COURSE OVERVIEW IT0032
Introduction to Artificial Intelligence - Concepts, History & Applications

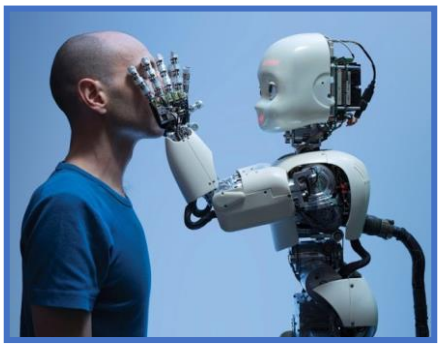
Course Title
Introduction to Artificial Intelligence - Concepts, History & Applications

Course Date/Venue
Session 1: April 13-17, 2025/Tamra Meeting Room, Al Bandar Rotana Creek, Dubai UAE
Session 2: September 15-19, 2025/Glasshouse Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

Course Reference
IT0032

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

Course Objectives



This practical and highly-interactive course includes real-life case studies 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 Introduction to Artificial Intelligence - Concepts, History & Applications. It covers the scope of AI and its importance in modern industries; the AI technologies and branches covering machine learning (ML), natural language processing (NLP), computer vision for image recognition, processing, robotics and autonomous systems; the symbolic AI and rule-based systems and statistical AI and probabilistic models, evolutionary computing, genetic algorithms and hybrid AI approaches; and the AI in personal assistants, powered recommendation systems, healthcare and diagnostics and driven customer service chatbots.

Further, the course will also discuss the types and applications of machine learning (ML) and the differences between AI, ML and deep learning; the supervised and unsupervised learning, deep learning, neural networks and natural language processing (NLP); the AI in computer vision and image processing, healthcare, medicine, finance and banking; the AI in manufacturing and automation, retail and e-commerce as well as autonomous vehicles and smart cities; the examples of bias in AI models and addressing bias in AI systems; and the ethical AI development and best practices.

During this interactive course, participants will learn the data privacy, AI applications and AI-driven surveillance and its implications; the regulations and policies governing AI privacy; the automation of repetitive tasks and impact on employment; the rise of AI-driven job roles and career opportunities; the deepfake technology, AI in misinformation, fake news generation and how to mitigate AI-generated misinformation; the AI governance and responsible AI development and the future trends in AI and emerging technologies; and the AI and human augmentation, space exploration and scientific research and creative industries covering art, music and writing.

Course Objectives

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

- Apply and gain a basic knowledge on the concepts, history and applications of artificial intelligence
- Discuss the scope of AI and its importance in modern industries
- Recognize AI technologies and branches covering machine learning (ML), natural language processing (NLP), computer vision for image recognition and processing and robotics and autonomous systems
- Discuss symbolic AI and rule-based systems and illustrate statistical AI and probabilistic models, evolutionary computing and genetic algorithms and hybrid AI approaches
- Describe AI in personal assistants, powered recommendation systems, healthcare and diagnostics and driven customer service chatbots
- Identify the types and applications of machine learning (ML) and the differences between AI, ML and deep learning
- Recognize supervised and unsupervised learning, deep learning and neural networks and natural language processing (NLP)
- Carryout AI in computer vision and image processing, healthcare and medicine and finance and banking
- Apply AI in manufacturing and automation, retail and e-commerce and autonomous vehicles and smart cities
- Give examples of bias in AI models, address bias in AI systems and apply ethical AI development and best practices
- Recognize data privacy and AI applications, AI-driven surveillance and its implications and regulations and policies governing AI privacy
- Discuss automation of repetitive tasks and impact on employment as well as the rise of AI-driven job roles and career opportunities
- Identify deepfake technology, AI in misinformation and fake news generation and how to mitigate AI-generated misinformation
- Apply AI governance and responsible AI development and discuss the future trends in AI and emerging technologies
- Carryout AI and human augmentation, space exploration and scientific research and creative industries covering art, music and writing

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 - concepts, history and applications for AI professionals and career changers, managers, AI enthusiasts 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 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.

Accommodation

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

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.

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:

Dr. Abedallah Al-Oqaili, PhD, MSc, is a **Senior IT Engineer** with over **30 years** of teaching and industrial experience in the areas of **MS Excel**, **MS WinWord**, **MS PowerPoint**, **ERP SAP 6.0**, **Artificial Intelligence & Neural Network**, **Cyber Ethical Hacking**, **Windows Operating System**, **Windows Server** Administration, **Python** Programming, **MS Office 365 BI**, **Digital Strategy & Transformation**, **Data Base** Design, **Computer** Maintenance, System Analysis & Design, **SQL Programming**, Decision Support Systems & Business Intelligence, **SQL**, **PL/SQL**, **C**, **C++**, **Java**, **Computer** Applications, **Scripting Languages**, VB, VB.Net, **Simulation & Modelling**, Management Information Systems, **E-commerce**, **Oracle** HRMS, **Oracle** Forms & Reports, **Oracle PL/SQL**, Problem Solving Technique, **Oracle ERP**, **ERP** Customized Oracle Application, Organization & System Process, User Acceptance Testing (**UAT**), Core HR, Payroll, SSHR, OLM, IRec, Medical, RTA & Provident Fund, **Oracle Developer/2000**, **Oracle 7.3 & Oracle 8i System**, **Oracle & FoxPro** for Windows, **DBASE III+**, Clipper, **FoxPro 2.1**, **JDeveloper**: Building Applications with ADF, **Oracle Developer**, Oracle WebDB, **J2EE** (Java 2 Enterprise Edition), **Java** Programming, **Oracle** Payroll Fast Formula, Oracle: Internet Application I, **Oracle** 8i DBA, **Oracle** 8i Forms 1&2, **Oracle** 8i Report, **Oracle** Application Server Rel. 4.0, **Oracle** DBA, Building Web Sites on the Internet, Visual Basic 5, **Oracle7 SQL**, **Oracle** Reports V2.5, **Oracle** Forms V4.5/V5.0/V6.0/V6i, **Oracle** Server Administrations, Software Systems Analysis & Design, General Orientation Course at ATOS, **Application** Engineering (PC Based System Design & Development), Novell 3.11, Novell NetWare, Lotus 123, Excel and Word Processing. Further, he is also well-versed in Project Management, Project Analysis, Design and Development for Mail Revenue & Handling System, Leadership Training, Manager Skills, Supervisory Skills, Microsoft Project, Advanced Excel, Instructional Techniques, Oracle Mobile Development Framework and Technical Writing.

During his career life, Dr. Abedallah has gained his technical and practical expertise through a variety of challenging and key positions such as the IT **Senior Manager**, **IT Manager**, **IT Project Manager**, **IT Trainer**, **Management Information System Faculty Head**, **Computer Science College Professor**, **Computer** and **Business Networking Department Trainer**, **IT Superintendent**, **IT Software Supervisor**, **IT System Analyst** and **IT Programmer** for various international companies such as the PAAET Basic Education College, Philadelphia University, Royal Jordan Airlines and Abu Al-Haj Training Center.

Dr. Abedallah has a **PhD** in **Computer Information Systems** and a **Master's** degree in **Information System** from the **University** of **Banking** and **Financial Sciences**, **Computer Information Systems**. Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership and Management** (**ILM**), a **Certified Systems Engineer & Systems Administrator** (**Security**, **Microsoft Office Specialist** and **Microsoft Certified IT Professional**) and has delivered numerous trainings, conferences and workshops worldwide.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course 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	***Introduction to Artificial Intelligence*** *Definition and Scope of AI • Evolution of AI Over the Decades • AI versus Machine Learning versus Deep Learning • Importance of AI in Modern Industries*
0930 – 0945	*Break*
0945 – 1040	***History of AI & Milestones*** *Early AI Concepts and Turing's Contributions • The Rise and Fall of AI (AI Winters) • Major AI Breakthroughs and Research Advancements • AI in the 21st Century: Deep Learning and Modern AI*
1040 – 1135	***AI Technologies & Branches*** *Machine Learning (ML) and Its Applications • Natural Language Processing (NLP) for Human-Like Interaction • Computer Vision for Image Recognition and Processing • Robotics and Autonomous Systems*
1135 - 1230	***AI Techniques & Methodologies*** *Symbolic AI and Rule-Based Systems • Statistical AI and Probabilistic Models • Evolutionary Computing and Genetic Algorithms • Hybrid AI Approaches*
1230 – 1245	*Break*
1245 – 1335	***AI in Everyday Life*** *AI in Personal Assistants (Alexa, Siri, Google Assistant) • AI-Powered Recommendation Systems (Netflix, Amazon) • AI in Healthcare and Diagnostics • AI-Driven Customer Service Chatbots*
1335 - 1420	***Hands-On: Exploring AI Applications*** *Introduction to AI Tools and Frameworks • Using AI-Powered Web Applications • Exploring AI-Driven Chatbots and Virtual Assistants • Overview of AI in Mobile Applications*
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	***Machine Learning: The Foundation of AI*** *What is Machine Learning (ML)? • Types of ML: Supervised, Unsupervised and Reinforcement Learning • Applications of ML in AI-Powered Systems • Differences Between AI, ML and Deep Learning*
0830 – 0900	***Supervised & Unsupervised Learning*** *Understanding Labeled and Unlabeled Data • Regression versus Classification in Supervised Learning • Clustering and Dimensionality Reduction in Unsupervised Learning • Real-World Applications of Both Learning Types*

0900 – 0915	*Break*
0915 – 1100	***Deep Learning & Neural Networks*** *Basics of Artificial Neural Networks (ANNs) • Introduction to Deep Learning and Deep Neural Networks (DNNs) • Understanding Convolutional Neural Networks (CNNs) • Overview of Recurrent Neural Networks (RNNs) and LSTMs*
1100 – 1230	***Natural Language Processing (NLP) & AI*** *Basics of NLP and Text Processing • AI-Powered Speech Recognition and Translation • Chatbots and Conversational AI • NLP Applications in Search Engines and Content Generation*
1230 – 1245	*Break*
1245 – 1335	***AI in Computer Vision & Image Processing*** *Introduction to Computer Vision • Object Detection and Image Classification • Facial Recognition and AI-Powered Surveillance • AI in Medical Imaging and Diagnostics*
1335 - 1420	***Hands-On: Introduction to AI Programming*** *Setting up Python for AI Development • Installing AI Libraries (TensorFlow, PyTorch, Scikit-Learn) • Writing a Simple Machine Learning Program • Experimenting with AI-Driven Image and Text Processing*
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 in Healthcare & Medicine*** *AI-Powered Diagnostics and Medical Imaging • AI in Personalized Medicine and Drug Discovery • Machine Learning in Predictive Healthcare Analytics • AI-Driven Robotic Surgery and Automation*
0830 – 0900	***AI in Finance & Banking*** *AI-Powered Fraud Detection and Risk Assessment • Automated Trading and AI-Driven Investment Strategies • AI Chatbots for Customer Service in Banking • Credit Scoring and AI-Powered Loan Approval Systems*
0900 – 0915	*Break*
0915 – 1100	***AI in Manufacturing & Automation*** *AI-Driven Robotics in Manufacturing • Predictive Maintenance Using AI • AI for Supply Chain and Logistics Optimization • AI in Quality Control and Process Automation*
1100 – 1230	***AI in Retail & E-Commerce*** *Personalized Recommendations Using AI • AI-powered Inventory and Demand Forecasting • Chatbots and AI-Driven Customer Support • AI for Dynamic Pricing and Marketing Optimization*
1230 – 1245	*Break*
1245 – 1335	***AI in Autonomous Vehicles & Smart Cities*** *AI-Powered Self-Driving Cars and Autonomous Drones • Smart Traffic Management Using AI • AI in Security and Surveillance for Smart Cities • AI-Powered Energy Management and Sustainability*

1335 - 1420	***Hands-On: AI in Industry Applications*** *Using AI-Powered Financial Analysis Tools • Exploring AI-Based Recommendation Systems • Experimenting with AI-Driven Chatbots • Overview of AI-Driven Predictive Maintenance*
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 & Ethics: Understanding AI Bias*** *Introduction to AI Bias and Fairness • Examples of Bias in AI Models • Addressing Bias in AI Systems • Ethical AI Development and Best Practices*
0830 – 0930	***AI & Privacy Concerns*** *Data Privacy and AI Applications • AI-Driven Surveillance and Its Implications • Protecting User Data in AI-Driven Platforms • Regulations and Policies Governing AI Privacy*
0930 – 0945	*Break*
0945 – 1100	***AI & Job Automation: Opportunities & Threats*** *How AI is Changing the Job Market • Automation of Repetitive Tasks and Impact on Employment • The Rise of AI-Driven Job Roles and Career Opportunities • Preparing the Workforce for an AI-Driven Future*
1100 – 1215	***AI & Misinformation: Deepfakes & Fake News*** *Understanding Deepfake Technology • AI in Misinformation and Fake News Generation • AI-Powered Fact-Checking and Content Moderation • How to Identify and Mitigate AI-Generated Misinformation*
1215 – 1230	*Break*
1245 – 1335	***AI Governance & Responsible AI Development*** *AI Regulations and Global Policies • Transparency and Accountability in AI Systems • AI in Government and Decision-Making • Building Ethical AI-Driven Solutions*
1335 - 1420	***Hands-On: Exploring AI Bias & Ethics*** *Testing AI Bias in Existing Models • Understanding AI Fairness Metrics • Experimenting with AI-Generated Deepfakes • Exploring AI-Driven Fake News Detection Tools*
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*

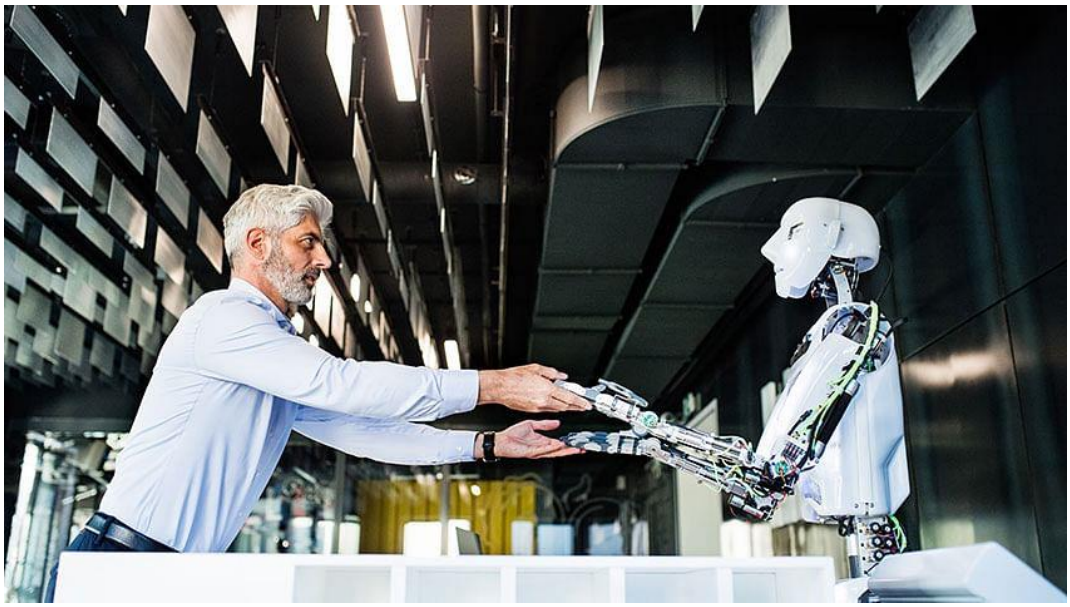
Day 5

0730 – 0830	***Future Trends in AI & Emerging Technologies*** *AI and Quantum Computing • The Impact of AI in the Metaverse • AI-Powered Cybersecurity and Defense Systems • AI-Driven Climate Change and Sustainability Solutions*
0830 – 0930	***AI & Human Augmentation*** *AI-Powered Brain-Machine Interfaces • AI in Prosthetics and Assistive Technologies • AI-Driven Augmented and Virtual Reality • Ethical Concerns in AI-Enhanced Human Capabilities*

0930 – 0945	*Break*
0945 – 1100	***AI in Space Exploration & Scientific Research*** *AI in Satellite Data Analysis and Space Missions • Machine Learning in Astrophysics and Cosmology • AI-Driven Automation in Scientific Experiments • AI in Earth Observation and Climate Modeling*
1100 – 1215	***AI in Creative Industries: Art, Music & Writing*** *AI-Generated Artwork and Creativity • AI-Powered Music Composition and Remixing • AI in Content Creation and Automated Journalism • The Role of AI in the Film and Gaming Industries*
1215 – 1230	*Break*
1230 – 1300	***Career Opportunities in AI & Skill Development*** *AI Job Roles: Data Scientist, AI Engineer, NLP Specialist • Learning AI: Resources, Courses and Certifications • Essential Programming Skills for AI Careers • Building a Career in AI Research and Development*
1300 - 1345	***Hands-On: Building an AI Career Roadmap*** *Identifying AI Career Paths Based on Interests • Creating a Personalized AI Learning Plan • Exploring AI-Related Projects for Skill Development • Setting Goals for AI Certification and Industry Engagement*
1345 – 1400	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about 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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