nylas

A developer's guide to Generative AI

Understanding and assessing how developers and technical teams are harnessing this revolutionary technology

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Introduction

Generative AI has taken the world by storm. OpenAI's ChatGPT became the fastest-growing app of all time and received a $10 billion investment from Microsoft.

Google launched Bard, GitHub rolled out Copilot, and many others are rapidly looking to get in on the Generative AI gold rush. And it is easy to understand why.

Our data was collected from May through June this year from 1,000 developers, product and engineering leaders, and executives across North America to better understand their usage of Generative AI today and their sentiment toward this technology.

There are incredible productivity gains to be had with Generative AI. Marketers are using these tools to assist them with the content creation process. Sales reps can gather key information on prospects and organizations more efficiently and quickly send hyper-personalized responses.

Yet it is developers who arguably have the most to gain (or lose) with Generative AI.

In the dynamic and fast-paced world of software development, Generative AI has the potential to be a groundbreaking technology, dramatically increasing developer productivity, creativity, and innovation. With Generative AI, developers can specify the coding language of their choice, libraries, architectural patterns, and more and instantly receive a preliminary version of their code. With this technology at their fingertips, Generative AI opens a whole new world of opportunities for developers and their organizations. Yet despite all of this, Generative AI does come with risks and concerns.

Data privacy and regulation, additional technical debt, and the potential loss of human jobs all loom as the possibilities of what can be accomplished with Generative AI continue to evolve and grow.

While we are still in the very early stages of the Age of AI, it is clear that developers are at the forefront of this technology and this movement. So to better understand how developers think about and use this game-changing technology, we went straight to the source.

Our research revealed that while developers believe that Generative AI is the future of work, it will impact jobs and the ability to find work.

We found that while developers use Generative AI tools daily, they crave more training and education from their employers on how to prompt and use it effectively. Yet despite the desire for more training, developers are already honing in on email integrations and use cases as an area where Generative AI would be most helpful and impactful. And we were able to hear from developers up to CTOs on whether they believe significant security and privacy concerns have yet to be addressed with Generative AI.

Generative AI is the future, but it comes with a cost

According to survey results, most respondents **(66%)** believe Generative AI is the future of work. Developers agree this technology will play a pivotal role in shaping the landscape of multiple industries and has the potential to transform existing processes, revolutionizing how businesses operate.

What's more?

81%

of the developers believe Generative AI will enhance their productivity.

Developers perceive Generative AI as a powerful tool that can streamline workflows, automate mundane tasks, and unlock new possibilities for innovation.

Our findings also reveal that

90%

of developers foresee an increase in their usage of this technology over the next year, demonstrating a growing recognition and acceptance of Generative AI as a valuable asset in developers' toolkits.

The anticipated surge in usage reflects the willingness of professionals to embrace this technology and leverage its capabilities to drive better outcomes in their work.

However, while the data overwhelmingly supports the potential benefits of Generative AI, there are concerns among developers regarding its impact on the job market. While we are still in the early stages of this technology and there is plenty of time for individuals and teams to better understand these tools,

62%

of developers did say that they believe Generative AI will make it more difficult to find employment

with

41%

expecting this challenge to emerge within the next five years.

These concerns shed light on the apprehension surrounding the potential displacement of certain job roles and the need for individuals to adapt and upskill in response to the evolving technological landscape.

Placing a strong emphasis on education and training

Given the concern from developers and businesses around Generative AI — from uncertainties around job security to data privacy — we must recognize the significance of education and training to leverage Generative AI effectively.

74%

of developers expressed their desire to see their companies invest more in educating employees on how to prompt and effectively use Generative AI.

They acknowledge that acquiring the necessary knowledge and skills to leverage Generative AI is vital for staying competitive in the evolving technological landscape.

Organizations must adopt a proactive approach to education and training to embrace the potential of Generative AI fully. This means developing comprehensive learning programs, facilitating access to resources and tools, and promoting a culture of continuous learning.

By investing in the education and training of employees, businesses can position themselves at the forefront of Generative AI adoption, driving innovation and reaping the rewards of increased productivity and competitiveness in an AI-driven future.

Benefits of investing in Generative AI education and training

Enabling professionals to develop the necessary skills to prompt and utilize Generative AI, ensuring they can fully capitalize on its capabilities

Allowing businesses to proactively address concerns about job market implications, ensuring their workforce remains agile and adaptable in the face of evolving technologies

Fostering innovation and adaptability as employees feel empowered and equipped to explore new possibilities

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Everyone must acquire these [Generative AI] tools today, as they are skills that require practice, familiarity, and mastery. If you, as an individual, do not learn these skills, you will be left behind, as the way people work in the coming years will undergo substantial changes. This could ultimately lead to being outperformed by others who have invested their time in learning these skills."

Christine Spang
Co-founder, and CTO, Nylas

Developers want to use AI to help with email

For years, pundits and analysts have proclaimed the death of email as businesses and individuals migrate to various communication channels such as Slack, WhatsApp, SMS, and more. However, this couldn't be further from the truth. According to a report from the [Radicati Group](), more than **347 BILLION** emails are sent and received each day, which is expected to continue to climb in years to come.

Given that email is not only the predominant communication channel, but also the primary channel for logging into applications, multi-factor authentication and password retrievals, and so much more. So it isn't a big surprise that developers are looking for ways to maximize all they can do with the world's most popular communication channel.

Enter Generative AI.

2 OUT OF 3

developers agreed that of all communication channels, email is the channel where AI could assist developers the most.

Some of the ways developers can harness the combination of email and generative AI include:

Personalized communication: Use AI to capture the voice and tone of a user based on their sent messages to auto-generate short and long-form personalized responses that accurately reflect the email sender.

Spam detection: Use AI to enhance your spam detection system. Analyze the language and content of emails to intelligently assess whether or not it is spam.

Enhanced search: Save time by training AI models to search entire inboxes, sent folders, and more based on customizable search parameters around sender, subject line, time frames, and keywords.

Sentiment : With the help of AI, developers can better build sentiment analysis features into their applications to get a better understanding of user feedback, needs, and priorities.

Summarization: Quickly get the actionable insights and relevant information needed by removing clutter from long email threads. Summarize emails within specific subject lines, by sender, or within specific date ranges.

You can [start building with Nylas](#) and Generative AI tools today.

Some examples include:

- [Localize your emails with ChatGPT and Python](#)
- [Send emails using DearPyGui and ChatGPT](#)
- [Email parsing with Ruby and ChatGPT](#)
- [Exploring prompt engineering](#)
- [How to use AI to generate email responses](#)
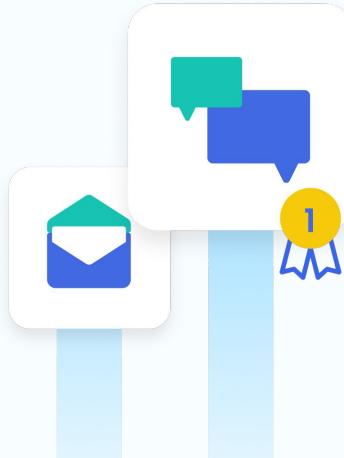
One thing is for certain, security and privacy concerns are high

We can't talk about Generative AI without addressing security and privacy concerns.

Most developers

79%

believe significant security and privacy concerns are associated with this technology.

There's a critical need for robust security and privacy measures when implementing and using Generative AI solutions.

RISK	SOLUTION
Inadvertently exposing confidential information while interacting with Generative AI	Implement robust data privacy measures and ensure developers know the potential risks associated when prompting the tools
Regulatory frameworks like GDPR and CCPA constantly evolve to address emerging technologies	Stay abreast of such changes and ensure compliance with relevant regulations
The training of large language models (LLMs) and Generative AI can be susceptible to malicious activities and manipulation by bad actors	Be vigilant about potential threats, including intentionally inserting malicious or malfunctioning code into the public domain to influence the training process or infiltrate systems
AI-generated code may introduce security vulnerabilities that could compromise the integrity of systems and expose organizations to various risks	Conduct regular audits, vulnerability testing, and code reviews to help proactively identify and address potential vulnerabilities
As Generative AI tools generate code, there is a possibility of inadvertently using snippets of copyrighted code or entering into debates surrounding code ownership	Exercise caution and respect intellectual property rights by establishing clear guidelines and ethical frameworks

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Data privacy and ownership are paramount, and we [OpenAI] are extremely careful about the data that goes into training models, ensuring opt-out options and addressing ownership questions. The complexity of legal and ethical considerations around data is an important part of the conversation, and our teams are actively working on it."

Evan Morikawa
Applied Engineering Manager at OpenAI

One thing is for certain, security and privacy concerns are high

In a race to develop more powerful Generative AI systems and chatbots, technology providers are still working through the details themselves. However, they agree it's a top priority as they continue developing and rolling out solutions.

We'd be remiss not to acknowledge that depending on your organization, there will be different policies for using Generative AI. For example, Nylas has embraced Generative AI as a valuable learning tool, providing licenses to its engineering team and subscriptions to all employees. The company gives employees guidelines for using these tools, such as disabling chat history for work-related tasks and staying vigilant when clicking on links from Generative AI-related ads to avoid phishing and malware campaigns.

However, larger organizations like Apple, Samsung, and others have prohibited using Generative AI platforms altogether.

Conclusion

Based on our research, it is clear that Generative AI presents both exciting opportunities and comprehensive challenges for developers and their organizations. It is apparent that while the majority of developers we surveyed see Generative AI tools as a core component of the future of work and key to enhancing their productivity, they are also acutely aware that it may come with a price, as many believe that it will make it more difficult for them to eventually find work.

To avoid this scenario,

individuals and teams must begin familiarizing themselves with these tools and exploring how Generative AI can help augment their work. While Generative AI does have the ability to ultimately replace jobs, a more likely scenario is that AI will not take jobs, but someone who knows how to use it will.

Another sign of caution stems from security and data privacy concerns. No matter where you fall regarding Generative AI regulation, the security and data privacy concerns around Generative AI underline the need for rigorous data protection protocols, stringent security compliance, and responsible AI practices and deployment.

Along with the cautionary tale of AI, there is much to be excited about. Leveraging this technology can significantly increase productivity, streamline workflows, and enhance the quality of work. One area where this is especially apparent is when harnessing AI to assist in building dynamic email integrations and features. With AI at their fingertips, developers and their teams can optimize their time and resources while bringing modern user experiences and innovative technology into the world's largest communication channel.

The combination of AI and Nylas gives them the power to make their lives easier. Start building with Nylas today and begin building, testing, and scoping out projects for up to 10 accounts FOR FREE.

With easy-to-follow Quickstart Guides, we make building integrations faster than before and as easy as possible.

And for the record, this was not written with the help of Generative AI 🙂

Survey results snapshot

Developers are convinced Generative AI is the future, but it comes with a cost.

66% say it is the future of work.

81% say it'll make them more productive.

90% say they see their usage of Generative AI increasing over the next year.

62% say Generative AI will make it more difficult for them to find a job with **41%** saying this will happen within the next 5 years.

Developers want to use AI to help with email.

2 out of 3 developers listed email as the channel where AI would be the most helpful in building out an integration.

Developers want more Generative AI education and training

62% say they are using Generative AI at least a few times a day.

32% say a few times (1-2) a day

30% say multiple times a day

74% say they'd like to see their company invest more in educating employees on how to prompt and use Generative AI.

One thing is for certain, security and privacy concerns are high.

79% believe there are significant security and privacy concerns associated with Generative AI.

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