Fall Protection**, **Emergency Response**, H_2S, Safety Management System (**ISO 45001**), **Accident/Incident Investigation** System and Report PSM, **Risk Assessment**, **SCE FMEA Failure Investigations**, Site Management Safety Training (**SMSTS**), IADC/API **Mobile Drilling Rig Inspections**, **Maintenance and Audits**, **H2s Training and Rescue with Respiratory Equipment**, Job Safety Analysis (**JSA**), **Work Permit & First Aid**, Project HSE Management System, Health & Hygiene Inspection, PTW Control, Process Modules Fire & Gas Commissioning, MSDS, Ergonomics, Lockout/Tagout, Fire Safety & Protection, Spill Prevention & Control, **Tower & Scaffold Inspection**, **Offshore** Operations, **Offshore** Construction, Basic **Offshore Safety** Induction & Emergency Training (BOSIET), **Onshore** Fabrication & **Offshore** Pipelaying & Hook-Up, **Crane** Inspection, **Crane** Operations, Oilfield Startup & Operation, Steel Fabrication, OSHA, **ISO 9001**, **ISO 14001**, **OHSAS 18001** and **IMO** (**SOLAS**) Regulations. Mr. Burnip has greatly contributed in upholding the highest possible levels of safety for numerous International Oil & Gas projects, Generation Systems & Platform Revamp, LPG & Gas Compression, Marine, Offshore and Power Plant Construction. Currently, he is the **HSE Advisor** of Solvay wherein he is responsible in planning and implementation of the corporate safety program (OSHA codes).

During Mr. Burnip's long career life, he had successfully carried out numerous projects in **Europe**, **North America**, **South America**, **Southeast Asia**, **Middle East** and the **North Sea**. He had worked for Delta Offshore Group, Solvay Asia Pacific, Likpin Dubai, SADRA/DOT, **ZADCO**, **McDermott** International (USA, Qatar, Egypt, India, Oman, Dubai and Abu Dhabi), **PDO**, **Shell**, **ARAMCO**, Salman Field, Leman Offshore Gas Field, GEC, Harland & Wolff PLC Belfast in North Ireland, Howard Doris – Kishorn in Scotland, **Westinghouse** Electric in Brazil and South Korea and **Chevron** Oil in Scotland as the **Commissioning Project Engineer**, **Project & Safety Engineer**, **Estimating Engineer**, **Security Engineer**, **Senior Instrument Engineer**, **Instrument Field Engineer**, **Lead Instrument Engineer**, **Instrument Engineer**, **Engineer**, **Emergency Response Training Manager**, **Security Manager**, **HSE Advisor**, **HSE Instructor**, **HSE Supervisor**, **Instrumentation Supervisor**, **Instrumentation Specialist**, **Project Coordinator**, **Crisis Communication & Emergency Response Specialist, Instrumentation Technician** and **Tank Farm Instrumentation Technician**.

Mr. Burnip has a **Bachelor's** degree in **Business Studies** from the **Somerset University** (**UK**). He is a **Certified/Registered Tutor** in **NEBOSH Certificate in Environmental Management**, **NEBOSH International General Certificate**, **NEBOSH International Certificate in Fire Safety & Risk Management**, **NEBOSH Process Safety Management Certificate** and **NEBOSH International Oil & Gas Certificate**; a **Certified Safety Auditor** (SAC); a **Certified ISO 45001** Auditor; an **Environmental Health and Safety Management Specialist** on Fall Protection, Elevated Structures, Material Handling, Trenching & Excavations; a Welding Brazing Safety Technician; a **Certified Safety Administrator** (**CSA**) - General Industry; a **Safety Manager/Trainer** – General Industry; a **Petroleum Safety Manager** (**PSM**) - Drilling & Servicing; a **Petroleum Safety Specialist** (**PSS**) - Drilling & Servicing; a **Safety Planning Specialist**; a **Safety Training Specialist**; a **Certified Instructor/Trainer**; a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management** (**ILM**) and further holds a Certificate in **Mechanical Engineering Craft Practice** from the **City & Guilds of London Institute**; a **NEBOSH Level 3** Construction Certificate (UK); and holds a **Cambridge Teaching Certificate**. He is a well-regarded member of the **National Association of Safety Professionals**, the **Association of Cost Engineers** (**UK**), **Institution of Occupational Safety & Health** (**TechIOSH**) and an **Associate Member** of **World Safety Organization**. Further, he has conducted innumerable trainings, workshops and conferences worldwide.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the workshop for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Understanding Artificial Intelligence in Industrial Security*** *Definition of AI & Its Role in Industrial Security • Evolution of AI Technologies in Security Systems • Differences Between Traditional & AI-Driven Security Approaches • Case Studies of AI Applications in Industrial Security*
0930 – 0945	*Break*
0945 – 1030	***Fundamentals of Machine Learning & Deep Learning*** *Introduction to Machine Learning (ML) & Deep Learning (DL) • Supervised versus Unsupervised Learning • Role of Neural Networks in Security Applications • AI Algorithms Commonly Used in Industrial Security*
1030 – 1130	***Industrial Cybersecurity Challenges & AI Solutions*** *Common Threats in Industrial Cybersecurity • AI as a Tool for Cyber Threat Detection • AI-Based Anomaly Detection in Industrial Networks • AI-Driven Incident Response & Mitigation*
1130 – 1230	***AI-Powered Surveillance Systems*** *Computer Vision & Facial Recognition in Security • AI-Based Behavior Analysis & Anomaly Detection • Integration of AI with CCTV & Access Control • Ethical Concerns & Regulatory Compliance*
1230 – 1245	*Break*
1245 – 1330	***AI in Industrial IoT Security*** *Security Vulnerabilities in Industrial IoT (IIoT) • AI-Driven IIoT Threat Monitoring • Role of AI in Predictive Maintenance for Security • AI-Based Risk Assessment in IIoT Environments*
1330 – 1420	***Data Collection & Preprocessing for AI Models*** *Sources of Security-Related Data in Industrial Environments • Data Preprocessing Techniques for AI Models • Challenges in Data Labeling & Annotation • Ensuring Data Privacy & Compliance*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day One*

Day 2

0730 – 0830	***AI for Intrusion Detection & Prevention*** *Signature-Based versus Behavior-Based Intrusion Detection • AI-Powered Intrusion Detection Systems (IDS) • Role of AI in Intrusion Prevention (IPS) • Case Studies of AI-Based Intrusion Detection*
0830 – 0930	***AI-Driven Access Control Systems*** *AI-Enhanced Biometric Security Solutions • Multi-Factor Authentication Using AI • AI in Physical Access Management (Smart Locks, RFID, etc.) • Role of AI in Insider Threat Prevention*

0930 – 0945	*Break*
0945 – 1100	***AI in Predictive Risk Assessment*** *Risk Modeling Using AI Algorithms • AI-Driven Threat Intelligence Platforms • Proactive Risk Mitigation Strategies with AI • AI-Based Risk Scoring Systems*
1100 – 1230	***AI for Network Security Monitoring*** *AI-Based Network Traffic Analysis • Identifying Malicious Activities Using AI • AI in Security Information & Event Management (SIEM) • AI-Driven Automated Response Systems*
1230 – 1245	*Break*
1245 – 1330	***Machine Learning for Anomaly Detection*** *Identifying Patterns of Abnormal Behavior • AI Algorithms for Real-Time Anomaly Detection • Application of Reinforcement Learning in Anomaly Detection • Case Studies of AI-Driven Anomaly Detection Systems*
1330 – 1420	***AI for Insider Threat Detection*** *Identifying User Behavior Anomalies • AI-Based Identity & Access Monitoring • Preventing Data Leaks with AI-Driven Analysis • Integrating AI with HR Security Policies*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Two*

Day 3

0730 – 0830	***AI-Powered Video Surveillance Analytics*** *AI-Driven Object & Person Detection • Real-Time Crowd Behavior Analysis • AI in Perimeter Security Monitoring • AI-Assisted Facial Recognition & Tracking*
0830 – 0930	***AI for Industrial Facility Security*** *AI-Driven Automated Patrolling Robots • AI-Powered Alarm Systems • AI in Secure Facility Management • Predictive Analytics for Facility Security*
0930 – 0945	*Break*
0945 – 1100	***AI-Based Weapon & Threat Detection*** *AI-Driven Weapons Recognition Technology • AI in Scanning & Screening Systems • AI-Powered Threat Detection in Public Spaces • Integrating AI Into Security Operations Centers (SOC)*
1100 – 1230	***AI for Perimeter & Border Security*** *AI in Geofencing & Motion Detection • Automated Drone Surveillance • AI-Based Radar & Thermal Imaging Security • AI-Powered Fence Monitoring Systems*
1230 – 1245	*Break*
1245 – 1330	***AI in Emergency & Crisis Management*** *AI-Powered Emergency Response Systems • Predicting & Mitigating Industrial Accidents • AI-Assisted Disaster Management & Recovery • Real-Time AI-Based Communication During Crises*

1330 – 1420	***AI-Driven Robotics in Security*** *Role of AI-Powered Security Robots • AI in Automated Security Patrols • AI-Enhanced Response Coordination with Human Security Teams • Case Studies of AI Security Robots in Industrial Settings*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Three*

Day 4

0730 – 0830	***AI in Malware Detection & Prevention*** *AI-Driven Signature-Based Malware Detection • AI for Zero-Day Malware Identification • AI in Endpoint Security Solutions • Case Studies of AI in Malware Prevention*
0830 – 0930	***AI-Driven Phishing & Social Engineering Prevention*** *AI-Powered Email Filtering & Threat Detection • Identifying Fraudulent Websites with AI • AI in Voice & Text Analysis for Scam Detection • Real-World Examples of AI Preventing Phishing Attacks*
0930 – 0945	*Break*
0945 – 1100	***AI for Security Information & Event Management (SIEM)*** *AI Integration with SIEM Platforms • Real-Time Threat Correlation & Response Automation • AI-Enhanced Log Analysis & Threat Prioritization • Improving Incident Response Times with AI*
1100 – 1230	***AI for Automated Incident Response*** *AI-Driven Security Orchestration, Automation, & Response (SOAR) • AI-Powered Threat Mitigation Strategies • AI in Cyber Threat Hunting & Response • AI in Real-Time Cybersecurity Decision-Making*
1230 – 1245	*Break*
1245 – 1330	***AI for Data Encryption & Privacy Protection*** *AI-Enhanced Encryption Technologies • AI in Secure Communication & Authentication • AI-Driven Data Masking & Anonymization • Ensuring AI Compliance with Privacy Regulations*
1330 – 1420	***Ethical & Legal Aspects of AI in Security*** *AI & Data Privacy Laws (GDPR, CCPA, etc.) • Bias & Fairness in AI Security Applications • Ethical AI Use in Surveillance & Monitoring • Future Regulatory Trends in AI Security*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Four*

Day 5

0730 – 0830	***AI & Blockchain for Industrial Security*** *Role of Blockchain in AI Security Applications • Enhancing Data Integrity Using Blockchain & AI • AI-Driven Smart Contracts for Security Enforcement • Case Studies on AI & Blockchain Integration*
0830 – 0930	***AI-Powered Threat Intelligence & Forecasting*** *Predictive Threat Intelligence Using AI • AI in Cyber Threat Landscape Mapping • AI-Driven Forensic Analysis • Future Trends in AI-Powered Security Intelligence*

0930 – 0945	*Break*
0945 – 1130	***AI-Based Decision Support Systems in Security*** *AI-Enhanced Decision-Making for Security Teams • AI-Driven Real-Time Security Analytics • AI in Security Command & Control Centers • AI-Powered Automated Security Policy Enforcement*
1130 – 1230	***Implementing AI in Industrial Security Infrastructure*** *Steps To Deploy AI-Based Security Solutions • AI Integration with Existing Security Technologies • Challenges in AI Implementation & Mitigation Strategies • Cost-Benefit Analysis of AI Security Investments*
1230 – 1245	*Break*
1245 – 1315	***AI-Driven Threat Simulations & Training*** *AI in Security Awareness Training Programs • AI-Powered Cyber-Attack Simulations • AI-Enhanced Security Drills & Exercises • AI in Continuous Security Learning & Improvement*
1315 – 1345	***The Future of AI in Industrial Security*** *Emerging AI Security Trends • AI-Driven Autonomous Security Systems • AI in Combating Evolving Security Threats • Preparing for The Next Generation of AI in Security*
1345 – 1400	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course*
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Practical Sessions

This practical and highly-interactive course includes real-life case studies and exercises:-

Course Coordinator

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