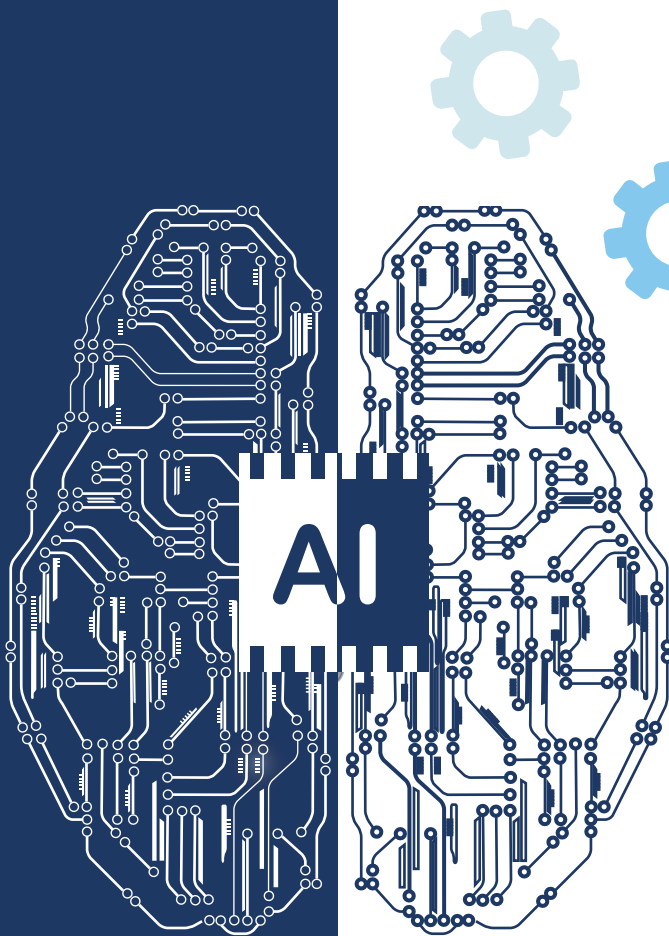


CERTNEXUS®

Certified Artificial Intelligence(AI) Practitioner (CAIP)



CAIP

HDTC
Training



HDTC
Management
Development
Academy



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Overview




Artificial intelligence (AI) and machine learning (ML) have become an essential part of the toolset for many organizations. When used effectively, these tools provide actionable insights that drive critical decisions and enable organizations to create exciting, new, and innovative products and services.

This course shows you how to apply various approaches and algorithms to solve business problems through AI and ML, follow a systematic workflow to develop sound solutions, use open source, off-the-shelf tools to build, test, and deploy those solutions, and ensure that they protect the privacy of users.







Program's Outlines

1 Solving Business Problems Using AI and ML

-  **Topic A:** Identify AI and ML Solutions for Business Problems
-  **Topic B:** Formulate a Machine Learning Problem
-  **Topic C:** Select Approaches to Machine Learning





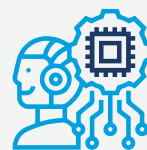
2 Preparing Data

-  **Topic A:** Collect Data
-  **Topic B:** Transform Data
-  **Topic C:** Engineer Features
-  **Topic D:** Work with Unstructured Data






3 Training, Evaluating, and Tuning a Machine Learning Model

-  **Topic A:** Train a Machine Learning Model
-  **Topic B:** Evaluate and Tune a Machine Learning Model



4



Building Linear Regression Models

-  **Topic A:** Build Regression Models Using Linear Algebra
-  **Topic B:** Build Regularized Linear Regression Models
-  **Topic C:** Build Iterative Linear Regression Models



5






Building Forecasting Models

-  **Topic A:** Build Univariate Time Series Models
-  **Topic B:** Build Multivariate Time Series Models



6



Building Classification Models Using Logistic Regression and k-Nearest Neighbor

-  **Topic A:** Train Binary Classification Models Using Logistic Regression
-  **Topic B:** Train Binary Classification Models Using k-Nearest Neighbor
-  **Topic C:** Train Multi-Class Classification Models
-  **Topic D:** Evaluate Classification Models
-  **Topic E:** Tune Classification Models



7



Building Clustering Models

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



8



Building Decision Trees and Random Forests

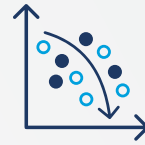
-  **Topic A:** Build Decision Tree Models
-  **Topic B:** Build Random Forest Models



9




Building Support-Vector Machines

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



10




Building Artificial Neural Networks

-  **Topic A:** Build Multi-Layer Perceptron's (MLP)
-  **Topic B:** Build Convolutional Neural Networks (CNN)
-  **Topic C:** Build Recurrent Neural Networks (RNN)



11





Operationalizing Machine Learning Models

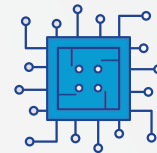
-  **Topic A:** Deploy Machine Learning Models
-  **Topic B:** Automate the Machine Learning Process with MLOps
-  **Topic C:** Integrate Models into Machine Learning Systems

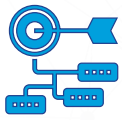


12

Maintaining Machine Learning Operations

-  **Topic A:** Secure Machine Learning Pipelines
-  **Topic B:** Maintain Models in Production
-  **Appendix A:** Mapping Course Content to CertNexus®
Certified Artificial Intelligence (AI) Practitioner (Exam AIP-210)
-  **Appendix B:** Datasets Used in This Course





Program's Objectives

In this course, you will not only develop AI solutions for business problems but also learn how to apply them in real-world scenarios you will :

Solve a given business problem using AI and ML

01



02

Prepare data for use in machine learning

Train, evaluate, and tune a machine learning model

03



04

Build linear regression models & Build forecasting models

Build classification models using logistic regression and k-nearest neighbor

05



06

Build classification and regression models using decision trees and random forests

Build classification and regression models using support vector machines(SVMs)

07



08

Build artificial neural networks for deep learning & Build clustering models

Put machine learning models into operation using automated processes

09



10

They maintained machine learning pipelines and models while they were in production



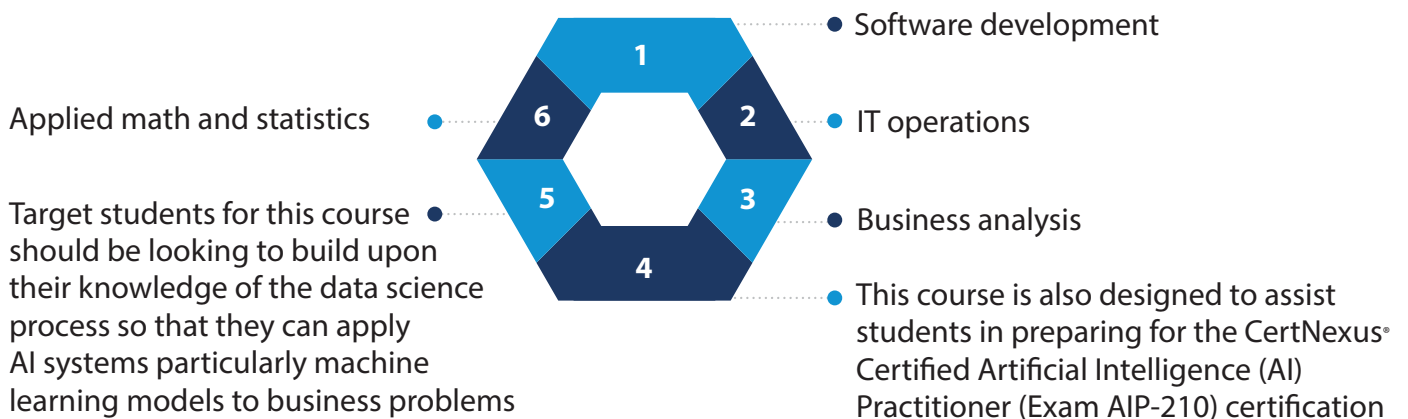
Outcomes and Professional Benefits

AI is becoming increasingly important for businesses to remain competitive and efficient in today's rapidly evolving technological landscape. This CAIP training covers the entire machine learning workflow, from collecting and refining datasets to building advanced models like Artificial Neural Networks.

Furthermore, the course emphasizes the importance of promoting data privacy and ethical practices, ensuring that individuals have the necessary skills to implement data privacy and ethics policies in their organizations. Completing this Certified AI Practitioner training course will prepare students to become AI practitioners and make significant contributions to the success of their organizations.



Targeted Audience



Eligibility

Bachelor's Degree
And/or

2 – 5 years of relevant work experience



Training Methods

- 1 Technology-Based Learning.
- 2 On-the-job guidance.
- 3 Work Teams and Roles.
- 4 Simulation in Training.
- 5 Trainer-Led Training.
- 6 Films and Videos.
- 7 Case Studies and Workshops.



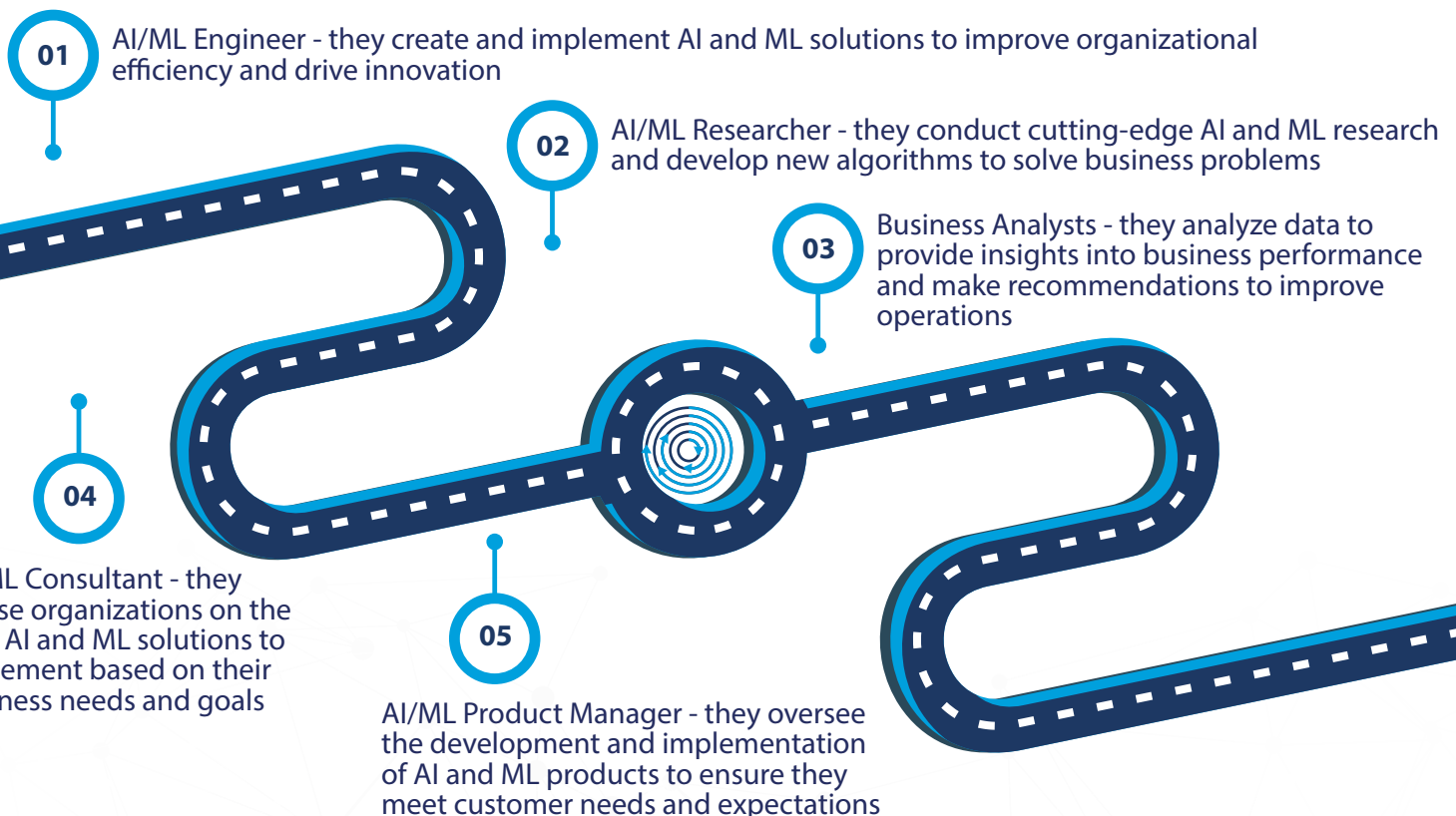
Training Important?

Our Certified Artificial Intelligence (AI) Practitioner training provides individuals with the skills and knowledge required to develop and implement AI and machine learning (ML) solutions, making them highly valuable to businesses across industries. This certification demonstrates proficiency in the most recent AI and ML techniques, and it can lead to exciting and well-paying career opportunities.



Career Path and Opportunities

Here are some of the roles that benefit from our Certified Artificial Intelligence (AI) Practitioner training (as observed in popular job portals):





Exam Details:

This exam will certify that the candidate has the knowledge and skill set of AI concepts, technologies, and tools that will enable them to become capable AI practitioners in a wide variety of AI-related job functions.

- EXAM CODES:** AIP-210
- PASSING SCORE:** %60 or %59 depending on exam form
- NUMBER OF ITEMS:** 80
- ITEM FORMATS:** Multiple Choice/Multiple Response
- EXAM DURATION:** 120 minutes (including 5 minutes for Candidate Agreement and 5 minutes for Pearson VUE tutorial)