How software developers feel about AI reshaping their work—and what this tells the rest of us

August 22 2024, by Najmeh Hafezieh and Farjam Eshraghian

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The narrative around the infiltration of artificial intelligence (AI) into our professional lives is often tinged with fear. Can a computer do what I

do faster and more cheaply? Will my skills become obsolete? What if a robot takes my job?

Software programmers are at the forefront of facing up to this fear. AI assistants that [write code](#) are not [science fiction](#) but becoming an established part of software development practices. While AI may not completely replace human-coded software, its growing capabilities are undoubtedly reshaping how software is written and used.

We [carried out a research project](#) to find out how software developers really felt about AI coming for their jobs. What we found was surprising: programmers' worries about this technology were accompanied by excitement.

We focused our research on [GitHub Copilot](#), an emerging AI for software programming. We collected data from Twitter (now X): 107,111 tweets that included both "GitHub" and "Copilot" keywords between July 2 2021 and June 1 2022.

After filtering and cleansing the data, we analyzed 16,130 relevant tweets by 10,301 software programmers. We identified the emotions that were being expressed, and explored how these [emotional responses](#) changed over time.

Discovering potential

Initially, we found developers grappling with a mix of fear and skepticism. However, as the programmers explored the tool's capabilities, a fascinating shift occurred. Excitement emerged.

Programmers discovered the potential for AI to automate tedious tasks like writing repetitive code blocks or fixing minor bugs. This freed them up to focus on more creative and challenging aspects of programming,

leading to a sense of achievement and a newfound appreciation for this AI "code buddy."

This inner conflict is not unique to programmers. It's a window into how we all might react to intelligent automation in our workplaces.

As AI continues to evolve, we need to not just consider the technical capabilities of the machines, but also the human element—how we feel about working alongside them. The journey from fear and skepticism to seeing AI as a tool that can boost our skills is a process driven by emotions.

This is important for employers looking to introduce AI into their work systems. By understanding the emotional journey of their employees, managers can anticipate initial resistance and tailor their approach. This might involve phased introductions, training programs, and clear communication about the benefits of the technology.

Our study also highlights the importance of experimentation. The more that knowledge workers played around with AI tools, the better they understood their value and how they can be integrated into their workflow. This fosters a culture of innovation and continuous learning within the organization.

Our research suggests AI tools such as GitHub Copilot can be powerful educational aids. By integrating them into training programs, organizations and educational institutions could equip novice programmers with valuable skills and insights.

Part of working life

It's not just software developers who are seeing AI become a part of their daily working lives. AI has been rapidly infiltrating the professional

realm. [Doctors](#) diagnosing illnesses, [lawyers](#) crafting legal arguments, and academics pushing the boundaries of research are all on the cusp of a major shift in how they approach their daily tasks.

If you have been feeling worried about the infiltration of AI into your working life, try seeing it as a tool that can boost your skills and expertise.

If you're an accountant, you might be able to automate tedious paperwork with AI, freeing time up for complex financial analysis. Or you might be a designer who could use AI to generate a variety of possible design ideas, before refining them with your creative vision.

This dynamic interaction between human and AI is key. The next time you hear about AI in the workplace, think "enhancement" not "replacement." The rise of the hybrid worker—a person working in tandem with AI—is upon us, and it can be an exciting prospect. The future of work might not be humans vs. machines, but collaboration between human and AI.

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