Certified Artificial Intelligence (AI) Practitioner (CAIP)

ID CAIP **Price** on request **Duration** 5 days

Who should attend

The skills covered in this course converge on three areas—software development, applied math and statistics, and business analysis. Target students for this course may be strong in one or two or these of these areas and looking to round out their skills in the other areas so they can apply artificial intelligence (AI) systems, particularly machine learning models, to business problems.

So the target student may be a programmer looking to develop additional skills to apply machine learning algorithms to business problems, or a data analyst who already has strong skills in applying math and statistics to business problems, but is looking to develop technology skills related to machine learning.

A typical student in this course should have several years of experience with computing technology, including some aptitude in computer programming. This course is also designed to assist students in preparing for the CertNexus® Certified Artificial Intelligence (AI) Practitioner (Exam AIP-210) certification.

Prerequisites

To ensure your success in this course, you should have at least a high-level understanding of fundamental AI concepts, including, but not limited to: machine learning, supervised learning, unsupervised learning, artificial neural networks, computer vision, and natural language processing. You can obtain this level of knowledge by taking the CertNexus® Certified Artificial Intelligence (AI) Practitioner (Exam AIP-210) course.

You should also have experience working with databases and a high-level programming language such as Python, Java, or C/C++.

Course Objectives

In this course, you will implement AI techniques in order to solve business problems. You will:

- Specify a general approach to solve a given business problem that uses applied AI and ML.
- Collect and refine a dataset to prepare it for training and testing.
- Train and tune a machine learning model.
- Finalize a machine learning model and present the results to the appropriate audience.
- Build linear regression models.
- Build classification models.
- Build clustering models.
- Build decision trees and random forests.
- Build support-vector machines (SVMs).
- Build artificial neural networks (ANNs).
- Promote data privacy and ethical practices within AI and ML projects

Course Content

Lesson 1: Solving Business Problems Using AI and ML

- Topic A: Identify AI and ML Solutions for Business Problems
- Topic C: Formulate a Machine Learning Problem
- Topic D: Select Appropriate Tools

Lesson 2: Collecting and Refining the Dataset

- Topic A: Collect the Dataset
- Topic B: Analyze the Dataset to Gain Insights
- Topic C: Use Visualizations to Analyze Data
- Topic D: Prepare Data

Lesson 3: Setting Up and Training a Model

- Topic A: Set Up a Machine Learning Model
- Topic B: Train the Model

Lesson 4: Finalizing a Model

- Topic A: Translate Results into Business Actions
- Topic B: Incorporate a Model into a Long-Term Business Solution

Lesson 5: Building Linear Regression Models

- Topic A: Build a Regression Model Using Linear Algebra
- Topic B: Build a Regularized Regression Model Using

Linear Algebra
- Topic C: Build an Iterative Linear Regression Model

Lesson 6: Building Classification Models

- Topic A: Train Binary Classification Models
- Topic B: Train Multi-Class Classification Models
- Topic C: Evaluate Classification Models
- Topic D: Tune Classification Models

Lesson 7: Building Clustering Models

- Topic A: Build k-Means Clustering Models
- Topic B: Build Hierarchical Clustering Models

Lesson 8: Building Advanced Models

- Topic A: Build Decision Tree Models
- Topic B: Build Random Forest Models

Lesson 9: Building Support-Vector Machines

- Topic A: Build SVM Models for Classification
- Topic B: Build SVM Models for Regression

Lesson 10: Building Artificial Neural Networks

- Topic A: Build Multi-Layer Perceptrons (MLP)
- Topic B: Build Convolutional Neural Networks (CNN)

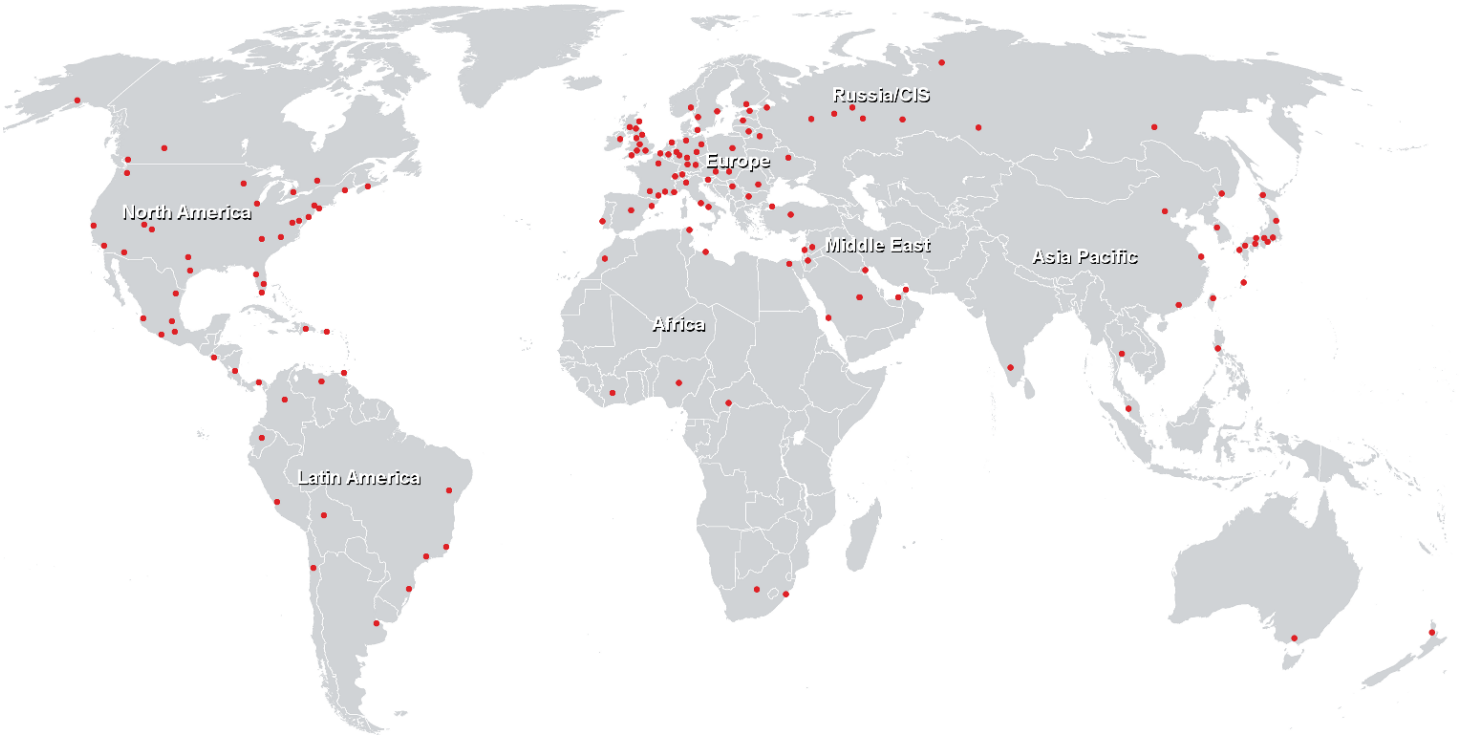
Lesson 11: Promoting Data Privacy and Ethical Practices

- Topic A: Protect Data Privacy
- Topic B: Promote Ethical Practices
- Topic C: Establish Data Privacy and Ethics Policies

Appendix A: Mapping Course Content to CertNexus® Certified Artificial Intelligence (AI) Practitioner (Exam AIP-100)

Certified Artificial Intelligence (AI) Practitioner (CAIP)

Training Centres worldwide





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