Copilot Bootcamp for Developers

Duration: 03 days (24 hours)
Lab: Skillable LOD (AI-3018, AI-3016 & AZ-2005)

Section I: AI-3018: Copilot Foundations

***Objectives**:*
Copilots are quickly becoming a popular way to use with AI models, automate tasks, and improve productivity. In this learning path, you'll explore options for adopting, using, and creating copilots.

***Pre-requisite:** Familiarity with Azure and the Azure portal.*

Module 01: Fundamentals of Generative AI

- Understand generative AI's place in the development of artificial intelligence.
- Understand language models and their role in intelligent applications.
- Describe examples of copilots and good prompts.

Module 02: Get started with Microsoft Copilot Studio

- Create copilots.
- Test copilots.
- Analyze performance.

Module 03: Build a RAG-based copilot solution with your own data using AI Studio

- Describe core features and capabilities of Azure AI Studio
- Use Azure AI Studio to provision and manage an Azure AI resource
- Use Azure AI Studio to create and manage an AI project
- Understand when to use Azure AI Studio

Module 04: Build a RAG-based copilot solution with your own data using Azure AI Studio

- Identify the need to ground your language model with Retrieval Augmented Generation
- Index your data with Azure AI Search to make it searchable for language models
- Build a copilot using RAG on your own data in the Azure AI Studio

Section II: AI-3016: Develop Custom Copilots using Azure OpenAI Studio

***Objectives**:*

- *Navigate and utilize Azure AI Studio's core features and capabilities*
- *Provision and manage AI resources and projects within Azure AI Studio*
- *Develop and manage language model applications using prompt flow*
- *Implement RAG to enhance language models with custom data*
- *Develop responsible generative AI solutions, identifying and mitigating potential harms*
- *Practical skills through hands-on labs to reinforce theoretical knowledge*

Pre-requisite: *Experience programming in C#.*
Visual Studio Code IDE installed.
Familiarity with Azure and the Azure portal. Access to Azure OpenAI Services

Module 05: Introduction to Azure AI Studio

- Describe core features and capabilities of Azure AI Studio
- Use Azure AI Studio to provision and manage an Azure AI resource
- Use Azure AI Studio to create and manage an AI project
- Understand when to use Azure AI Studio

Module 06: Use prompt flow to develop language model apps in Azure AI Studio

- Get started with prompt flow to develop language model apps in the Azure AI Studio

- Understand the development lifecycle when creating language model applications.
- Understand what a flow is in prompt flow.
- Explore the core components when working with prompt flow.

Module 07: Build a RAG-based copilot solution with your own data using AI Studio

- Identify the need to ground your language model with Retrieval Augmented Generation (RAG)
- Index your data with Azure AI Search to make it searchable for language models
- Build a copilot using RAG on your own data in the Azure AI Studio

Module 08: Responsible generative AI in AI Studio

- Describe an overall process for responsible generative AI solution development
- Identify and prioritize potential harms relevant to a generative AI solution
- Measure the presence of harms in a generative AI solution
- Mitigate harms in a generative AI solution
- Prepare to deploy and operate a generative AI solution responsibly

Section III: AZ-2005: Develop AI Agents using Azure OpenAI and Semantic kernel

Objectives:
Learn how to use the Semantic Kernel SDK to build intelligent applications that automate tasks and perform natural language processing.

Pre-requisite: *Experience programming in C#.*
Visual Studio Code IDE installed.
Familiarity with Azure and the Azure portal. Access to Azure OpenAI Services

Module 09: Build your kernel

- Understand the purpose of Semantic Kernel.
- Understand prompting basics.
- Learn techniques for more effective prompts.

Module 10: Create plugins for semantic kernel

- Understand the purpose of Semantic Kernel plugins
- Learn how to use premade plugins
- Learn how to create your own plugins

Module 11: Give your AI agent skills

- Understand native functions in the Semantic Kernel SDK.
- Learn how to create native function plugins.
- Learn how to combine prompts with native functions.

Module 12: Combine Prompts and Functions

- Practice creating plugins with the Semantic Kernel SDK.
- Learn how to combine prompts with native functions.
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Module 13: Use intelligent planners

- Understand planners in the Semantic Kernel SDK.
- Learn how to use planners to automate function calls.
- Learn how to optimize planners.
- Learn how to use Semantic Kernel SDK to automatically invoke functions.

Module 14: Guided project - Create an AI travel agent

- Create plugins for the Semantic Kernel.
- Create prompts to elicit the best responses from the large language model (LLM).
- Manipulate LLM responses to guide the execution of code.
- Automatically invoke the correct plugins to complete tasks.