HCIP-AI-EI Developer

Duration: 9 Days

Prerequisites:

- Able to initialize and use primitive Java data types (i.e. float, int, etc)
- Select and use Collections fromjava.util.Col-lections
- Design and create classes and class methods in Java, and create interfaces and subclasses in Java.
- Have intermediate to advanced Python experience
- Familiar with object-oriented programming
- Can write nested for loops and can read and understand code written by others.

Course Description:

This course covers the theories and applications of image processing, speech processing, and natural language processing, as well as the HUAWEI CLOUD EI and ModelArts platforms. In addition, we will introduce AI development practices based on HUAWEI CLOUD EI and ModelArts.

Course Objectives:

On completion of this program, the participants will be able to:

- Neural Network Basics
- Image Processing Theory and Applications
- Speech Processing Theory and Applications
- Natural Language Processing Theory and Applications
- Overview of Huawei's AI Development Strategy and Full-Stack, All-Scenario AI Portfolio
- Overview of ModelArts
- Image Processing Experiment Guide
- Speech Processing Experiment Guide
- Natural Language Processing Lab Guide
- ModelArts Lab Guide

Intended Audience:

- Those who are interested in learning how to build and manage AI for commercial needs
- Those who are interested in the integration between AI and cloud service
- Those who hope to know how to maintain Huawei AI products and AI cloud services

Course Outlines:

BASICS

- Deep Learning Background Knowledge
- Artificial Neural Network
- Deep Feedforward Network
- Back Propagation
- Neural Network Architecture Design

IMAGE PROCESSING THEORY AND APPLICATION

- Computer Vision Overview
- Digital image processing fundamentals
- Image Preprocessing Technology
- Basic Tasks of Image Processing
- Feature Extraction and Traditional Methods
- Deep Learning and Convolution Neural Network

THEORY AND APPLICATION OF AUTOMATIC SPEECH RECOGNITION

- Introduction to Speech processing
- GMM
- HMM
- GMM-HMM
- DNN
- DNN-HMM and CD-DNN-HMM
- RNN
- LSTM and Future Outlook

THEORY AND APPLICATION OF NATURAL LANGUAGE COMPREHENSION

- Introduction to NLP
- Languages Models
- Text Vectorization
- Common Algorithms
- Key Tasks
- Applications of NLP

OVERVIEW OF HUAWEI'S AI DEVELOPMENT STRATEGY AND FULL-STACK, ALL-SCENARIO AI PORTFOLIO

- AI: New General Purpose Technology
- The 10 changes that will define the future
- Huawei's AI Development Strategy