COURSE OVERVIEW PM0054
Artificial Intelligence Projects

Course Title
Artificial Intelligence Projects

Course Date/Venue
Session 1: June 22-26, 2025/Tamra Meeting Room, Al Bandar Rotana Creek, Dubai UAE
Session 2: November 03-07, 2025/Glasshouse Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

Course Reference
PM0054

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

Course Objectives

This hands-on, 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 Projects. It covers the data collection, preprocessing, model training and deployment; the challenges in AI projects and how to overcome them; selecting the right AI project and data collection and preprocessing for AI projects; choosing the right AI model for the project; the AI project development tools and frameworks; the object detection and image classification; and the AI for facial recognition, medical imaging, autonomous vehicles, agriculture and satellite image analysis.

Further, the course will also discuss the implementation of chatbot using NLP libraries and using transformer models for chatbots; the sentiment analysis in text, training AI models to detect emotions in tweets and reviews and using LSTMs and transformers for sentiment prediction; implementing text summarization using transformer models; the applications in journalism and document summarization; and evaluating model performance using NLP metrics.

During this interactive course, participants will learn the conversion of speech to text using deep learning, building a voice assistant using AI and implementing text-to-speech (TTS) models; training AI models for language translation and using transformers for multilingual text processing; the AI for fraud detection in banking, stock market prediction, cybersecurity and intrusion detection, business analytics and customer insights; the AI-driven traffic monitoring and optimization and AI-powered energy management systems; deploying AI models in production and AI in edge computing and IoT devices; the bias in AI models, techniques for reducing bias in AI applications and AI regulations and compliance frameworks; and the AI-powered automation and robotics, quantum computing in AI, AI and augmented reality (AR) and breakthroughs in self-learning AI models.

Course Objectives

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

- Apply and gain an in-depth knowledge on artificial intelligence projects
- Carryout data collection, preprocessing, model training and deployment and identify the challenges in AI projects and how to overcome them
- Select the right AI project and apply data collection and preprocessing for AI projects
- Choose the right AI model for the project and perform AI project development tools and frameworks
- Carryout object detection and image classification including AI for facial recognition, AI for medical imaging, AI for autonomous vehicles and AI in agriculture and satellite image analysis
- Implement a chatbot using NLP libraries and use transformer models for chatbots
- Apply sentiment analysis in text, train AI models to detect emotions in tweets and reviews and use LSTMs and transformers for sentiment prediction
- Implement text summarization using transformer models and its applications in journalism and document summarization as well as evaluate model performance using NLP metrics
- Convert speech to text using deep learning, build a voice assistant using AI and implement text-to-speech (TTS) models
- Train AI models for language translation and use transformers for multilingual text processing
- Carryout AI for fraud detection in banking, AI for stock market prediction, AI for cybersecurity and intrusion detection and AI for business analytics and customer insights
- Describe AI-driven traffic monitoring and optimization and AI-powered energy management systems
- Deploy AI models in production and apply AI in edge computing and IoT devices
- Recognized bias in AI models, techniques for reducing bias in ai applications and AI regulations and compliance frameworks
- Discuss AI-powered automation and robotics, quantum computing in AI, AI and augmented reality (AR) and breakthroughs in self-learning AI models

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 projects for technical professionals, project and business managers, domain-specific professionals, government and policy makers 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.

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 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. Chris Le Roux, PhD, MSc, BSc, PMI-PMP, PMI-CAPM is a **Senior Project & Management Consultant** with over **30 years** of teaching, training and industrial experience. His expertise lies extensively in the areas of **Project & Contracts** Management Skills, **Project & Construction** Management, **Project** Planning, Scheduling & Control, **Project** Management, Project Delivery & Governance Framework, **Project** Management Practices, **Project** Management Disciplines, **Project Risk** Management, **Risk** Identification Tools & Techniques, **Project** Life Cycle, **Project Stakeholder** & Governance, **Project Management** Processes, **Project Integration** Management, **Project** Management Plan, **Project Work** Monitoring & Control, **Project Scope** Management, **Project Time** Management, **Project Cost** Management, **Project Quality** Management, **Quality** Assurance, **Project Human Resource** Management, **Project Communications** Management, **Contract** Management, **Tender** Development, **Contract** Standards & Laws, **Dispute Resolution** & **Risk** Identification, Myers-Briggs Type Indicator (**MBTI**), **Organization** Development Consultation, Advanced Debriefing of **Emotional** Trauma, **Interpersonal Motivation**, **Model Based Interviewing**, **Leadership Orientation** Programme, **Coaching & Motivation**, **Creative Thinking & Problem-Solving** Techniques, **Emotional Intelligence**, **Presentation** Skills, **Communication & Interpersonal** Skills, Effective **Communication & Influencing** Skills, Effective **Business Writing Skills**, **Writing** Business Documents, **Business Writing** (Memo & Report Writing), **Leadership & Team Building**, Psychology of **Leadership**, **Interpersonal Skills & Teamwork**, **Coaching & Mentoring**, **Innovation & Creativity**, **Office Management & Administration** Skills, Controlling Your **Time & Managing Stress**, **Crisis** Management, Strategic **Human Resources** Management, **Change** Management, **Negotiation** Skills, **Strategic Planning**, **Risk** Analysis & Risk Management, Global Diverse & Virtual Teams Operation, Exceeding **Customer** Expectations, **Corporate Governance** Best Practice, **Business Performance** Management & Improvement, Building Environment of **Trust & Commitment**, **Win-Win Negotiation** Strategies, **Quality Improvement & Resource** Optimization, Neuro Linguistic Programming (**NLP**), **Personal Resilience** Developing, Effective Role Modelling & Development, Managing Dynamic Work Environments, Organizational Development, **Career** Management, Situation & Behaviour Analysis, Interpersonal **Motivation** Skills, **Inventory** Management and **Financial** Administration. Further, he is also well-versed in Water Supply System Security, Vulnerability & Terrorism, Integrated Security Systems, Incident Threat Characterization & Analysis, Physical Security Systems, Security Crisis, Security Emergency Plan, Command & Control System, Preventive Actions and Situation Analysis. He was the **Psychologist** & **Project Manager** wherein he was responsible in the project management and private psychology practices.

During his career life, Dr. Le Roux has gained his academic and field experience through his various significant positions and dedication as the **Director**, **Medico Legal Assessor Psychologist**, **Training & Development General Manager**, **Project Manager**, **Account Manager**, **Commercial Sales Manager**, **Manager**, **Sales Engineer**, **Project Specialist**, **Psychology Practitioner**, **Senior HR Consultant**, **Senior Lecturer**, **Senior Consultant/Trainer**, **Business Consultant**, **Assistant Chief Education Specialist**, **ASI Coordinator**, **Part-time Lecturer/Trainer**, **PMP & Scrum Trainer**, **Assessor & Moderator**, **Team Leader**, **Departmental Head**, **Technical Instructor/Qualifying Technician**, **Apprentice Electrician: Signals** and **Part-Time Electrician** from various companies and universities such as the South African Railway (SAR), Department of Education & Culture, **ESKOM**, Logistic Technologies (Pty. Ltd), Human Development: Consulting Psychologies (HDCP) & IFS, Mincon, Eagle Support Africa, Sprout Consulting, UKZN, Grey Campus, Classis Seminars, CBM Training, just to name a few.

Dr. Le Roux has a **PhD** in **Commerce Major** in **Leadership** in **Performance & Change**, a **Master's** degree in **Human Resource Management**, a **Bachelor's** degree (with Honours) in **Industrial Psychology**, a National Higher Diploma and a National Technical Diploma in **Electrical & Mechanical Engineering**. Further, he is a **Certified Project Management Professional** (**PMI-PMP**), a **Certified Associate** in **Project Management** (**PMI-CAPM**), a **Certified Scrum Master Trainer** by the VMEdu, a **Certified Instructor/Trainer** and a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management** (**ILM**). Moreover, he is a **Registered Industrial Psychologist** by the Health Professions Council of South Africa (HPCSA), a **Registered Educator** by the South African Council for Educators (SACE) and a **Registered Facilitator**, **Assessor & Moderator** with Education, Training and Development Practices (ETDP) SETA. He has further delivered numerous trainings, courses, seminars, conferences and workshops globally.

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 AI Project Lifecycle*** *Understanding AI Workflows from Ideation to Deployment • Steps in an AI Project: Data Collection, Preprocessing, Model Training & Deployment • Challenges in AI Projects & How to Overcome Them • Case Studies of Successful AI Projects*
0930 – 0945	*Break*
0945 – 1040	***Selecting the Right AI Project*** *Identifying the Problem Statement • Choosing the Right AI Technique (ML, DL, NLP, CV) • Setting Up Project Scope & Deliverables • Evaluating Feasibility & Business Impact*
1040 – 1135	***Data Collection & Preprocessing for AI Projects*** *Understanding Different Data Types (Structured versus Unstructured) • Data Collection Methods & Sources (APIs, Web Scraping, Datasets) • Data Cleaning, Handling Missing Values & Feature Engineering • Data Augmentation Techniques for Deep Learning*
1135 - 1230	***Choosing the Right AI Model for the Project*** *Overview of Different AI Models (Supervised, Unsupervised, Reinforcement Learning) • Comparing Machine Learning Models (SVM, Decision Trees, Random Forest) • Deep Learning Architectures (CNN, RNN, GAN, Transformers) • Selecting the Best Evaluation Metric for Project Success*
1230 – 1245	*Break*
1245 – 1335	***AI Project Development Tools & Frameworks*** *Overview of AI Programming Languages (Python, R) • Introduction to AI Frameworks (TensorFlow, PyTorch, Scikit-Learn) • Using Cloud Platforms for AI Projects (Google Cloud, AWS, Azure) • GitHub & Version Control for AI Projects*
1335 - 1420	***Hands-On: Setting Up AI Project Environment*** *Installing Necessary Libraries & Dependencies • Setting Up Jupyter Notebook & Google Colab • Using Virtual Environments for AI Development • Running a Simple AI Project Template*
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	***Object Detection & Image Classification*** *Introduction to Image Processing Using OpenCV • Using CNNs for Image Classification • Implementing YOLO & SSD for Object Detection • Training Custom Object Detection Models*
0830 – 0900	***AI for Facial Recognition*** *Understanding Face Detection versus Face Recognition • Building a Real-Time Facial Recognition System • Emotion Detection Using Deep Learning • Applications in Security & Authentication*
0900 – 0915	*Break*
0915 – 1100	***AI for Medical Imaging*** *AI Applications in Diagnosing Diseases from Medical Images • Implementing CNNs for X-ray & MRI Analysis • Transfer Learning for Small Medical Datasets • Ethical Considerations in AI-Based Healthcare*
1100 – 1230	***AI for Autonomous Vehicles*** *Understanding AI Perception in Self-Driving Cars • Using AI for Lane Detection & Pedestrian Tracking • Implementing AI-Powered Vehicle Classification • Challenges in Real-Time AI Processing for Vehicles*
1230 – 1245	*Break*
1245 – 1335	***AI in Agriculture & Satellite Image Analysis*** *AI for Crop Health Monitoring Using Remote Sensing • Soil Classification Using Machine Learning • Detecting Deforestation & Climate Change Patterns • Using AI for Yield Prediction*
1335 - 1420	***Hands-On Project: Image Processing with AI*** *Building a Real-Time Object Detection System • Collecting & Annotating Datasets for Training • Training & Fine-Tuning a CNN Model • Deploying the Model for Real-Time 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 Two*

Day 3

0730 – 0830	***AI-Powered Chatbots & Virtual Assistants*** *Understanding Chatbot Architecture (Rule-Based versus AI-Driven) • Implementing a Chatbot Using NLP Libraries (NLTK, SpaCy) • Using Transformer Models (BERT, GPT) for Chatbots • Deploying Chatbot APIs for Real-World Applications*
0830 – 0900	***AI for Sentiment Analysis*** *Introduction to Sentiment Analysis in Text • Training AI Models to Detect Emotions in Tweets & Reviews • Using LSTMs & Transformers for Sentiment Prediction • Real-World Applications in Brand Monitoring & Social Media*
0900 – 0915	*Break*
0915 – 1100	***AI for Text Summarization*** *Extractive versus Abstractive Summarization • Implementing Text Summarization Using Transformer Models • Applications in Journalism & Document Summarization • Evaluating Model Performance Using NLP Metrics*

1100 – 1230	***AI for Speech-To-Text & Text-To-Speech*** *Converting Speech to Text Using Deep Learning • Building a Voice Assistant Using AI • Implementing Text-To-Speech (TTS) Models • Applications in Accessibility & Voice-Enabled Systems*
1230 – 1245	*Break*
1245 – 1335	***AI for Machine Translation*** *Introduction to Neural Machine Translation • Training AI Models for Language Translation • Using Transformers for Multilingual Text Processing • Applications in Cross-Border Communication*
1335 - 1420	***Hands-On Project: Building an AI Chatbot*** *Collecting Conversational Datasets for Chatbot Training • Implementing an AI-Powered Chatbot Using RNN/LSTMs • Deploying the Chatbot as a Web-Based or Mobile App • Evaluating Chatbot Performance Using NLP Metrics*
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 for Fraud Detection in Banking*** *Identifying Fraudulent Transactions Using AI • Implementing Anomaly Detection Algorithms • Using AI for Risk Assessment in Financial Services • Case Studies of AI Fraud Prevention Systems*
0830 – 0930	***AI for Stock Market Prediction*** *Using Deep Learning for Financial Time-Series Forecasting • Implementing LSTMs & RNNs for Stock Price Prediction • Sentiment Analysis for Market Trends • Challenges in AI-Based Financial Forecasting*
0930 – 0945	*Break*
0945 – 1100	***AI for Cybersecurity & Intrusion Detection*** *AI-Driven Threat Detection Systems • Implementing Deep Learning for Intrusion Detection • Using AI to Prevent Phishing & Malware Attacks • Ethical Considerations in AI-Powered Security Systems*
1100 – 1215	***AI for Business Analytics & Customer Insights*** *Understanding AI-Driven Market Analysis • Predicting Customer Behavior Using Machine Learning • Using AI for Recommendation Systems • Real-World Case Studies in AI-Driven Business Intelligence*
1215 – 1230	*Break*
1245 – 1335	***AI in Smart Cities & Iot*** *AI-Driven Traffic Monitoring & Optimization • AI-Powered Energy Management Systems • Smart Surveillance Systems Using AI • AI Applications in Disaster Management*
1335 - 1420	***Hands-On Project: AI for Predictive Analytics*** *Choosing the Right Dataset for Predictive Modeling • Implementing Machine Learning Models for Forecasting • Deploying the Model in a Business Setting • Evaluating AI Model Performance*
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	***Deploying AI Models in Production*** *Choosing the Right Deployment Environment (Cloud, Edge, API) • Model Conversion Techniques (TensorFlow Lite, ONNX) • Deploying AI Models Using Flask/Django • Monitoring AI Models in Real-Time*
0830 – 0930	***AI in Edge Computing & IoT Devices*** *Running AI Models on Raspberry Pi & Jetson Nano • Optimizing AI Models for Low-Power Devices • AI Applications in Embedded Systems • Real-World Examples of AI in Edge Computing*
0930 – 0945	*Break*
0945 – 1100	***AI Ethics, Bias & Fairness*** *Understanding Bias in AI Models • Techniques for Reducing Bias in AI Applications • AI Regulations & Compliance Frameworks • Case Studies on Ethical AI Failures*
1100 – 1215	***Future of AI: Trends & Emerging Technologies*** *AI-Powered Automation & Robotics • Quantum Computing in AI • AI & Augmented Reality (AR) • Breakthroughs in Self-Learning AI Models*
1215 – 1230	*Break*
1230 – 1345	***Hands-On: End-To-End AI Project Development*** *Selecting a Real-World AI Problem • Implementing Preprocessing, Feature Extraction & Model Training • Evaluating the AI Model for Production Use • Deploying the AI Solution*
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 hands-on, highly-interactive course includes real-life case studies and exercises:-

Course Coordinator

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