



Building a Copilot for Your Own Application with Semantic Kernel

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The MVVM Pattern in .NET MAUI (Packt)



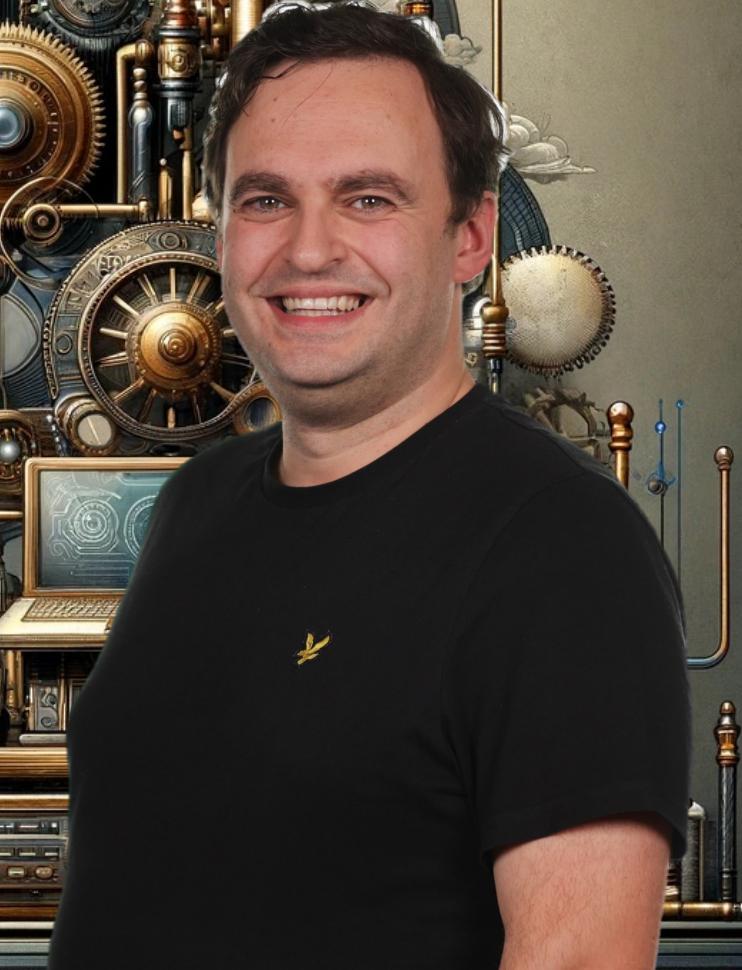
Active Community Member



Blog.PieEatingNinjas.be



Microsoft MVP



Copilot:

[*'kou,paiłət*] *noun*

1. An AI buddy that engages in conversation with a user to collect information and confirm understanding.
2. A digital assistant that collaborates closely with a user, requiring consent before executing tasks or actions.

Going Beyond RAG



RAG = enhancing responses with information retrieval



RAG is part of a Copilot



Our Copilot focusses on

- Conversational AI, engaging with user
 - Gather information
 - Clarify intents
 - Seek permission before taking action
-



Demo

Introducing a working Copilot



Under the hood



Large Language Model

- › GPT 4
- › OpenAI API
- › Azure Open AI Services
- › Prompt Engineering



Semantic Kernel

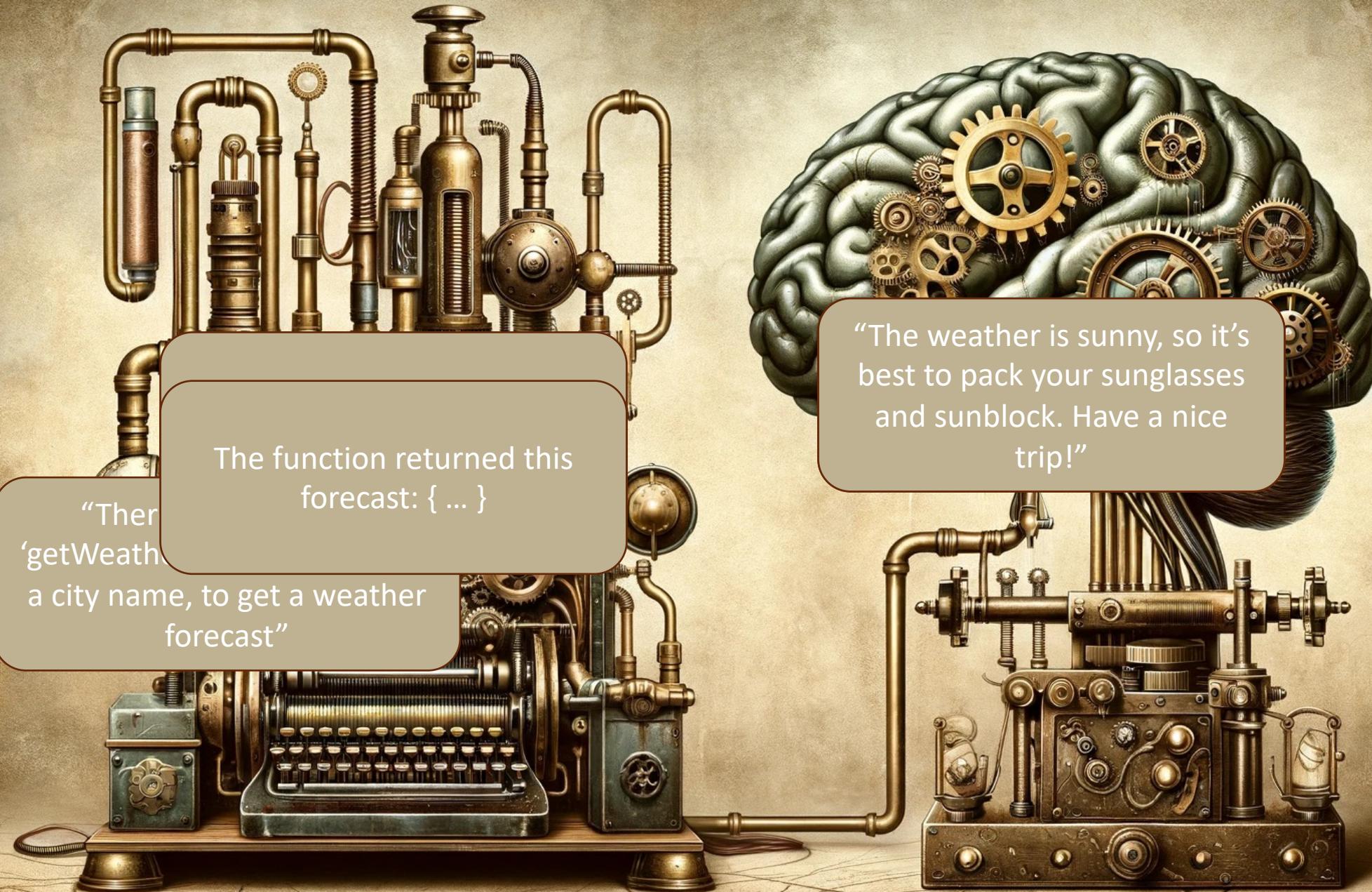
- › Open-Source SDK by Microsoft
- › C#, Python, Java
- › Orchestrate AI capabilities
- › Build intelligent Agents that understand and execute complex workflows



OpenAI Function Calling

- › LLM suggests specific function to call in response to user query
- › Response is send back to LLM
- › >= GPT 3.5 Turbo
- › Seamless with Semantic Kernel





Let's build this



Our API endpoints are ready to use
No update needed



Define a goal (Prompt Engineering)

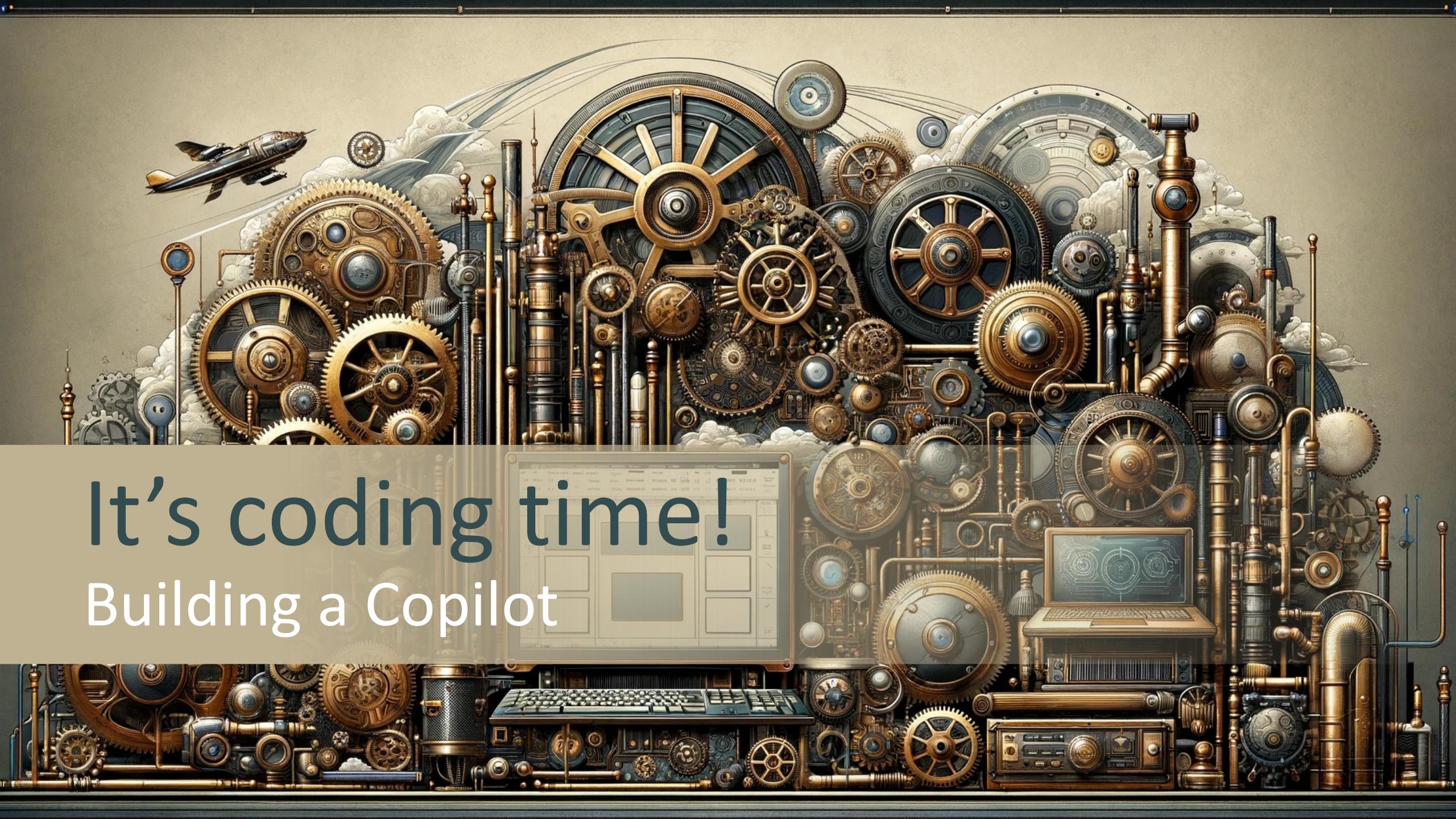


Define functions (Plugins, Function Calling)



Orchestration through Semantic Kernel





It's coding time!
Building a Copilot



Key Takeaways



Getting started is straightforward

- › Proof of Concept
- › Decision Maker Buy-In
- › Familiar tools
- › Abstraction through Semantic Kernel
- › Community Support



The Principle of Diminishing Returns

- › Quick Wins
- › Refinement Takes (a lot of) Time
- › Increasing complexity with advanced features
- › Maintainability



Mindful Resource Management

- › Cost of Tokens
- › Optimize Interactions
- › Monitor Usage



Questions?

Thank you!

A dark teal circular icon containing a white lowercase letter 'i', representing an information or help symbol.

More information

- › Me | [Pieter Nijs](#)
- › Work | <https://xebia.com/digital-transformation/microsoft-services/>
- › LinkedIn | <https://www.linkedin.com/in/pieter-nijs>
- › Sources | <https://github.com/PieEatingNinjas/copilot-semantickernel/tree/demo>
- › Blog | <https://blog.pieeatingninjas.be>





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