Agentic Software Engineering using GitHub Copilot (DGHCI)

ID DGHCI **Prix** CHF 690,– (Hors Taxe) **Durée** 1 jours

A qui s'adresse cette formation

- Software Engineers interested in leveraging AI agents to enhance their coding productivity and capabilities
- Software Architects looking to understand how to integrate and manage AI agents within software development lifecycles
- Team Leads and Managers aiming to explore how AI agents can be utilized to optimize team workflows and project outcomes

Pré-requis

- Experience with software development at a professional level
- A GitHub Copilot license with a credit allowance, or a configured bring-your-own-key (BYOK) endpoint. Usage-based billing makes this a required setup step, not an optional one.

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Module 1: GitHub Copilot Fundamentals & Agent Mode Basics

- Getting Started with Copilot & Vision
- Selecting & Configuring Models
- Shaping the Context Window
- AI-Assisted Coding Essentials
- Agent Mode Basics
- Pull Requests & Code Reviews
- Configuring & Governing Copilot
- Working in the Terminal

Module 2: GitHub Copilot Harness

- Copilot Instructions
- Prompt Files
- Model Context Protocol & MCP Registry
  - MCP Basics & the MCP Registry
  - Implementing MCP Servers
- Agent Skills
- Custom Agents
  - Agents Overview
  - Repository Agents
- Agent Plugins
- Copilot Memory
- GitHub Copilot Hooks
- Agent Interop

Module 3: Implementing Agentic Coding

- Using Local Agents and Agent Mode
- Delegating Tasks to Cloud Agents
- Multi-Agent Orchestration with Subagents
- Agentic Browser Automation
- Upgrading & Modernization

Module 4: Agent Sessions & Agents Window

- The Agents Window
- Agent Host Protocol (AHP vs ACP)
- Remote Agent Sessions over SSH & Dev Tunnels
- Session Management
- Session Persistence & /chronicle
- Deep Research with /research
- Troubleshooting Agent Sessions
- A Second Opinion with /rubber-duck

Module 5: GitHub Copilot CLI & SDK

- Part 1: GitHub Copilot CLI
  - GitHub Copilot CLI
  - Business Case: HR Document Updates Automation
  - GitHub Agentic Workflows
  - Extending the CLI with MCP Servers & Skills
  - Codebase Q&A and Onboarding
- Part 2: GitHub Copilot SDK
  - GitHub Copilot SDK
  - Copilot SDK Demos
  - Implementing & Using MCP Apps
  - Deploying an SDK Agent to Azure
  - Building a Multi-Agent System

Module 6: GitHub Copilot App

- Meet the Desktop Agents App
- Sessions from Issues, Prompts & Pull Requests
- The Validation Loop
- Scheduled Automations
- Syncing Skills & MCP Servers
- Configuring the App: Customize, Permissions & Models

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Module 7: Agentic DevOps

- IaC & Configuration (Azure CLI, SSH, Bicep & Terraform
- CI/CD with GitHub Actions
- Testing using Copilot
- Documentation using Copilot

Module 8: Governance, Cost & Observability

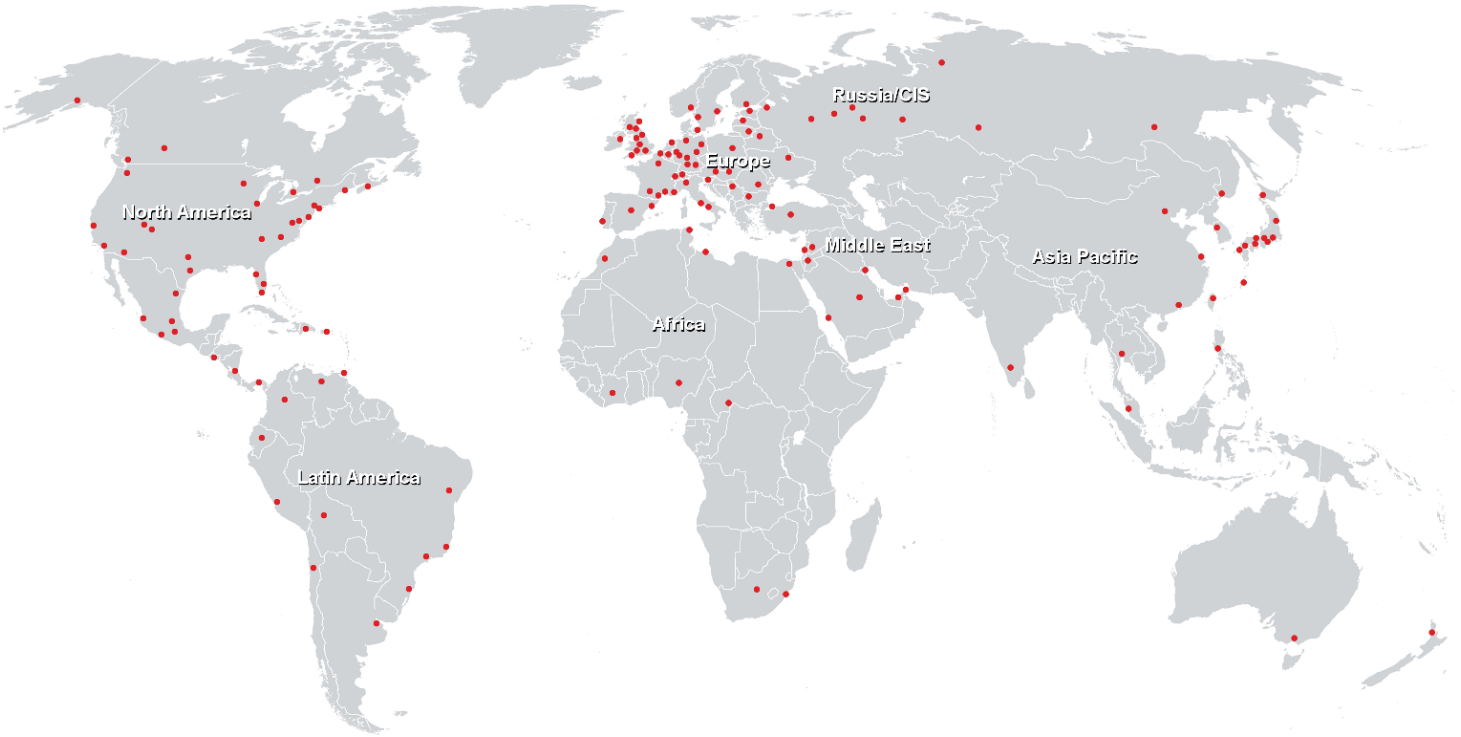
- Trust, Safety & the Permission Model
- Cost Model & AI Credits
- Enterprise Policy & Managed Settings
- Observability with OpenTelemetry
- Cutting Token Cost with Open-Source Models(
    - Using Open-Source Models in VS Code
    - Using Open-Source Models in the Copilot CLI
- EU AI Act, GDPR & Accessibility Compliance

Module 9: Spec-Driven Development & Delivery

- Why Spec-Driven Development
- The Spec-Driven Workflow
- Sample Case: Implement a Product Feature

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Fast Lane Institute for Knowledge Transfer (Switzerland) AG

Husacherstrasse 3
CH-8304 Wallisellen
Tel. +41 44 832 50 80

info@flane.ch, https://www.flane.ch