Artificial Intelligence with Machine Learning in Java – Course Description

Overview

This course of study builds on the skills gained by students in Java Foundations and Java Programming. Students are introduced to Machine Learning concepts within Artificial Intelligence and will learn terminology, syntax, and the steps required to create a Machine Learning solution in Java using hands-on, engaging activities.

Available Curriculum Languages:

- English

Duration

- Recommended total course time: 40 hours*
- Professional education credit hours for educators who complete Oracle Academy training: 16

    Course time includes instruction, self-study/homework, practices, projects and assessment

Target Audiences

Educators
- Technical, vocational, and 2- and 4-year college and university faculty members who teach computer programming

Students
- Students with fundamental knowledge of object-oriented concepts, data structures, recursion, terminology, and syntax in Java who wish to learn the concepts of Machine Learning within Artificial Intelligence using Java

Prerequisites

Required
- Fundamental knowledge of object-oriented concepts, data structures, recursion, terminology, and syntax in Java

Suggested
- Oracle Academy Curriculum - Java Foundations
- Oracle Academy Curriculum - Java Programming

Suggested Next Courses

- Advanced computer programming courses

Lesson-by-Lesson Topics

Introduction
- Course Overview
- Introduction to AI
- Data and Information
- Categorizing Data

Machine Learning
- Why Now?
- Machine Learning Workflow

Trees and Recursion
- Binary Trees
- Recursion
- Tree Traversal
- Yes/No Game

Entropy and the ID3 Algorithm
- Decision Tree Algorithms
- Information Entropy
- ID3 Worked Example
- Create an ID3 Tree