Visual Studio Code

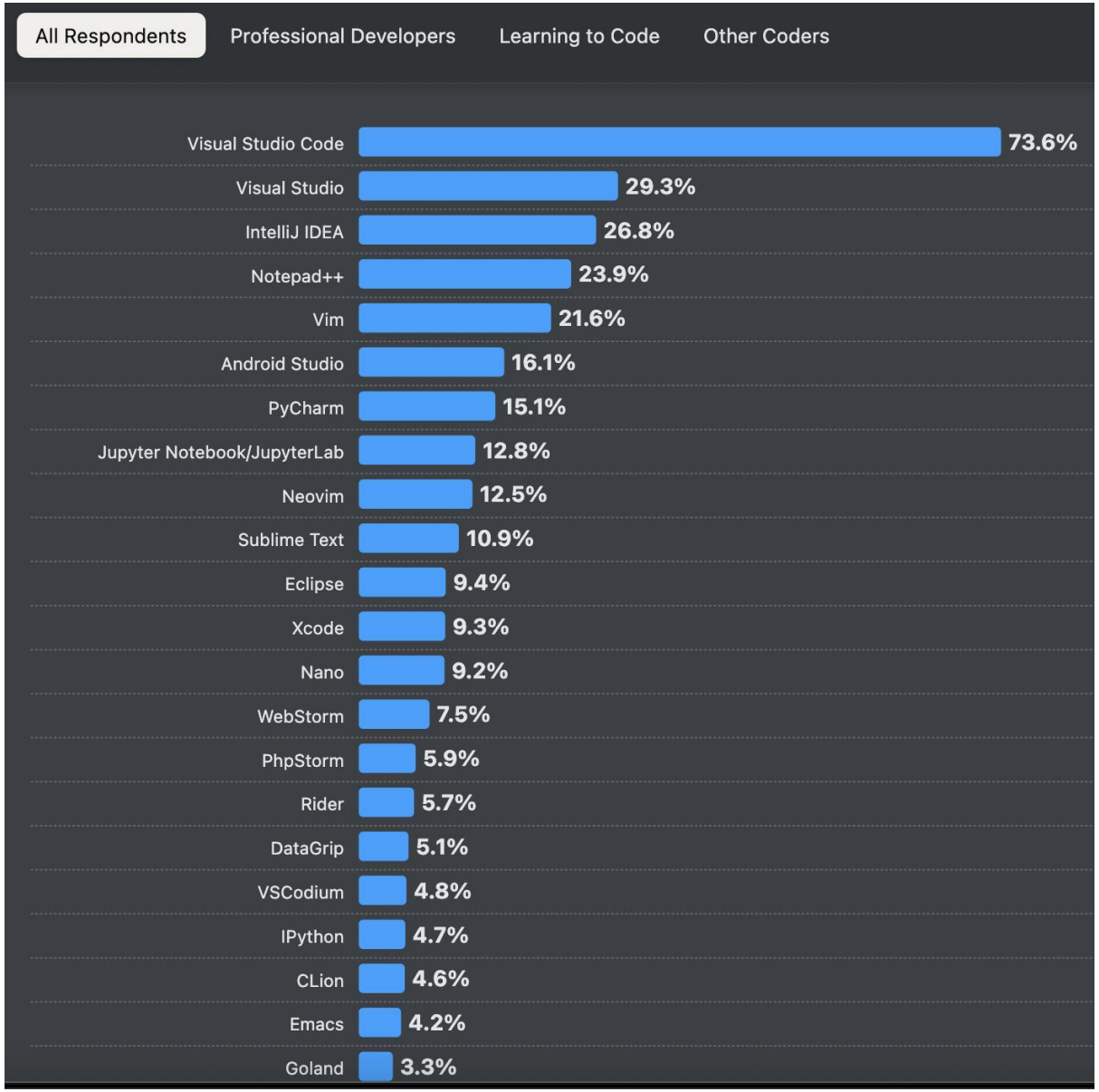
GitHub Copilot

Visual Studio Code

- Visual Studio Code, commonly referred to as VS Code, is an integrated development environment developed
  by Microsoft for Windows, Linux, macOS and web browsers.

- Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded version control with Git.

- Users can change the theme, keyboard shortcuts, preferences, and install extensions that add functionality.



Integrated development environment [IDE] SURVEY

- Visual Studio Code is used by more than twice as many developers than its nearest (and related) alternative, Visual Studio.
- can be used with a variety of programming languages, including C, C#, C++, Fortran, Go, Java, JavaScript, Node.js, Python, Rust, and Julia
- employs the same editor component (codenamed "Monaco") used in Azure DevOps (formerly called "Visual Studio Online" and "Visual Studio Team Services")

https://survey.stackoverflow.co/2024/technology#most-popular-technologies-new-collab-tools

- GitHub Copilot is a code completion and automatic programming tool developed by GitHub and OpenAI that assists users of Visual Studio Code, Visual Studio, Neovim, and JetBrains integrated development environments (IDEs) by autocompleting code.

- Currently available by subscription to individual developers and to businesses, the generative artificial intelligence software was first announced by GitHub on 29 June 2021, and works best for users coding in Python, JavaScript, TypeScript, Ruby, and Go.

- On June 29, 2021, GitHub announced GitHub Copilot for technical preview in the Visual Studio Code development environment.

- In March 2023 GitHub announced plans for "Copilot X", which will incorporate a chatbot based on GPT-4, as well as support for voice commands, into Copilot

GitHub Copilot

- GitHub Copilot was initially powered by the OpenAI Codex, which is a modified, production version of the Generative Pre-trained Transformer 3 (GPT-3), a language model using deep-learning to produce human-like text.

- The Codex model is additionally trained on gigabytes of source code in a dozen programming languages.

- Copilot’s OpenAI Codex is trained on a selection of the English language, public GitHub repositories, and other publicly available source code.

- This includes a filtered dataset of 159 gigabytes of Python code sourced from 54 million public GitHub repositories

GitHub hits 150 million developers, launches free Copilot tier in VS code

All GitHub developers can now pose coding-related questions or prompts to Claude 3.5 Sonnet or GPT-4o models.

- Microsoft-backed company said on Thursday, December 19. It has also launched a new free tier of GitHub Copilot in VS code.
- By integrating Microsoft's flagship AI offering Copilot into VS Code, all users with a personal GitHub account will be able to access over 2,000 code completions and 50 chat messages per month.

https://github.blog/news-insights/product-news/github-copilot-in-vscode-free/

- All GitHub developers can directly use Copilot Chat from their dashboard. Students, educators, and open-source project leaders will continue to enjoy unlimited access to their Copilot Pro accounts for free, the company said.

- Copilot Free gives you the choice between Anthropic's Claude 3.5 Sonnet or OpenAI's GPT-4o model.

- You can ask a coding question, explain existing code, or have it find a bug. You can execute edits across multiple files. And you can access Copilot's third-party agents or build your own extension.

- "With GitHub Copilot Free in VS Code, India can accelerate the timeline forward to becoming the largest developer community in the world. But only if we make it happen," CEO Thomas Dohmke said in a statement.

- "Let us now empower every person in India to build and create code in natural language—and to code with Copilot,"

Credits

https://code.visualstudio.com/docs/copilot/setup-simplified
Set up Visual Studio Code with Copilot

https://code.visualstudio.com/
Your code editor. Redefined with AI.

https://arxiv.org/html/2406.00515
A Survey on Large Language Models for Code Generation

https://codesubmit.io/blog/ai-code-tools/
AI Code Tools: The Ultimate Guide in 2025

https://www.altexsoft.com/blog/ai-coding-tools/
AI Coding and Best Tools Compared

https://code.visualstudio.com/docs/copilot/getting-started
Getting started with GitHub Copilot in VS Code

Prompt Engineers ☺ Let’s get into action now - Install !!

Prompt Engineers ☺ Let’s get into action now – Example 1 !!

Prompt Engineers ☺ Let’s get into action now – Example 2 !!

Prompt Engineers ☺ Let’s get into action now – Example 3 !!

Thank You !!

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