

ChatGPT

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ChatGPT is a prototype [artificial intelligence chatbot](#) developed by [OpenAI](#) that focuses on [usability](#) and [dialogue](#). The chatbot uses a [large language model](#) trained with [reinforcement learning](#) and is based on the [GPT-3.5](#) architecture.

ChatGPT was launched in November 2022 and has garnered attention for its detailed responses and historical knowledge, although its accuracy has been criticized.

Features

ChatGPT was trained using [reinforcement learning](#) from human feedback, a method that augments [machine learning](#) with human intervention to achieve a realistic result.^[1] It is based on the [GPT-3.5](#) architecture.^{[2][3]} During the training process, human trainers played the role of a user and an artificial intelligence assistant. Models were trained on Microsoft Azure's supercomputing infrastructure, and were fine-tuned through [Proximal Policy Optimization](#) algorithms.^[4] Proximal Policy Optimization algorithms present a cost-effective benefit to trust region policy optimization algorithms; they negate many of the computationally expensive operations with faster performance.^{[5][6]}

In comparison to its predecessor, InstructGPT, ChatGPT attempts to reduce harmful and deceitful responses; in one example, while InstructGPT accepts the prompt "Tell me about when Christopher Columbus came to the US in 2015" as truthful, ChatGPT uses its knowledge of Columbus' [voyages](#) and its understanding of the modern world—including perceptions of Columbus—to construct an answer that assumes what would happen if Columbus came to the U.S. in 2015.^[4] ChatGPT's training data includes [man pages](#) and knowledge of [Internet phenomena](#) and programming languages, such as [bulletin board systems](#) and the [Python](#) programming language.^[7]

Unlike most chatbots, ChatGPT is stateful, remembering previous conversations and prompts given to it, potentially allowing for ChatGPT to be used as a personalized therapist.^[8] In an effort to prevent offensive outputs from being presented to and produced from ChatGPT, queries are filtered through a moderation API, and potentially racist or sexist prompts are dismissed.^{[4][8]}

ChatGPT suffers from multiple limitations. The reward model of ChatGPT, designed around human oversight, can be over-optimized and thus hinder performance, otherwise known as [Goodhart's law](#).^[9] In training, reviewers preferred longer answers, irrespective of actual comprehension or factual content.^[4] Training data may also suffer from [algorithmic bias](#); prompts including vague descriptors of people, such as CEO, could generate a response that assumes such a person, for instance, is a white male.^[10]

Reception

ChatGPT has been met with generally positive reviews. Samantha Lock of *The Guardian* noted that it was able to generate "impressively detailed" and "human-like" text.^[11] Technology writer [Dan Gillmor](#) used ChatGPT on a student assignment, and found its generated text was on par with what a good student would deliver and opined that "academia has some very serious issues to confront".^[12] Alex Kantrowitz of *Slate* lauded ChatGPT's pushback to questions related to [Nazi Germany](#), including the claim that [Adolf Hitler](#) built [highways](#) in Germany, which was met with information regarding [Nazi Germany's use of forced labor](#).^[13] In an opinion piece, economist [Paul Krugman](#) wrote that ChatGPT would affect the demand of [knowledge workers](#).^[14] Writing for *The Verge*, James Vincent saw ChatGPT as evidence that "AI is finally mainstream."^[3] In *The Atlantic* Stephen Marche noted that its effect on academia and especially [application essays](#) is yet to be understood.^[15]

ChatGPT

Original author(s)	OpenAI
Initial release	November 30, 2022
Type	Artificial intelligence chatbot
License	Proprietary
Website	openai.com/blog/chatgpt/ (https://openai.com/blog/chatgpt/)

ChatGPT's factual accuracy has been questioned, among other concerns. Mike Pearl of *Mashable* tested ChatGPT with multiple questions, including the largest country in *Central America* that isn't *Mexico*, despite Mexico not being a part of Central America. ChatGPT responded with *Guatemala*, when the answer is instead *Nicaragua*. When asked what the largest country in Central America is, ChatGPT correctly responded with *Nicaragua*. In response to a question on how to greet comedian *Larry David*, ChatGPT responded with an unusually formal answer.^[16] In December 2022, the question and answer website *Stack Overflow* banned the use of ChatGPT for generating answers to questions, citing the factually ambiguous nature of ChatGPT's responses.^[17] Economist *Tyler Cowen* expressed concerns regarding its effects on democracy, citing the ability of one to write automated comments in an effort to affect the decision process of new regulations.^[18] Ax Sharma of *Bleeping Computer* noted that ChatGPT was capable of writing *malware* and *phishing* emails.^[19]

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External links

- [Official website \(http://chat.openai.com/chat\)](http://chat.openai.com/chat)
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