# Professional GitHub Copilot

## Duration

Half-day

## Description

This course is designed for computer programming professionals who are keen on leveraging the power of GitHub Copilot and Prompt Engineering to enhance their coding efficiency. It provides a comprehensive guide on how to get started with Copilot, including understanding the different subscriptions, installing the Copilot extensions, and exploring code completions. The course also delves into the concept of Generative AI as a compiler and the importance of context in code translation. Participants will learn to view Copilot as an AI pair programmer and discover its various applications, from code generation to code reviewing. The course also covers how to use Copilot in the terminal scope with VS Code and GitHub CLI. By the end of this course, participants will have a solid understanding of how to use GitHub Copilot to its full potential, enhancing their programming efficiency and productivity.

## Objectives

* Understand what GitHub Copilot and Prompt Engineering are and their relevance in the programming world.
* Learn how to get started with Copilot, including understanding the different subscriptions and how to install the Copilot extensions.
* Explore code completions and the role of Generative AI as a compiler, including the translation of languages and the importance of context.
* Develop a new perspective on using Copilot, viewing it as an AI pair programmer.
* Discover the various applications of Copilot, from code generation to code reviewing, and from asking for help/advice to documenting code.
* Learn how to use Copilot in the terminal scope with VS Code and GitHub CLI.
* Gain insights into the potential of Copilot Chat in enhancing programming efficiency.
* Understand the key takeaways from the course and how to apply the knowledge gained in real-world scenarios.

## Prerequisites

Students should have a basic understanding of programming concepts and experience with a programming language such as Python, JavaScript, or C#.

## Training Materials

All students receive comprehensive courseware covering all topics in the course.

## Software Requirements

Student may choose to simply watch the instructor or follow along with the instructor. If students choose to follow along, they will need a GitHub Copilot subscription, Visual Studio Code and the GitHub Copilot extension.

## Outline

* Introduction
  + What is GitHub Copilot?
  + What is Prompt Engineering?
* Getting Started with Copilot
  + Copilot Subscriptions: Individual, Business, and Enterprise
  + Editor and IDE Support for Copilot and Copilot Chat
  + Installing the Copilot Extensions
* Explore Code Completions
  + Thinking of Generative AI as a Compiler
  + Translating Languages
  + Human Language to Code Language
  + Code Language to Human Language
  + Human Language to Human Language
  + Code Language to Code Language
  + Context is Key!
  + Thinking in terms of Prompt Engineering
* Thinking about Copilot the Right Way
  + Copilot Chat
  + Interact with Copilot as an AI Pair Programmer
  + Code Generation: Code, Unit Tests, Configuration Files
  + Code Reviewing
  + Asking for Help/Advice
  + Documenting Code and Generating Technical Documentation
  + Learning new Things!
* Copilot and the Terminal
  + Using Copilot in the Terminal Scope with VS Code
  + Using Copilot Chat with the GitHub CLI
* Conclusion