Microsoft | Learning

Develop Generative AI Solutions with Azure OpenAI Service

Course AI-050T00: 1 day; Instructor-Led

Introduction
Azure OpenAI Service provides access to OpenAI's powerful large language models such as ChatGPT, GPT, Codex, and Embeddings models. These models enable various natural language processing (NLP) solutions to understand, converse, and generate content. Users can access the service through REST APIs, SDKs, and Azure OpenAI Studio.

Audience
The audience for this course includes software developers and data scientists who need to use large language models for generative AI. Some programming experience is recommended, but the course will be valuable to anyone seeking to understand how the Azure OpenAI service can be used to implement generative AI solutions.

Job role: AI Engineer, Data Scientist

Prerequisites
Before attending this course, students must have:

- Familiarity with Azure and the Azure portal.
- Experience programming with C# or Python. If you have no previous programming experience, we recommend you complete the Take your first steps with C# or Take your first steps with Python learning path before taking this course.

Course Outline

Module 1: Get started with Azure OpenAI Service
Get to know the connection between artificial intelligence (AI), Responsible AI, and text, code, and image generation. Understand how you can use Azure OpenAI to build solutions against AI models within Azure.

Lessons
- Access Azure OpenAI Service
- Use Azure OpenAI Studio
- Explore types of generative AI models
- Deploy generative AI models
- Use prompts to get completions from models
- Test models in Azure OpenAI Studio's playgrounds
- Exercise - Get started with Azure OpenAI Service

Module 2: Build natural language solutions with Azure OpenAI Service
This module provides engineers with the skills to begin building apps that integrate with the Azure OpenAI Service.

Lessons
- Integrate Azure OpenAI into your app
- Use Azure OpenAI REST API
- Use Azure OpenAI SDK
- Exercise - Integrate Azure OpenAI into your app

Module 3: Apply prompt engineering with Azure OpenAI Service
Prompt engineering in Azure OpenAI is a technique that involves designing prompts for natural language processing models. This process improves accuracy and relevancy in responses, optimizing the performance of the model.

Lessons

- Understand prompt engineering
- Write more effective prompts
- Provide context to improve accuracy
- Exercise - Utilize prompt engineering in your application

Module 4: Generate code with Azure OpenAI Service

This module shows engineers how to use the Azure OpenAI Service to generate and improve code.

Lessons
- Construct code from natural language
- Complete code and assist the development process
- Fix bugs and improve your code7
- Exercise - Generate and improve code with Azure OpenAI Service

Module 5: Generate images with Azure OpenAI Service

The Azure OpenAI service includes the DALL-E model, which you can use to generate original images based on natural language prompts.

Lessons
- What is DALL-E?
- Explore DALL-E in Azure OpenAI Studio
- Use the Azure OpenAI REST API to consume DALL-E models
- Exercise - Generate images with a DALL-E model

Module 6: Implement Retrieval Augmented Generation (RAG) with Azure OpenAI Service

The Azure OpenAI service includes the DALL-E model, which you can use to generate original images based on natural language prompts.

Lessons
- Understand Retrieval Augmented Generation (RAG) with Azure OpenAI Service
- Add your own data source
- Chat with your model using your own data
- Exercise - Add your data for RAG with Azure OpenAI Service

Module 7: Fundamentals of Responsible Generative AI

Generative AI enables amazing creative solutions, but must be implemented responsibly to minimize the risk of harmful content generation.

Lessons
- Plan a responsible generative AI solution
- Identify potential harms
- Measure potential harms
- Mitigate potential harms
- Operate a responsible generative AI solution
- Exercise - Explore content filters in Azure OpenAI