August 10, 2021

OpenAI Codex

We've created an improved version of OpenAI Codex, our AI system that translates natural language to code, and we are releasing it through our API in private beta starting today.

Start using Codex

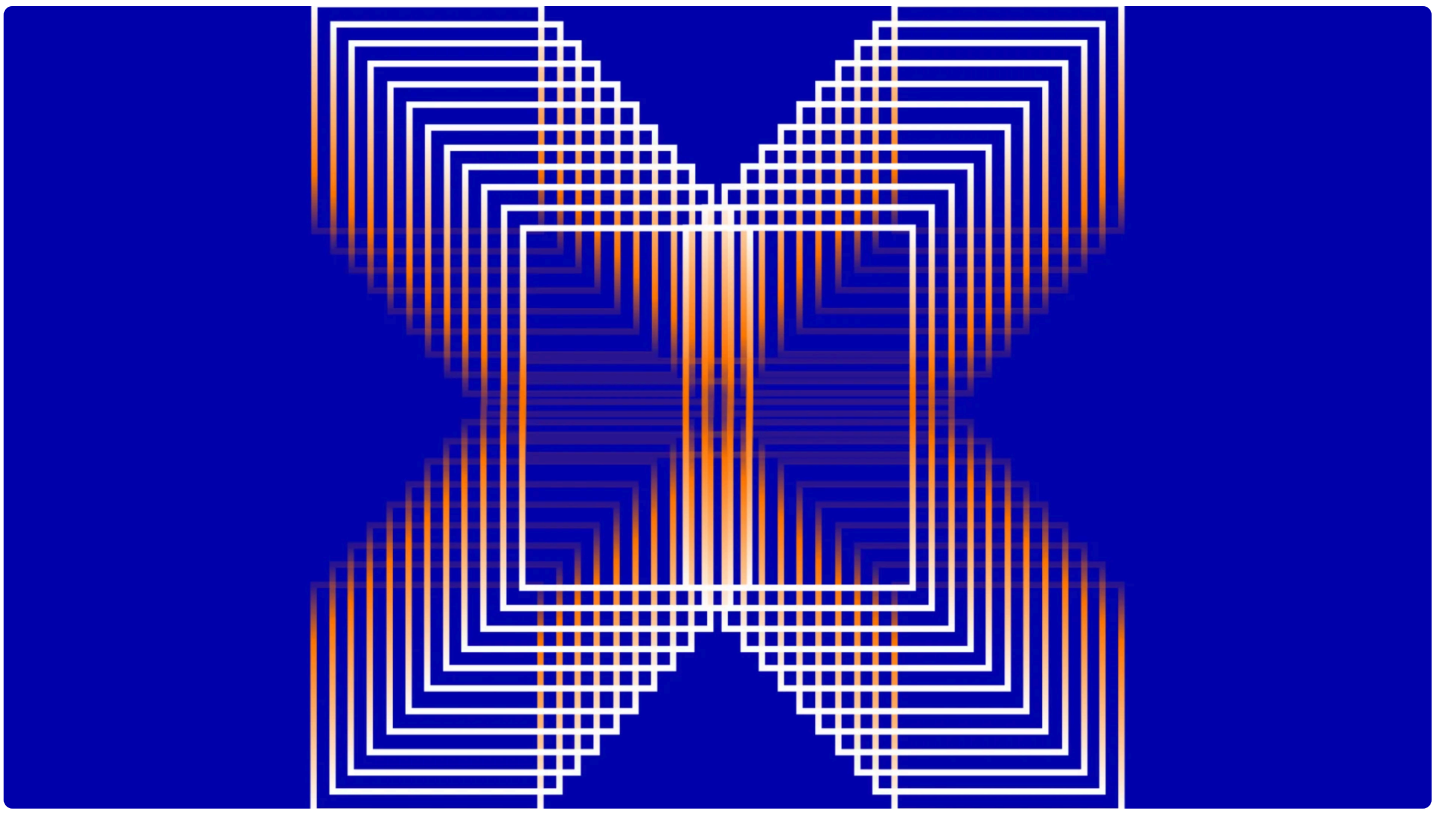
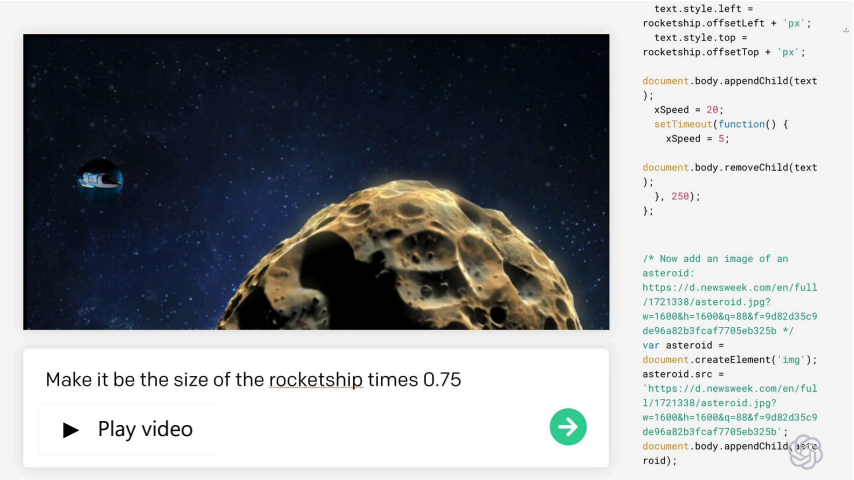


Illustration: Ruby Chen

Codex is the model that powers GitHub Copilot, which we built and launched in partnership with GitHub a month ago. Proficient in more than a dozen programming languages, Codex can now interpret simple commands in natural language and execute them on the user's behalf—making it possible to build a natural language interface to existing applications. We are now inviting businesses and developers to build on top of OpenAI Codex through our API.



Creating a Space Game with OpenAI Codex

Tweet ↗

OpenAI Codex is a descendant of GPT-3; its training data contains both natural language and billions of lines of source code from publicly available sources, including code in public GitHub repositories. OpenAI Codex is most capable in Python, but it is also proficient in over a dozen languages including JavaScript, Go, Perl, PHP, Ruby, Swift and TypeScript, and even Shell. It has a memory of 14KB for Python code, compared to GPT-3 which has only 4KB—so it can take into account over 3x as much contextual information while performing any task.

GPT-3's main skill is generating natural language in response to a natural language prompt, meaning the only way it affects the world is through the mind of the reader. OpenAI Codex has much of the natural language understanding of GPT-3, but it produces working code—meaning you can issue commands in English to any piece of software with an API. OpenAI Codex empowers computers to better understand people's intent, which can empower everyone to do more with computers.

Once a programmer knows what to build, the act of writing code can be thought of as (1) breaking a problem down into simpler problems, and (2) mapping those simple problems to existing code (libraries, APIs, or functions) that already exist. The latter activity is probably the least fun part of programming (and the highest barrier to entry), and it's where OpenAI Codex excels most.

OpenAI Codex is a general-purpose programming model, meaning that it can be applied to essentially any programming task (though results may vary). We've successfully used it for transpilation, explaining code, and refactoring code. But we know we've only scratched the surface of what can be done.

We're now making OpenAI Codex available in private beta via our API, and we are aiming to scale up as quickly as we can safely. During the initial period, OpenAI Codex will be offered for free. OpenAI will continue building on the safety groundwork we laid with GPT-3—reviewing applications and incrementally scaling them up while working closely with developers to understand the effect of our technologies in the world.

Start using Codex ↗

OpenAI

Announcements Product

Authors

Wojciech Zaremba, Greg Brockman, OpenAI

Related articles

View all product articles >

OpenAI

Our research

Overview

Index

Latest advancements

OpenAI o1

OpenAI o1-mini

GPT-4

GPT-4o mini

DALL·E 3

Sora

ChatGPT

For Everyone

For Teams

For Enterprises

ChatGPT login ↗

Download

API

Platform overview

Pricing

Documentation ↗

API login ↗

Explore more

OpenAI for business

Stories

OpenAI

Safety overview

Safety overview

Company

About us

News

Our Charter

Security

Residency

Careers

Terms & policies

Terms of use

Privacy policy

Brand guidelines

Other policies

English (US)