Arrow ECS Finland Oy - Education Services

TRAINING OFFERING

You can reach us at:

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AI CERTs® AI+ Engineer™

CODE:	LENGTH:	PRICE:
AIC_AT-330	40 Hours	€449.00

Description

Innovate Engineering: Leverage AI-Driven Smart Solutions

- Full AI Stack: Learn AI architecture, LLMs, NLP, and neural networks
- Tool Proficiency: Includes Transfer Learning with Hugging Face and GUI design
- Deployment Focus: Build real AI systems and manage communication pipelines
- Practical Mastery: Gain the skills to engineer scalable AI solutions for innovation

Online labs, projects, case studies

- Included: Self-paced course + Official exam + Digital badge
- Delivery: Online labs, projects, case studies
- Outcome: Industry-recognized credential + hands-on experience

The following tools will be explored in this course:

- TensorFlow
- Hugging Face Transformers
- Jenkins
- TensorFlow Hub

What's Included (One-Year Subscription + All Updates):

- High-Quality Videos, E-book (PDF & Audio), and Podcasts
- AI Mentor for Personalized Guidance
- Quizzes, Assessments, and Course Resources
- Online Proctored Exam with One Free Retake
- Comprehensive Exam Study Guide
- Access for Tablet & Phone

Objectives

- AI Architecture
- Neural Networks
- Large Language Models (LLMs)
- Generative AI
- Natural Language Processing (NLP)
- Transfer Learning using Hugging Face
- AI Deployment Pipelines

Audience

- **AI & Software Engineers**: Enhance your development skills by mastering AI techniques and designing advanced AI systems.
- **Machine Learning Enthusiasts**: Apply deep learning, neural networks, and NLP techniques to real-world AI challenges.
- **Data Scientists:** Strengthen your AI toolkit with engineering techniques for building and deploying scalable AI solutions.
- **IT Specialists & System Architects:** Integrate AI solutions into existing infrastructures, optimizing performance and scalability.

- **Students & New Graduates**: Develop in-demand AI engineering skills and prepare for a successful career in the rapidly growing AI field.

Prerequisites

- AI+ Data™ or AI+ Developer™ course should be completed
- Basic understanding of Python programming is mandatory for hands-on exercises and project work.
- Familiarity with high school-level algebra and basic statistics is required.
- Understanding basic programming concepts such as variables, functions, loops, and data structures like lists and dictionaries is essential.

Programme

Course Overview
Course Introduction

Module 1: Foundations of Artificial Intelligence
1.1 Introduction to AI
1.2 Core Concepts and Techniques in AI
1.3 Ethical Considerations

Module 2: Introduction to AI Architecture
2.1 Overview of AI and its Various Applications
2.2 Introduction to AI Architecture
2.3 Understanding the AI Development Lifecycle
2.4 Hands-on: Setting up a Basic AI Environment

Module 3: Fundamentals of Neural Networks
3.1 Basics of Neural Networks
3.2 Activation Functions and Their Role
3.3 Backpropagation and Optimization Algorithms
3.4 Hands-on: Building a Simple Neural Network Using a Deep Learning Framework

Module 4: Applications of Neural Networks
4.1 Introduction to Neural Networks in Image Processing
4.2 Neural Networks for Sequential Data
4.3 Practical Implementation of Neural Networks

Module 5: Significance of Large Language Models (LLM)
5.1 Exploring Large Language Models
5.2 Popular Large Language Models
5.3 Practical Finetuning of Language Models
5.4 Hands-on: Practical Finetuning for Text Classification

Module 6: Application of Generative AI
6.1 Introduction to Generative Adversarial Networks (GANs)
6.2 Applications of Variational Autoencoders (VAEs)
6.3 Generating Realistic Data Using Generative Models
6.4 Hands-on: Implementing Generative Models for Image Synthesis

Module 7: Natural Language Processing
7.1 NLP in Real-world Scenarios
7.2 Attention Mechanisms and Practical Use of Transformers
7.3 In-depth Understanding of BERT for Practical NLP Tasks
7.4 Hands-on: Building Practical NLP Pipelines with Pretrained Models

Module 8: Transfer Learning with Hugging Face
8.1 Overview of Transfer Learning in AI
8.2 Transfer Learning Strategies and Techniques
8.3 Hands-on: Implementing Transfer Learning with Hugging Face Models for Various Tasks

Module 9: Crafting Sophisticated GUIs for AI Solutions
9.1 Overview of GUI-based AI Applications
9.2 Web-based Framework

9.3 Desktop Application Framework

Module 10: AI Communication and Deployment Pipeline
10.1 Communicating AI Results Effectively to Non-Technical Stakeholders
10.2 Building a Deployment Pipeline for AI Models
10.3 Developing Prototypes Based on Client Requirements
10.4 Hands-on: Deployment

Optional Module: AI Agents for Engineering
1. Understanding AI Agents
2. Case Studies
3. Hands-On Practice with AI Agents

Follow on courses

Recommended Certifications:

- AI+ Developer™
- AI+ Prompt Engineer Level 2™

Test and Certification

Exam Details

- **Duration:** 90 minutes
- **Passing Score:** 70% (35/50)
- **Format:** 50 multiple-choice/multiple-response questions
- **Delivery Method:** Online via proctored exam platform (flexible scheduling)

Exam Blueprint:

- Foundations of Artificial Intelligence - 5%
- Introduction to AI Architecture - 10%
- Fundamentals of Neural Networks - 15%
- Applications of Neural Networks - 7%
- Significance of Large Language Models (LLM) - 8%
- Application of Generative AI - 8%
- Natural Language Processing - 15%
- Transfer Learning with Hugging Face - 15%
- Crafting Sophisticated GUIs for AI Solutions - 10%
- AI Communication and Deployment Pipeline - 7%

Session Dates

Date	Location	Time Zone	Language	Type	Guaranteed	PRICE
01 Jan 0001			English	Self Paced Training		€449.00

Additional Information

This training is also available as onsite training. Please contact us to find out more.