About the Author

Kangeyan (Kangs) Passoubady is a Principal Automation Architect, seasoned instructor, and independent consultant with over 25 years of hands-on experience in software engineering, test automation, and developer enablement. He is the founder of Kavin School LLC, where he has designed and delivered industry-focused training programs for thousands of professionals across the globe.

Kangs has deep expertise in modern development and automation ecosystems, including Java, JavaScript, TypeScript, Python, Selenium WebDriver, Cypress, CI/CD pipelines, and DevOps tooling such as Jenkins and Azure DevOps. Over the past decade, he has helped teams at organizations build scalable automation frameworks and adopt best practices for continuous integration and delivery.

As a trusted trainer for leading learning providers and enterprises, Kangs is known for translating complex concepts into practical, real-world skills. His teaching philosophy emphasizes productivity, code quality, and leveraging intelligent tools—making him a strong advocate for AI-assisted development workflows like GitHub Copilot.

This book reflects his passion for empowering developers and QA engineers to work smarter, write better code faster, and confidently adopt next-generation AI tools in their daily workflows.

Book Description

This comprehensive guide teaches you to master GitHub Copilot through hands-on development of a Personal Expense Tracker application. Choose from four parallel tracks—Java (Spring Boot), Python (FastAPI), .NET (ASP.NET Core), or Python Data Analysis (Pandas)—and progress from foundational AI concepts to advanced Copilot workflows.

You'll build a complete full-stack application while learning to leverage Copilot's intelligent suggestions for database modeling, business logic, REST APIs, and front-end implementation. The book covers advanced features including context controls, custom instructions, specialized agents, and multi-file editing capabilities.

With 90+ structured exercises and 16 interactive coding games, this intensive one-day bootcamp (or self-paced course) transforms how you code—teaching you to prompt effectively, validate AI-generated code, and integrate Copilot seamlessly into your development workflow.

Key Features & What You'll Learn

- ✓ **Master AI-Powered Development**: Learn to leverage GitHub Copilot's intelligent code suggestions, chat features, and context-aware assistance to write code faster and smarter
- ✓ **Build 4 Real-World Projects**: Construct complete Personal Expense Tracker applications in Java (Spring Boot), Python (FastAPI), .NET (ASP.NET Core), and Python Data Analysis (Pandas)
- ✓ **Multi-Track Learning Paths**: Choose your preferred technology stack—Java, Python, .NET, or Data Analysis—with parallel curriculum designed for consistent learning outcomes
- ✓ **Hands-On Exercises**: Practice with 90+ structured exercises covering entities/models, business logic, REST APIs, web interfaces, testing, and deployment
- ✓ **Interactive Games & Challenges**: Sharpen your skills with 16 engaging games including Prompt Battle, Hallucination Hunter, Copilot Golf, and more
- ✓ **Advanced Copilot Techniques**: Master hash contexts (#file, #selection, #codebase), custom instructions, specialized agents, and multi-file editing workflows
- ✓ **Professional Best Practices**: Learn proper AI-assisted testing, code review with Copilot, documentation generation, debugging strategies, and security considerations
- ✓ **Complete Development Lifecycle**: From project setup and database design through to web UI implementation and deployment—all with AI assistance

Target Audience

This book is perfect for:

- **Developers (Intro to Intermediate Level)** wanting to accelerate productivity with AI-assisted development. Track-specific training available for Java, Python, .NET, and data analysis.
- **Students and Bootcamp Learners** seeking job-ready skills with cutting-edge development tools through structured exercises and hands-on projects.
- **Development Teams and Organizations** adopting GitHub Copilot and needing comprehensive training material and reference documentation.
- **Self-Taught Programmers** ready to master AI assistance with progressive curriculum from basic to advanced workflows.
- **Tech Instructors and Training Professionals** needing ready-to-use curriculum, exercises, and games for classroom or workshop settings.

Prerequisites: Basic to intermediate programming knowledge in your chosen track (Java, Python, .NET, or Python/Pandas). No prior AI coding assistant experience required.

Book Statistics

- **4 Complete Learning Tracks**: Java, Python, .NET, Data Analysis
- **90+ Hands-On Exercises**: Structured progressive learning
- **16 Interactive Coding Games**: Engaging skill-building challenges
- **4 Full-Stack Projects**: From database to web UI
- **1-Day Intensive Format**: Or self-paced learning
- **4 Sessions per Track**: 45 minutes each
- **Course Materials**: Comprehensive guides and reference materials
- **Specialized AI Agents**: Performance optimization, API testing, training assistance
- **Multiple IDEs Supported**: VS Code, IntelliJ IDEA, Visual Studio

Technologies Covered

- **Java Track**: Spring Boot 3.2.3, Maven, H2/PostgreSQL, Thymeleaf, JUnit 5
- **Python Track**: FastAPI, SQLAlchemy, SQLite, Jinja2, pytest
- **.NET Track**: ASP.NET Core 10.0, Entity Framework Core 9.0, Razor Pages, xUnit
- **Data Analysis Track**: Pandas 2.0+, NumPy, Matplotlib, Seaborn, Jupyter

GitHub Repository

Sample Project Implementations:

- Java: https://github.com/kpassoubady/Personal-Expense-Tracker
- .NET: https://github.com/kpassoubady/DotNet-Expense-Tracker
- Python: https://github.com/kpassoubady/expense-tracker-python

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