

Prompt Engineering for Developers

Course Duration: 16 Hours (2 Days)

Important Notes

- **Courseware:** Reference material/PPT along with lab files/exercises will be provided.
- **Labs:** All labs will be performed on Open Source Platforms.

Topic	Content Description	Activity	Duration
1. Introduction to AI in Development	- Overview of AI-powered tools for developers	Group Discussion: Benefits of AI tools in modern development practices	1.5 hours
	- Role of VS Code and Blackbox in AI-driven coding		
2. Introduction to Prompt Engineering	- Basics of crafting effective prompts	Hands-on: Write prompts for generating reusable code components	2.5 hours
	- Prompt structures and templates		
	- Common challenges		
3. Getting Started with VS Code	- Overview of VS Code features	Guided Lab: Set up VS Code for efficient coding with AI-powered extensions	2 hours
	- Installing and configuring extensions		
	- Customizing workflows		
4. Exploring Blackbox for Developers	- Introduction to Blackbox	Lab: Generate Python and JavaScript snippets using Blackbox	2 hours
	- Comparison with VS Code extensions		
	- Blackbox for multi-language support		
5. Generating Documentation	- Creating comprehensive documentation	Practical Lab: Generate API	1.5 hours

	- AI-assisted documentation generation in VS Code	documentation and inline comments in VS Code	
6. Developing Code Features	- Feature generation using AI tools	Hands-on: Develop reusable modules using prompts in VS Code and Blackbox	3 hours
	- Crafting prompts for modular design		
	- Collaboration tips		
7. Automating Unit Test Creation	- Writing and refining unit tests	Practical Lab: Create and refine unit tests using VS Code and Blackbox	2 hours
	- Automating testing processes with AI		
8. Code Refactoring and Optimization	- Identifying inefficiencies	Interactive Lab: Improve and optimize existing code snippets	2 hours
	- Refactoring with VS Code tools and Blackbox		
9. Guided Project: AI-Driven Development	- End-to-end project: Plan, build, and refine an app	Project Lab: Build and enhance a feature-rich app using AI tools	3 hours
	- Use VS Code and Blackbox to streamline tasks		