ProTech Professional Technical Services, Inc.

AI-900T00-A: Microsoft Azure AI Fundamentals

Course Summary

Description

This course introduces fundamentals concepts related to artificial intelligence (AI), and the services in Microsoft Azure that can be used to create AI solutions. The course is not designed to teach students to become professional data scientists or software developers, but rather to build awareness of common AI workloads and the ability to identify Azure services to support them. The course is designed as a blended learning experience that combines instructor-led training with online materials on the Microsoft Learn platform. The hands-on exercises in the course are based on Learn modules, and students are encouraged to use the content on Learn as reference materials to reinforce what they learn in the class and to explore topics in more depth.

Objectives

At the end of this course, students will be able to:
- Describe Artificial Intelligence workloads and considerations
- Describe fundamental principles of machine learning on Azure
- Describe features of computer vision workloads on Azure
- Describe features of Natural Language Processing (NLP) workloads on Azure
- Describe features of conversational AI workloads on Azure

Topics

- Get started with AI on Azure
- Use Automated Machine Learning in Azure Machine Learning
- Create a regression model with Azure Machine Learning designer
- Create a classification model with Azure Machine Learning designer
- Create a clustering model with Azure Machine Learning designer
- Analyze images with the Computer Vision service
- Classify images with the Custom Vision service
- Detect objects in images with the Custom Vision service

- Detect and analyze faces with the Face service
- Read text with the Computer Vision service
- Analyze receipts with the Form Recognizer service
- Analyze text with the Language service
- Recognize and synthesize speech
- Translate text and speech
- Create a language model with Conversational Language Understanding
- Build a bot with the Language Service and Azure Bot Service

Audience

The Azure AI Fundamentals course is designed for anyone interested in learning about the types of solution artificial intelligence (AI) makes possible, and the services on Microsoft Azure that you can use to create them. You don't need to have any experience of using Microsoft Azure before taking this course, but a basic level of familiarity with computer technology and the Internet is assumed. Some of the concepts covered in the course require a basic understanding of mathematics, such as the ability to interpret charts. The course includes hands-on activities that involve working with data and running code, so a knowledge of fundamental programming principles will be helpful.

Prerequisites

Prerequisite certification is not required before taking this course. Successful Azure AI Fundamental students start with some basic awareness of computing and internet concepts, and an interest in using Azure AI services. Specifically: Experience using computers and the internet, Interest in use cases for AI applications and machine learning models, and a willingness to learn through hands-on exploration.

Duration

One day

Course Outline *(vertical, left margin)*

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I. **Get started with AI on Azure**
A. In this module, you'll learn about the kinds of solution AI can make possible and considerations for responsible AI practices.

II. **Use Automated Machine Learning in Azure Machine Learning**
A. Learn how to use the automated machine learning user interface in Azure Machine Learning

III. **Create a regression model with Azure Machine Learning designer**
A. Learn how to train and publish a regression model with Azure Machine Learning designer.

IV. **Create a classification model with Azure Machine Learning designer**
A. Train and publish a classification model with Azure Machine Learning designer

V. **Create a clustering model with Azure Machine Learning designer**
A. Train and publish a clustering model with Azure Machine Learning designer

VI. **Analyze images with the Computer Vision service**
A. Learn how to use the Computer Vision cognitive service to analyze images.

VII. **Classify images with the Custom Vision service**
A. Learn how to use the Custom Vision service to create an image classification solution.

VIII. **Detect objects in images with the Custom Vision service**
A. Learn how to use the Custom Vision service to create an object detection solution.

IX. **Detect and analyze faces with the Face service**
A. Learn how to use the Face cognitive service to detect and analyze faces in images.

X. **Read text with the Computer Vision service**
A. Learn how to read text in images with the Computer Vision service

XI. **Analyze receipts with the Form Recognizer service**
A. Learn how to use the built-in receipt processing capabilities of the Form Recognizer service

XII. **Analyze text with the Language service**
A. Learn how to use the Language service for text analysis

XIII. **Recognize and synthesize speech**
A. Learn about speech recognition and synthesis
B. Learn how to use the Speech cognitive service in Azure

XIV. **Translate text and speech**
A. After completing this module, you will be able to perform text and speech translation using Azure Cognitive Services.

XV. **Create a language model with Conversational Language Understanding**
A. Learn what Conversational Language Understanding is.
B. Learn about key features, such as intents and utterances.
C. Build and publish a natural-language machine-learning model.

XVI. **Build a bot with the Language Service and Azure Bot Service**
A. After completing this module, you'll be able to create a knowledge base with an Azure Bot Service bot.