

GH - 300T00 : GitHub Copilot

Course Outline

GitHub Copilot Fundamentals – Part 1 of 2

1. Responsible AI with GitHub Copilot

- Understand and apply the principles of responsible AI usage
- Identify limitations and mitigate risks associated with AI
- Learn best practices for ensuring AI-generated code aligns with ethical standards and project-specific requirements
- Recognize the importance of transparency and accountability in AI systems to build trust and maintain user confidence

2. Introduction to GitHub Copilot

- Learn how GitHub Copilot can help with coding through autocomplete-style suggestions
- Understand different ways to trigger GitHub Copilot
- Learn about GitHub Copilot plans: Individual, Business, and Enterprise
- Configuration and troubleshooting of GitHub Copilot

3. Lab Exercises

- Develop with AI-powered code suggestions using GitHub Copilot and VS Code
- Set up GitHub Copilot to work with Visual Studio Code
- Update a web API using GitHub Copilot

4. Prompt Engineering with GitHub Copilot

- Craft effective prompts to optimize Copilot's performance
- Understand how prompts influence Copilot's responses
- Learn about secure prompt transmission, content filtering, and context analysis

5. Advanced GitHub Copilot Features

- Use slash commands to make code changes
- Utilize the Chat feature for interaction
- Ask questions using agents

6. GitHub Copilot Across Environments

- Work with Copilot in IDEs, Chat, and CLI
- Provide context through comments, docstrings, etc., to enhance code generation
- Use natural language to debug, generate, and explain code
- Enhance Copilot Chat with scope referencing, slash commands, and agents
- Use CLI for command explanations and suggestions

7. Management and Customization

- Understand GitHub Copilot plans and customization options
- Learn about contractual protections and disabling matching public code
- Manage content exclusions

- Identify and resolve common issues

GitHub Copilot Fundamentals – Part 2 of 2

1. Developer Use Cases for AI

- Explore how GitHub Copilot enhances developer workflows
- Understand Copilot's impact across the software development lifecycle
- Evaluate limitations and measure efficiency gains

2. Creating Unit Tests with GitHub Copilot

- Use Copilot and Copilot Chat to create unit tests in Visual Studio Code
- Target edge cases and specific conditions
- Use .NET SDK and C# Dev Kit to build and run tests

Labs

- Create unit tests with GitHub Copilot Chat
- Create tests for specific conditions
- Complete the "create unit tests" challenge

3. Introduction to GitHub Copilot Business

- Differences between Business and Individual plans
- Business use cases and productivity benefits
- How to enable GitHub Copilot Business

4. Introduction to GitHub Copilot Enterprise

- Overview of the Enterprise plan
- Comparison with Business and Individual plans
- Enterprise-specific use cases and productivity improvements
- Enabling GitHub Copilot Enterprise

5. Using GitHub Copilot with JavaScript

- Enable the GitHub Copilot extension in VS Code
- Craft effective prompts for JavaScript development
- Improve JavaScript projects with Copilot

Labs

- Set up GitHub Copilot in VS Code
- Update a JavaScript portfolio using Copilot

6. Using GitHub Copilot with Python

- Enable GitHub Copilot extension in VS Code
- Write prompts for Python development
- Improve Python projects with Copilot

Labs

- Set up GitHub Copilot in VS Code
- Update a Python web API using Copilot