hkpc Academy 生產力學院

Image created by Generative AI

AI System Development: RAG, AI Agent, MCP and Vibe Programming

CONNECTION TECHNOLOGY 裝備未來 FUTURESKILLS

Join our hands-on workshop to harness cutting-edge AI frameworks tailored to your business needs.

Using an interactive data analysis system as a case study, transform your ideas into reality—from concept to implementation!

Programme Code	10018099-18
Date and time	23 January 2026 (Fri) 09:30 – 17:00
Venue	1/F, HKPC Building, 78 Tat Chee Avenue, Kowloon, Hong Kong
Mode	Face to face workshop
Language	Cantonese (supplemented with English terminology and handouts)
Course fee	HK$3,000/ HK$2,700* *Group discount for 2 or more

Course Objectives

- **Understand** the concepts of Retrieval-Augmented Generation (RAG) and AI agents.
- **Implement** RAG frameworks effectively in practical applications.
- **Explore** the significance of context protocols in AI models.
- **Develop** applications using Vibe coding and integrate context-aware features.
- **Identify** best practices in context management and coding standards.

Inquiry: Ms Fannie KWOK | +852 2788 6271 | fannie@hkpc.org
Ms Becky YU | +852 2788 5029 | beckyyu@hkpc.org

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Course Outline

1. Introduction to RAG and AI Agents

- Overview of RAG
- Role of AI Agents in Modern Applications
- Hands-on: Preparation of AI programming

2. Understanding Retrieval-Augmented Generation (RAG)

- What is RAG?
- How RAG Works: Combining Retrieval and Generation
- Advantages of Using RAG in AI Models

3. Components of RAG Systems

- Data Retrieval Mechanisms
- Generative Models - Overview of Popular Models (e.g., ChatGPT, DeepSeek, Gemini)
- Integrating Retrieval with Generation

4. Implementing RAG in AI Agents

- Setting Up a RAG Framework
- Tools and Libraries for Implementation
- Hands-On Activity: Building a Simple RAG Agent online

5. Introduction to AI Model Context Protocol

- Overview of Context in AI Models
- Importance of Context Protocols
- Mini Project: Set up of a data analysis project with customer data

6. Understanding Context Protocols

- Definition and Components of Context Protocols
- How Context Affects AI Performance
- Examples of Context Protocols in Use

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Course Outline

7. Introduction to Vibe Coding

- What is Vibe Coding?
- Key Features and Benefits
- Hands-on: Setting Up the online Vibe Coding Environments

8. Integrating Context Protocols with Vibe Coding

- Designing Context-aware Applications
- Practical Examples of Integration
- Hands-On Activity: Build a data analysis Vibe Application

9. Best Practices for Context Protocols and Vibe Coding

- Strategies for Effective Context Management
- Coding Standards in Vibe
- Common Pitfalls and How to Avoid Them
- Mini Project Hands-on: Finishing the mini project with best practices

10. Future Trends and Applications

- Emerging Technologies in AI Context
- Vibe Coding in Modern Development
- Potential Use Cases

11. Q & A and Wrap-Up

- Open Floor for Questions
- Summary of Key Takeaways

Target Audience

- **AI Enthusiasts**: Anyone eager to learn practical AI development tools
- **Developers**: Professionals aiming to advance their AI model-building skills
- **Business Analysts**: Analysts seeking to leverage RAG & context-aware AI for smarter data insights
- **Project Managers**: Leaders overseeing AI initiatives who require technical fluency
- **Students**: Learners in IT related fields exploring cutting-edge AI applications

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Trainer's Profile

Dr Patrick TSOI has over 27 years of hands-on AI, data science, Big Data, and programming experience. He has a Doctor of Education from the Hong Kong Baptist University, a Master in IT Education from the University of Hong Kong, and a B.Eng in System Engineering and Engineering Management from the Chinese University of Hong Kong.

Award of Certificate

A Certificate of Accomplishment will be awarded to participants who have completed the course.

Enrolment Methods

1. Scan the QR code to complete the enrolment and payment online. OR

2. Mail the crossed cheque with payee name "Hong Kong Productivity Council" (in HK dollar) and the application form to: ***HKPC Academy, Hong Kong Productivity Council, 1/F, HKPC Building, 78 Tat Chee Avenue, Kowloon (attention to Ms Fannie KWOK)***. Please indicate the course name and course code on the **back of the cheque and envelope**. OR

3. Visit the registration counter of HKPC Academy, Hong Kong Productivity Council (1/F, HKPC Building, 78 Tat Chee Avenue, Kowloon) to enrol and settle the course fee. Office hours: Monday to Friday 09: 00 - 18: 00

http://u.hkpc.org/b6w

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