



GitHub Copilot agent mode

Flying with a GenAl skeptic convert

Marek Grzenkowicz, Lead IT Expert



Roche at a glance

Who we are and what we do



129 years

founded in Basel in 1896



A leader in healthcare R&D

with CHF 13 billion invested in 2024



3 Nobel prizes and 44 Prix Galien

since 1974



CHF 60.5 billion*

in Roche Group sales in 2024



44 Roche medicines & >100 diagnostics**

on the WHO List of Essential Medicines & Tests



>100,000

dedicated employees worldwide



~26 million people

treated with our medicines in 2024



30 billion tests

conducted with our Diagnostics products in 2024

^{*}Unless otherwise stated, all growth rates and comparisons to the previous year are at constant exchange rates (CER; average rates 2024) and all total figures quoted are reported in CHF.

^{**} Medicines and tests that have either been developed or acquired by Roche



Roche Informatics Poland

Where code meets care





Who am I?

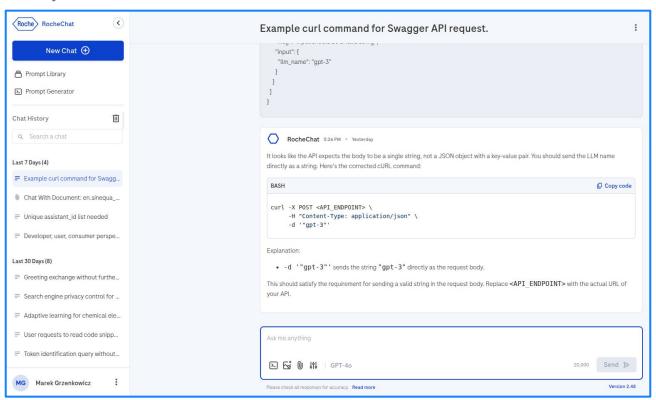


- 20+ years of professional experience
- 14 years at Roche
- Python developer, DevOps, MLOps, architect
- Building production GenAl applications since early 2023
 - Up to 40K+ unique monthly users
- Lots of NLP work earlier
- github.com/chopeen | github.com/grzenkom



RocheChat

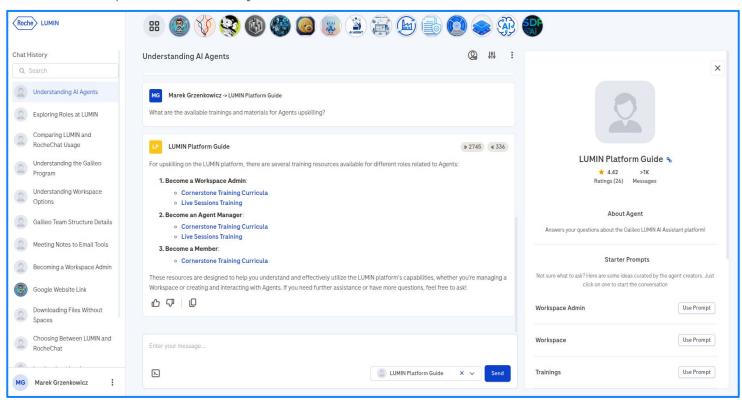
Al chatbot for everyone at Roche





Lumin

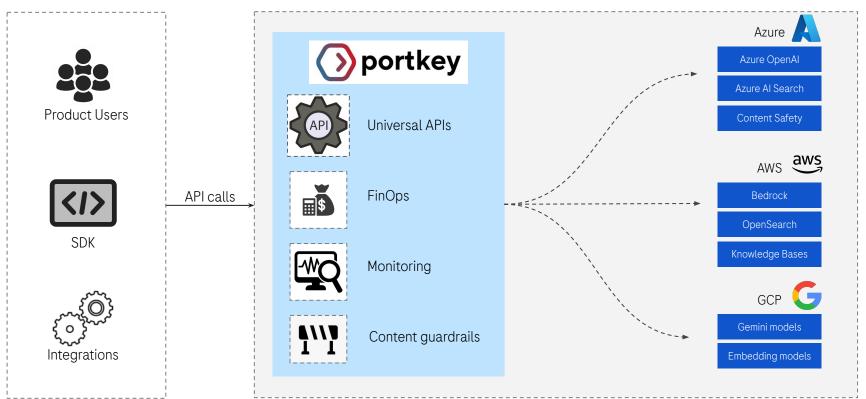
No-code Al assistant platform for everyone at Roche





Galileo Platform

Centralized hub for the Al services





Show of hands 🖖

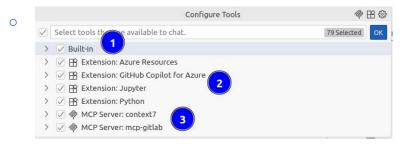
- 1. Who does use **AI chat applications** (e.g. ChatGPT) for coding tasks?
- 2. Who does use any **coding assistant** directly in the IDE?
- 3. Who does use a coding assistant in **agentic mode** to let it performs tasks independently?
- 4. Who does feel that coding assistants **increase their productivity**?



Selected features of GitHub Copilot

NOT a complete list

- Three different modes.
 - Use **ask** mode in VS Code
 - Use **edit** mode in VS Code
 - Use **agent** mode in VS Code
- 2. Different models
- 3. <u>Custom instructions</u> (file .github/copilot-instructions.md and <u>other instruction files</u>)
- 4. Tools







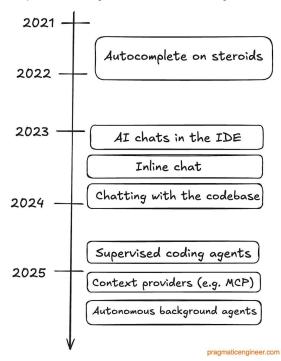
- 1. Real use cases
- 2. Real project repositories
- 3. Things may go haywire, but that's part of working with coding assistants



Closing remarks

Start small, start careful, but start

1. GitHub Copilot today is **not** the tool you used last year



Source: Learnings from two years of using Al tools for software engineering



Closing remarks (cont.)

Start small, start careful, but start

- 2. Coding assistants do **not** guarantee immediate productivity gains
 - Especially the agentic mode requires time to learn it and set up your project properly
 - It is an **investment** in the beginning
- 3. The **more effort** you put into guiding them the better the results
 - Detailed problem statement
 - Project-specific custom instructions
 - Context tailored for each prompt
- 4. **Good test coverage** will make the generated code more trustworthy
 - Question to consider: should the tests be implemented by humans or Al?



Action items

- 1. Keep experimenting with the tools, modes, models, etc. and find a setup that works for you
- 2. Observe others (colleagues, YouTubers, etc) and look for inspiration
- 3. Pay attention to the monthly release notes in VS Code (or any other tool you use)
- 4. Embrace the shifted role of a developer from writing code to curating knowledge and teaching AI systems how to work effectively





Different views on the GenAl tools in coding

- My LLM codegen workflow atm | Harper Reed's Blog
- How I program with LLMs
- How I Use "AI"
- Here's how I use LLMs to help me write code
- Why I stopped using AI code editors
- As an Experienced LLM User, I Actually Don't Use Generative LLMs Often
- There's Beauty in Al
- <u>LLMs are Making Me Dumber</u>
- Al-assisted development needs automated tests
- Engineers and AI: ramblings of a small startup founder
- How much faster can coding assistants really make software delivery?

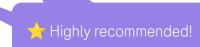
More or less ordered chronologically, so you may want to **start reading from the end**



Links (cont.)

Different views on the GenAl tools in coding

- My Al Skeptic Friends Are All Nuts
- Why I don't think AGI is right around the corner
- <u>Field Notes From Shipping Real Code With Claude</u>
- Coding agents have crossed a chasm \(\phi\)
- How to Vibe Code as a Senior Engineer
- Vibe Coding in Software Engineering
- Writing documentation for Al: best practices
- You are using Cursor Al incorrectly...
- From Design doc to code: the Groundhog AI coding assistant (and new Cursor vibecoding meta)
- <u>autoregressive queens of failure</u>
- Learnings from two years of using AI tools for software engineering





Links (cont.)

Different views on the GenAl tools in coding

- Coding with LLMs in the summer of 2025 (an update)
- How I Use Claude Code to Ship Like a Team of Five



Links (cont.) Working with VS Code and GitHub Copilot

- VS Code Agent Mode Just Changed Everything
- Ask, Edit, & Agent In-depth Overview of GitHub Copilot Chat Modes
- 10x Your Productivity: VS Code + GitHub Copilot Agent Mode & MCP
- Practical Integrations with MCP Servers in VS Code
- <u>Customizing Copilot in VS Code</u>
- Working with MCP servers in GitHub Copilot Agent mode
- Awesome GitHub Copilot Customizations

Doing now what patients need next