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March 14, 2025

Faisal D'Souza
National Coordination Office
Networking and Information Technology Research and Development
Program
2415 Eisenhower Avenue
Alexandria, VA 22314

Dear Mr. D'Souza:

GitHub appreciates the opportunity to provide comments to the White House Office of Science and Technology Policy (OSTP) in its request for information for the AI Action Plan. GitHub is the world's leading platform for software development, home to over [23 million developers in the United States](#) and [150 million developers worldwide](#) collaborating on software projects. GitHub is both a provider of the world's leading AI powered software development tools and a host of the full stack of open source AI components. In 2024, GitHub hosted an [estimated](#) 137,000 public generative AI projects, a 98% year over year growth.

AI-powered developer tools are already transforming software development, accelerating productivity, skilling, scaling, and innovation in software development. Likewise, most software components used to build transformative AI innovations – such as the libraries and code used to collect data, train and test models, and build applications that democratize access to AI tools – are open source and hosted on GitHub. Supporting the open source developer ecosystem is foundational to advancing American AI opportunity.

In GitHub's response to the "Request for Information on the Development of an Artificial Intelligence Action Plan," we will focus on the significant opportunities AI presents to American software developers, startups, and companies. We will discuss how the United States can maintain its leadership in AI development through supporting the open source ecosystem that is essential to AI innovation. Finally, we will provide insight into how the United States will sustain AI opportunity in software development through investing in security and resilience. GitHub appreciates the opportunity to contribute our perspective on AI's significant opportunities for software development and to advocate for the

interests of open source software developers as essential stakeholders in the AI ecosystem.

AI Enhances Opportunity for American Software Developers

AI presents significant opportunities for the American economy and workforce, especially for software development. With AI-powered tools, developers can accelerate coding, streamline code maintenance, and enhance cybersecurity, fostering a more competitive and innovative software ecosystem. GitHub provides the world's most widely adopted AI developer tool, GitHub Copilot. GitHub Copilot increases productivity and code quality throughout the software development lifecycle, allowing developers to spend less time on mundane tasks and to focus more energy on problem solving and collaboration. Developers who use Copilot report up to [75% higher satisfaction with their jobs than those who don't and are up to 55% more productive at writing code](#) without sacrifice to quality. This is just the beginning for AI developer tools; by leveraging these technologies, startups can scale faster and maintain agility, attract investment, and bring groundbreaking solutions to market. We anticipate that growing adoption of AI-powered developer tools could boost global GDP by over [\\$1.5 trillion by 2030](#).

AI-powered developer tools lower the barriers to entry into software development, making it easier for developers to learn how to code and create their own software projects. For example, Copilot can take natural language prompts, essentially instructions in plain English, and generate code suggestions based on the instructions and context of the project. GitHub Copilot can help developers learn new programming languages, reskilling workers for the evolving job market. GitHub Copilot has already grown to 1.8 million paid subscribers, 77,000 organizations, and has generated over [3 billion accepted lines of code](#). More than one million open source maintainers and verified students and teachers have received access to GitHub Copilot for free through our [complimentary program](#). In 2024, over [450,000 GitHub Education users](#) were first-time contributors to projects on the platform. Low-code and no-code developer tools enable users to build applications quickly and cost-effectively through visual interfaces and pre-built components, reducing reliance on traditional coding while improving accessibility, scalability, and development speed. [GitHub Spark](#), a recently introduced AI-powered tool, can create micro applications tailored to a users' exact needs and preferences without needing to write or deploy any code. GitHub's CEO Thomas Dohmke has articulated our ambition of enabling [1 billion people to become developers by 2030](#) with these tools that make software development considerably more accessible.

Open Source is Essential to AI Innovation

Open source software is a public good and educational resource, enabling collaboration among professional developers, hobbyists, companies, non-profits, and governments. In 2024, developers globally made nearly [1 billion contributions](#) to open source and public repositories across GitHub. This public good has created immense economic value and has been supported by policymakers around the world for its benefits to digital modernization, local industry, and cost savings. Studies have shown that open source software can be found in [97% of codebases](#) and its demand-side value to the global economy is estimated at [\\$8.8 trillion](#). Organizations invest an estimated [\\$7.7 billion](#) annually into open source projects, primarily through employee labor. A [majority of the AI stack](#), including key frameworks and tools, is open source and hosted on platforms like GitHub, allowing developers to build upon shared advancements rather than starting from scratch. This open, collaborative approach accelerates AI progress, fosters competition, and ensures that innovation is not limited to a small number of entities.

The United States has created favorable conditions for the technology industry to thrive [since the early days of the internet](#), and it is critical to maintain this approach to foster AI innovation. These favorable conditions, including robust fair use and safe harbor protections, have reduced uncertainty and risk for smaller players creating innovative technologies. Open source has been a key pathway for American startups to fully realize otherwise potential gains from a favorable policy environment, and this is only accelerating in the age of AI. The United States is already [leading in open source AI](#), with 42% growth in AI contributors and the largest number of contributions to generative AI projects on GitHub in 2024. Embracing policies that protect open collaboration and encourage transparency, while balancing the interests of AI developers, rightsholders, and the public interest, will allow the United States to maintain its leadership and harness the full potential of AI.

Supporting AI Security and Resilience

AI is already transforming software security by enabling advanced threat detection, automating vulnerability detection and remediation through features like [GitHub Copilot Autofix](#), and enhancing real-time responses to cyber threats. Because most AI systems rely on open source software, maintained collaboratively on platforms like GitHub, AI security and open source security are deeply interconnected.

When considering how to support the security and resilience of AI, the United States should consider the particularities of the open source software which makes up critical components of the AI stack. Open

source software is maintained by a global network of community-driven contributions, both from developers as part of their jobs but also from volunteers. Efforts to strengthen cybersecurity should have an appropriate balance of responsibility, calling on better-resourced stakeholders to contribute resources to maintaining and securing critical dependencies, rather than overburdening individual contributors. Pursuant to this effort, GitHub has launched the [GitHub Secure Open Source Fund](#) which provides funding for maintainers linked directly to improving security.

Fostering global collaboration on the use of AI to improve cybersecurity and other [tools](#) to increase resilience in the face of accelerating threats is a key strategy for building trust in AI. Additionally, it helps counter impulses toward overly broad regulation and market fragmentation, which would harm opportunities for developers and US companies.

Conclusion

GitHub appreciates the opportunity to provide input on the development of an AI action plan for the United States. As both the leading platform for software development collaboration, and a provider of AI-powered developer tools, we are especially aware of the immense opportunities AI offers software developers, and the importance of open source software in continued AI innovation. Through supporting open source AI innovation, investing in security and resilience, and fostering AI opportunity for developers and startups, the United States can sustain and enhance its global AI leadership.

Sincerely,

Mike Linksvayer
VP, Developer Policy

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