

November 29, 2023



5 min read

# Will AI replace Software Engineers?

By [Krissy Davis](#)



The concern about developers potentially being replaced by AI is a hot topic, and is currently being discussed on many platforms. While it's an irrational worry — due to the increasing number of uses of AI in software development — we do need to take a closer look at what AI is currently capable of.

In this article, we'll look at what AI can and cannot do, and how it will likely impact the livelihood of software developers. We'll also share some insights about what developers actually think.

## AI's role in software engineering

It's pretty clear to us by now that AI is great at automating tasks such as testing, and debugging, thereby improving efficiency. It can also analyse code for vulnerabilities and suggest improvements

and has the potential to develop more intelligent and sophisticated software.

Here are some of the key areas where AI is having an impact:

- Code generation and completion
- Code review and testing
- Debugging and problem-solving
- DevOps and automation - Provisioning infrastructure, deploying code, and monitoring the performance of apps.
- Create intuitive user interfaces
- Software maintenance

As you can see, AI is mostly used in software engineering to enhance rather than replace human abilities. While AI is excellent at the monotonous and routine aspects of coding, it is not as creative or problem-solving as it needs to be for more complex and innovative software projects. More on this later.

## **How is AI beneficial for software engineering?**

AI should be looked at as a positive rather than a negative. Its ability to automate repetitive tasks, improve code quality, enable new software development methodologies, and personalise the software development experience means human developers have time to focus on more complex tasks that AI just isn't capable of.

Look at AI as a tool. Something that can complement your skills and enhance your productivity. However, as AI evolves, we will definitely see more transformative applications. So it's best not to get too comfortable in your current role (more on that further down).

## **AI's overall impact on software engineers**

To give a fair picture of how AI affects software engineers, let's examine the advantages as well as the drawbacks.

The negative effects of AI can be:

- **Outdated skills:** Some of the conventional skills used by software engineers are losing importance as AI takes over basic coding chores. AI cannot readily manage new skills like system design or technology integration, so engineers must pick them up.
- **Risks to jobs:** Because AI can perform certain tasks more quickly and effectively, software engineers — especially those who specialise in fundamental coding — may have fewer jobs overall. According to McKinsey, automation might put up to 7.5 million development-related professions in danger worldwide.
- **Less creativity:** There is worry that the work may shift from being creative problem solvers to being more about controlling and adjusting AI outputs as AI takes over more of the coding. For those developers that relish the creative aspect of coding, this could make the job less interesting.

And these are some of the positive effects:

- **New employment opportunities:** AI is not limited to automation; it is also generating new employment in machine learning, data science, and cybersecurity. Deeply understanding AI and being able to apply it to practical issues are needed in these sectors.
- **Increasing productivity:** Copilot from GitHub and other AI assistants enable software engineers to produce work more quickly and with fewer errors. As such, they may devote more time to the challenging aspects of projects, such as developing fresh concepts or resolving intricate issues.
- **Better learning and collaboration:** AI is undoubtedly revolutionising the way software engineers collaborate and learn. AI-powered tools facilitate the acquisition of new abilities by customising learning to each individual's requirements and speed. AI enhances code reviews, finds problems, and even simulates pair programming, which facilitates teamwork — especially when members are dispersed.
- **Working across domains:** AI can be widely applied outside of the tech industry. Software engineers can thus work on initiatives in healthcare, finance, and even environmental technology,

which can include more than just writing code.

For software engineers, AI brings challenges like the need to continuously improve skills and potential job shifts. However, it also offers opportunities to work more creatively across different sectors. The key is for software engineers to see AI as a tool that enhances their work, not as a threat.