I'm not a bot



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OpenAI's ChatGPT is leading the way in the generative AI revolution, quickly attracting millions of users, and promising to change the way we create and work. In many ways, this feels like another iPhone moment, as a new product makes a momentous difference to the technology landscape. The AI bot, developed by OpenAI and based on a Large
Language Model (or LLM), continues to grow in terms of its scope and its intelligence. Here we're going to cover everything you need to know about ChatGPT, from how it works, to whether or not it's worth you paying for the premium versions like Plus and Pro.If you're wondering what ChatGPT is, and what it can do for you, then you're in exactly
the right place. For those of you who are just getting started with the tech, we'd also recommend our guide to how to use ChatGPT, which introduces a few ways to get the most out of the software immediately. You may like You'll have noticed that ChatGPT has sparked something of an AI arms race, with Microsoft building Copilot based on the same
technology, Google launching its own Google Gemini apps and X (formerly Twitter) getting in on the act with its Grok AI. There's also Anthropic, who have their own chatbot which is called Claude, and is being used by Amazon to power some aspects of its Alexa+. Finally, let's not forget about Meta AI who has by far the biggest user base of all the AI
platforms because it is embedded into Facebook, Instagram, WhatsApp and Messenger. What is ChatGPT; and Plus subscribers have access to the
latest o1 model. All these models can understand and generate human-like answers to text prompts, because they've been trained on huge amounts of data so they can create responses that make it seem like a friendly and intelligent robot. OpenAI's, ChatGPT-40 (the o is for "omni") model, which is describes as "great for most tasks", can work across
available to Plus and Pro subscribers. OpenAI has recently announced that its new o3 model is available to all users. It comes in o3-mini and o3-mini 
answer questions on almost everything (Image credit: Apple, inc, OpenAI)This ability to produce human-like, and frequently accurate, responses to a vast range of questions is why ChatGPT became the fastest-growing app of all time, reaching 100 million users in only two months. The fact that it can also generate essays, articles, and poetry has only
added to its appeal (and controversy, in areas like education). But early users have also revealed some of ChatGPT's limitations. OpenAI says that its responses "may be inaccurate, untruthful, and otherwise misleading at times". It can occasionally hallucinate facts, so always take what it says with a pinch of salt. Still, the world is currently having a ball
exploring ChatGPT and, despite the arrival of a paid ChatGPT Plus version for $20 (about £16 / AU$30) a month, or the even better Pro subscription for $200 (about £165 / AU$325) a month you can still use it for free too, on desktop and mobile devices. What can you use ChatGPT has been trained on a vast amount of text covering a huge
range of subjects, so its possibilities are nearly endless. But in its early days, users have discovered several particularly useful ways to use the AI helper. Here are some examples: Summarizing articles Creating codeLearning a foreign language as its own native image
generation) As a personal trainer Writing speeches for weddings Generating business ideas Doing serious research (using Deep Research) Search the webBroadly speaking, these can be divided into natural language tasks and coding assistance. In our guide to six exciting ways to use ChatGPT, we showed how you can use it for drafting letters, writing
poetry, and creating (or adapting) fiction. That said, it does still have its limitations, as we found when ChatGPT showed us just how far it is from writing a blockbuster movie. That hasn't stopped self-publishing authors from embracing the tech, though. With YouTube and Reddit forums packed with tutorials on how to write a novel using the AI tech,
the Amazon Kindle store is already on the cusp of being overrun with ChatGPT-authored books. ChatGPT enjoys are translations, helping you learn new languages (watch out, Duolingo), generating job descriptions, and creating meal
plans. Just tell it the ingredients you have and the number of people you need to serve, and it'll rustle up some impressive ideas. But ChatGPT is also equally talented at coding and productivity tasks. For the former, its ability to create code from natural speech makes it a powerful ally for both new and experienced coders who either aren't familiar
with a particular language or want to troubleshoot existing code. Unfortunately, there is also the potential for it to be misused to create malicious emails and malware. Native image generation has recently been added to ChatGPT's box of tricks, even sparking the recent trend of Studio Ghibli-inspired images flooding the Internet. You can also use
ChatGPT for doing serious research using the Deep Research a subject for you, producing a full report. This currently requires a Plus or Pro subscription, but will be coming to the free tier very soon. ChatGPT instead of Google if you want to search using
natural language-based searching. And finally, let's not forget its Advanced Voice Mode which lets you talk to a friend, using your voice. Free tier users only get 15 minutes of Advanced Voice Mode a month. You'll need a ChatGPT Plus subscription to use it for longer. If you look beyond the browser-based chat function
to the API, ChatGPT's capabilities become even more exciting. It's even been integrated into Apple's Siri, as part of its Apple Intelligence upgrade. What can't do everything. There are some specific use cases which it falls foul of, however, we've found that even for the things it says it
can't do, you'll still get an answer. For example, ChatGPT says it can't "engage in real-time conversations involving emotions", however while it has no real empathy, it will respond if you talk about your emotions. Meanwhile there are definitely some things it can't or won't do. For example, when it says it can't "engage in real-time conversations involving emotions", however while it has no real empathy, it will respond if you talk about your emotions.
devices", it really means it. Equally, when you ask it to draw a picture of Mickey Mouse you'll be told that it's a copyrighted image and it can't do with ChatGPT: Access or interact in real-time with other devices Engage in real-time conversations involving emotions Comment on current affairs after 2021
without browsing the Internet. Create harmful content, impersonate private individuals or create content that infringes on copyright. Directly participate in conversations. Legal, medical or financial advice. ChatGPT also has some pretty strict guidelines for creating content, whether its images or text. In general it avoids explicit, sexually suggestive,
violent, or harmful content. We've already talked about copyright, but anything that violates copyright is out. It is also keen to avoid any content that is ethically dubious, like hate speech, discriminatory content, or anything that promotes illegal activities. There are also privacy and safety guidelines. User privacy is important to ChatGPT, as is the
privacy of individuals. Finally, the safety of users is taken into consideration so ChatGPT will not promote anything to do with slef-harm or harmful behaviors. So what does this mean in practice? Well, if you ask ChatGPT what its political opinions are you'll find that it has none. Instead it will simply provide some information on both sides of most
issues. Perhaps the biggest thing that ChatGPT won't do is be right all the time. AI is notoriously flakey when it comes to getting its facts right, and has been known to 'hallucinate'. Always check anything factual that AI tells you, and use multiple sources to check your facts, especially for complex or evolving topics. What is ChatGPT search? In October
2024 ChatGPT added a new feature called ChatGPT search. This enables you to use ChatGPT like a search engine, getting results from the web, with links to the pages it finds. It differs from a traditional search engine like Google in a few key ways though. For a start it's conversational. You can ask it something like "What are the best pizza
restaurants near me?", then when it gives you the results (complete with links to the websites concerned) you can ask it a follow up question like "Which of those have good vegetarian options?" Secondly, there are no advertisements. Considering how crowded Google search results have become with sponsored content and ads this is something of a
relief. We'd expect this to change one day, but right now it's advertisement free. Using ChatGPT search is easy. If you look at your ChatGPT prompt bar you'll see a new search icon called Search. Tap or click this and you will be search in conversation. Each search result comes without conversation.
a source. When you click this the sources open up a sidebar that shows citations. (Image credit: OpenAI)One of the best ways to use ChatGPT search is currently available to all users, even on the free tier. Can ChatGPT generate images? Yes! ChatGPT
generate images using DALL-E 3, a powerful image generator. DALL-E 3 is built into ChatGPT, so you use the same interface you use for text prompts, but if you ask what something looks like you'll get an image, or you can straight-up ask ChatGPT to create an image. An example of a sample prompt to create an image would be: "Draw an expressive
oil painting of a booted foot landing in a puddle, depicted as an explosion of colors". Type that in and you'll get an image like this:(Image credit: OpenAI)You'll notice that it's not the exact same image as
before, since a new image is generated each time you enter a prompt. You can enter really long image prompts and get some amazing results with DALL-E 3. For example, one prompt suggested on the OpenAI website is: "Digital illustration of a beach scene crafted from yarn. The sandy beach is depicted with beige yarn, waves are made of blue and
white yarn crashing onto the shore. A yarn sun sets on the horizon, casting a warm glow. Yarn palm trees sway gently, and little yarn seashells dot the shoreline. "When we tired it, it produced this lovely image: (Image credit: OpenAI) Your imagination is really your only limit when it comes to creating images in DALL-E 3, unless you're on the free tier,
that is. On the free tier of ChatGPT we hit our daily limit for creating images with DALL-E 3 after just two tries. On the ChatGPT Plus subscription tier there didn't seem to be a daily limit for creating image format. What does ChatGPT
stand for? ChatGPT stands for Chat Generative Pre-trained Transformer, which is a bit of a mouthful. Let's take a look at each of those words in turn. The 'chat' naturally refers to the chatbot front-end that OpenAI has built for its GPT language model. The second and third words show that this model was created using 'generative pre-training', which
means it's been trained on huge amounts of text data to predict the next word in a given sequence. An illustration from Google's 2017 research paper for the Transformer architecture, which ChatGPT is based on. [Interestingly, this
transformer architecture was actually developed by Google researchers in 2017 and is particularly well-suited to natural language processing tasks, like answering questions or generating text. Google was only too keen to point out its role in developing the technology during its announcement of Google Bard. But ChatGPT was the AI chatbot that took
the concept mainstream, earning it another multi-billion investment from Microsoft, which said that it was as important as the invention of the PC and the internet. Who created by OpenAI was co-founded by Sam
Altman who is the current CEO of the company. OpenAI has its headquarters in San Francisco, California and describes its purpose with the statement, "Our mission is to ensure that artificial general intelligence benefits all of humanity." When was ChatGPT released? ChatGPT was released as a "research preview" on November 30, 2022. A blog post
casually introduced the AI chatbot to the world, with OpenAI stating that "we've trained a model called ChatGPT which interacts in a conversational way". The interface was, as it is now, a simple text box that allowed users to answer follow-up questions. OpenAI said that the dialog format, which you can now see in the Bing search engine and many
other places, allows ChatGPT to "admit its mistakes, challenge incorrect premises, and reject inappropriate requests". A paid ChatGPT Plus subscription is available. (Image credit: OpenAI)A more advanced GPT-40 model was finally retired in
July 2024. A new ChatGPT-4mini version was also released in July 2024, which is quicker and better for everyday tasks. Going back into the mists of time, OpenAI did also previously release earlier GPT models in limited form - its GPT-2 language model, for example, was announced in February 2019, but the company said it wouldn't release the fully-
trained model "due to our concerns about malicious applications of the technology". OpenAI released a larger and more capable model, called GPT-3, in June 2020, but it was the full arrival of ChatGPT 3.5 in November 2022 that saw the technology burst into the mainstream. Throughout the course of 2023, it got several significant updates too, which
made it easier to use. How much does ChatGPT cost? ChatGPT is still available to use for free, but also has two paid-for tiers, a Plus and Pro membership for people who work in organizations. ChatGPT 4o-mini and limited access to ChatGPT 4o-mini and limited access to ChatGPT 4o-mini and limited access to ChatGPT access to ChatGPT is still available to use for free, but also has two paid-for tiers, a Plus and Pro membership for people who work in organizations.
selecting the Reason mode. You get access to ChatGPT Plus costs $20 p/month (around £16 / AU$30) and brings many benefits over the free tier, in particular a choice of which model to use. ChatGPT Plus users get to choose between ChatGPT-40, which is the standard
model described as "great for most tasks" by OpenAI, ChatGPT-40 mini, which is a small model so has less features, but is faster, and ChatGPT-4, which Open AI has now deemed as "legacy". ChatGPT of model, which OpenAI describe as "better at coding, math and writing". There's also a
faster, but smaller, o3-mini model and a o3-mini-high model, which is great at coding and logic. You also get everthing in free plus access to ChatGPT earch and ChatGPT search and ChatGPT earch and ChatGPT search se
additional benefits for people who use OpenAI's AI video generation tool, Sora, and unlimited access to o1, o3-mini, o3-mini-high, GPT-40, and advanced voice (audio only) as well as access to o1 Pro mode. Finally there is also a Team option which costs $25 per person/month (around £19 / AU$38) which enables you to create and share GPTs with your
workspace as well as giving you higher limits. ChatGPT Plus will cost you $20 a month, while Pro is $200. (Image credit: Apple/OpenAI) What do ChatGPT Plus account is that it promises to give you full access to ChatGPT Plus users get? The big benefit to upgrading to a ChatGPT Plus account is that it promises to give you full access to ChatGPT Plus users get? The big benefit to upgrading to a ChatGPT Plus account is that it promises to give you full access to ChatGPT Plus users get? The big benefit to upgrading to a ChatGPT Plus account is that it promises to give you full access to ChatGPT Plus users get? The big benefit to upgrading to a ChatGPT Plus account is that it promises to give you full access to ChatGPT Plus users get? The big benefit to upgrading to a ChatGPT Plus account is that it promises to give you full access to ChatGPT Plus account is that it promises to give you full access to ChatGPT Plus account is that it promises to give you full access to ChatGPT Plus account is that it promises to give you full access to ChatGPT Plus account is that it promises to give you full access to ChatGPT Plus account is that it promises to give you full access to ChatGPT Plus account is that it promises to give you full access to ChatGPT Plus account is that it promises to give you full access to ChatGPT Plus account is that it promises to give you full access to the promise of t
"ChatGPT is at capacity right now" messages during down times. You also get a limit of 5x more messages for ChatGPT 40. OpenAI says the ChatGPT Plus subscribers also get "faster response times", which means you should get answers around three times quicker than the free version (although this is no slouch). You also get access to more images
from the image generator DALL·E, which is highly regarded for image creation. The free tier limits you to two free images a day, whereas a ChatGPT Plus account gives you 1,000 images a month, which works out at 33 a day, but there is no daily cap. There's also the ability to create and use custom GTPs. You also get a free choice of which model to
use. Currently that is a choice between ChatGPT-40 mini and o3-mini and ChatGPT-40 mini and ChatGPT-40 mini and o3-mini and o3
subscribers also get access to the old ChatGPT 3.5 as an API only. On the Plus tier your ChatGPT model options are plentiful. (Image credit: Apple/OpenAI) In contrast, free tier users have no choice over which model they can use. OpenAI say it will default to using ChatGPT-40 with a limit on the number of messages it can send. If ChatGPT-40 is
unavailable then free users default to using ChatGPT-40 mini.It isn't clear how long OpenAI will keep its free access to ChatGPT". Right now, the Plus and Pro subscriptions are apparently helping to support free access to
ChatGPT. Whether that's something that continues long-term is another matter. ChatGPT lus users get access to Advanced Voice Mode as well as ChatGPT work? ChatGPT work? ChatGPT work? ChatGPT has been created with one main objective - to predict the next word in a sentence, based on what's typically happened in the gigabytes of text data that
it's been trained on. It's sort of like a super-advanced autocorrect. Once you give ChatGPT a question or prompt, it passes through the AI model and the chatbot produces a response based on the information you've given and how that fits into its vast amount of training data. It's during this training that ChatGPT has learned what word, or sequence of
words, typically follows the last one in a given context. For a long deep dive into this process, we recommend setting aside a few hours to read this blog post from Stephen Wolfram (creator of the Wolfram Alpha search engine), which goes under the bonnet of 'large language models' like ChatGPT to take a peek at their inner workings. But the short
answer? ChatGPT works thanks to a combination of deep learning algorithms, a dash of natural language processing, and a generous dollop of generative pre-training, which all combine to help it produce disarmingly human-like responses to text questions. Even if all it's ultimately been trained to do is fill in the next word, based on its experience of
being the world's most voracious reader. It does sometimes go a little bit crazy, and OpenAI has been honest about the 'hallucinations' that ChatGPT can have, and the problems inherent in these LLMs. Be wary of relying completely on anything ChatGPT says. Does ChatGPT have an app? For a while, ChatGPT was only available through its web
interface, but there are now official apps for Android and iOS that are free to download, as well as an app for macOS. The layout and features you get on mobile that you don't get on the web is the ability to hold a voice
conversation with ChatGPT, just as you might with Google Assistant, Siri, or Alexa. Both free and paying users can use this feature in the mobile app. (Image credit: OpenAI)The arrival of a new ChatGPT API for businesses means we'll soon likely to
see an explosion of apps that are built around the AI chatbot. In the pipeline are ChatGPT-powered app features from the likes of Shopify (and its Shop app) and Instacart. The dating app OKCupid has also started dabbling with in-app questions that have been created by OpenAI's chatbot. What are 4th generation ChatGPT models? On March 14, 2023
OpenAI announced that its next-gen language model, GPT-4, was available to developers and ChatGPT Plus subscribers - with Microsoft confirming that the new Bing is already running on GPT-4. The big change from GPT-3.5 is that OpenAI's 4th generation language model is multimodal, which means it can process both text, images and audio. This
means you can show it images and it will respond to them alongside a text prompt - an early example of this, noted by The New York Times, involved giving GPT-4 a photo of some fridge contents and asking what meals you could make from the ingredients. In May, OpenAI released ChatGPT-40, an improved version of GPT-4 with faster response times,
then in July a lightweight, faster version, ChatGPT-40 mini was released. Apps running on GPT-4, like ChatGPT, have an improved ability to understand context. The model can, for example, produce language that's more accurate and relevant to your prompt or query. GPT-4 is also a better multi-tasker than its predecessor, thanks to an increased
capacity to perform several tasks simultaneously. OpenAI also says that safety is a big focus of GPT-4, with OpenAI working for over six months to put it through a better monitoring framework and through using experts in a range of specialist fields, like medicine and geopolitics, to make sure its answers are both accurate and sensitive. An example
surfaced by The New York Times of a GPT-4 model's ability to understand image-based prompts (with mixed results). (Image credit: The New York Times) While GPT-4 isn't a revolutionary leap from GPT-3.5, it is another important step towards chatbots and AI-powered apps that stick closer to the facts and don't go haywire in the ways that we've seen
in the recent past. Another new feature is the ability for users to create their own custom bots, called GPTs. For example, you could create one bot to give you cooking advice, and another to generate ideas for your next screenplay, and another to explain complicated scientific concepts to you. There's even an app store of sorts for them too. My
AnalysisDo you like using ChatGPT? I find AI can be a great tool for spitballing ideas if I haven't got anybody else to bounce them off. But I also love having a bit of fun with AI. I like probing it to try and trick it into slipping up and contradicting itself. What's your
favourite way to use ChatGPT? My favourite way to use ChatGPT is with the Advanced Voice mode via my smartphone. Sure, there are a few glitches here and there that remind you that you're talking to an AI, but it in general it can be just like having a conversation with a real person. You can upload images and ask it what it thinks too, or get it to
listen and give you feedback on a speech you want to give. Are you excited about its future? People view the future of AI with as much trepidation as excitement and are worried about the implications of a future ChatGPT being indistinguishable from a human being, especially when it comes to it taking people's jobs. I'm optimistic that improved AI
doesn't have to mean an end to creativity, or employment, and we can learn how to use AI as another tool for human creativity instead of a replacement. Do you have any reservations about it? As we move further into the AI-age we need to get used to always questioning if what we're seeing and hearing is real or a product of AI. That's where my
biggest reservations lie.Do you think people should use it? There's an old saying that you can't put the genie back in the bottle, but I think people need to be very careful where they use AI and it should be clearly labelled as created with AI, if AI was involved. I wouldn't like to be reading an article on a trusted news source, or watching a video only to
discover that it wasn't even created by a human, for example. You might also like ChatGTP is an advanced AI language model developed by OpenAI, built on the Generative Pre-trained Transformer (GPT) architecture. It utilizes deep learning techniques to generate human-like text based on the input it receives. By analyzing vast amounts of text data,
with coding tasks. Whether you need help brainstorming ideas for a project, crafting an email, or learning a new language, ChatGTP is designed to provide support in a conversational format, making interactions intuitive and engaging. The model excels at maintaining context during discussions, allowing for more meaningful exchanges. Users can ask
follow-up questions to delve deeper into a subject, enabling a dynamic conversation flow. Moreover, ChatGTP can converse in multiple languages, broadening its accessibility and usability across different linguistic communities. Despite its capabilities, ChatGTP has certain limitations. It can produce incorrect or misleading information and lacks the
ability to access real-time data or news. As it doesn't have personal experiences or emotions, users should critically evaluate the information it provides, especially when making important decisions based on its responses. In summary, ChatGTP represents a significant leap in AI-driven communication technology. Its ability to generate coherent,
contextually relevant text makes it a valuable tool for individuals and businesses alike. However, users must approach its outputs with caution, recognizing its potential for a wide range of applications. Sabrina Ortiz/ZDNETChatGPT is an AI chatbot with advanced natural language processing (NLP) that allows you to
have human-like conversations to complete various tasks. The generative AI tool can answer questions and assist you with composing text, code, and much more. Also: How to use ChatGPTIt's currently open to use for free. OpenAI launched a paid subscription version called ChatGPT Plus in February 2023, which guarantees users access to the
company's latest models, exclusive features, and updates but is not necessary for basic usage. What is ChatGPT can compose essays, have philosophical conversations, do math, and even code for you. The tasks ChatGPT can help with don't have to be so
ambitious. For example, my favorite use case for ChatGPT is to help create basic lists for chores, such as packing and grocery shopping, and to-do lists that make my daily life more productive. The possibilities are endless. ZDNET has published many ChatGPT how-to guides. Below are some of the most popular ones. Use ChatGPT to: Is ChatGPT
available for free? ChatGPT is free, regardless of what you use it for, including writing, coding, and much more. There is a subscription option, ChatGPT Plus, that costs $20 per month. The paid subscription option, ChatGPT Plus, that costs $20 per month. The paid subscription model gives you extra perks, such as priority access to GPT-40, DALL-E 3, unlimited photogeneration, Canvas, Voice Mode, and the latest
upgrades. Also: ChatGPT vs ChatGPT vs ChatGPT vs ChatGPT Plus: Is it worth the subscription fee? Although the subscription price may seem steep, it is the same amount as Microsoft Copilot Pro and Google one AI Premium, which are Microsoft's and Google one AI Premium, which are Microsoft one AI Premium, which ar
ChatGPT. Now, you can access ChatGPT simply by visiting chat.openai.com. You can also access ChatGPT via an iPhone, Android, or desktop app.Once you visit the site, you can start chatting away with ChatGPT. A great way to get started is by asking a question, similar to what you would do with Google. You can ask as many questions as you'd
like.Also: ChatGPT no longer requires a login, but you might want one anyway. Here's whyCreating and reviewing your chat history, accessing custom instructions, and, most importantly, getting free access to GPT-4o. Signing up is free and easy; you can use your existing Google login. For
step-by-step instructions, check out ZDNET's guide on how to start using ChatGPT app?Yes, an official ChatGPT app?Yes, an official ChatGPT app is available for iPhone and Android users. Make sure to download OpenAI's app, as many copycat fake apps are listed on Apple's App Store and the Google Play Store that are not affiliated with OpenAI.Also: I
changed 5 ChatGPT settings and instantly became more productive - here's also a ChatGPT app for MacOS and Windows, which lets you access the chatGPT Plus subscribers, but OpenAI recently made it available to all users. The Windows app is still
limited to ChatGPT Plus, Enterprise, and EDU users. Is ChatGPT safe?People have expressed concerns about AI chatbots replacing or atrophying human intelligence. For example, chatbots can write an entire essay in seconds, raising concerns about students cheating and not learning how to write properly. These fears even led some school districts to
block access when ChatGPT initially launched. Now, not only have many of those schools decided to unblock the technology, but some higher education institutions have been catering their academic offerings to AI-related coursework. Also: Two ways you can build custom AI assistants with GPT-40 - and one is freeAnother concern with AI chatbots is
the possible spread of misinformation. ChatGPT says: "My responses are not intended to be taken as fact, and I always encourage people to verify any information they receive from me or any other source." OpenAI also notes that ChatGPT sometimes writes "plausible-sounding but incorrect or nonsensical answers." Lastly, there are ethical and privacy
concerns regarding the information ChatGPT was trained on. OpenAI scraped the internet to train the chatbot without asking content owners for permission to use their content, which brings up many copyright and intellectual property concerns. Also: How to use ChatGPT to analyze PDFs for freeThere are also privacy concerns regarding generative
AI companies using your data to fine-tune their models further, which has become a common practice. OpenAI has implemented several options to give users peace of mind that their data will not be used to train models. The company even
allows you to turn off your chat history. If you are concerned about moral and ethical problems, they are still being hotly debated. Will my conversations with ChatGPT be used for training? Companies train generative AI models on user inputs. Therefore, when familiarizing yourself with how to use ChatGPT, you might wonder if your specific
conversations will be used for training and, if so, who can view your chats. Also: This ChatGPT update fixed one of my biggest productivity issues with the AI chatbotOpenAI will, by default, use your conversations with the free chatbot to train data and refine its models. You can opt out of it using your data for model training by clicking on the question
mark in the bottom left-hand corner, Settings, and turning off "Improve the model for everyone." Can be ledious and difficult, and ChatGPT can help you lighten the load. ChatGPT can build your resume and write a cover
letter. Also: How to use ChatGPT to write an essay or personal statements, you can use ChatGPT to provide you mock interview guestions, background on the company, or questions that you can
ask. Can you use ChatGPT for schoolwork? ChatGPT and other AI resources will do students work. A popular misconception is that ChatGPT and other AI resources will do students work for them. However, it can be used as a personal tutor or editor, giving students assistance outside of the classroom. Also: 5 free AI tools for
school that students, teachers, and parents can use, tooFor example, a student can drop their essay into ChatGPT and have it copyedit, upload class materials. It is especially helpful for coding homework since most coding languages are very character-sensitive,
and one missing semicolon can throw the entire result off. Instead of staring at the screen for ages, you can ask ChatGPT to identify errors for you, which allows you to grow. What does ChatGPT to identify errors for you, which allows you to grow. What does ChatGPT to identify errors for you, which allows you to grow. What does ChatGPT to identify errors for you, which allows you to grow. What does ChatGPT to identify errors for you, which allows you to grow. What does ChatGPT to identify errors for you, which allows you to grow. What does ChatGPT to identify errors for you, which allows you to grow. What does ChatGPT to identify errors for you, which allows you to grow. What does ChatGPT to identify errors for you, which allows you to grow. What does ChatGPT to identify errors for you, which allows you to grow. What does ChatGPT to identify errors for you, which allows you to grow. What does ChatGPT to identify errors for you, which allows you to grow. What does ChatGPT to identify errors for you, which allows you to grow. What does ChatGPT to identify errors for you, which allows you to grow. What does ChatGPT to identify errors for you, which allows you to grow. What does ChatGPT to identify errors for you, which allows you to grow to grow
OpenAI that uses deep learning to generate human-like, conversational text. Also: What does GPT stand for? Understanding GPT 3.5, GPT 4, GPT-4 Turbo, and moreThe "Chat" part of the name is simply a callout to its chatting capabilities. Can ChatGPT generate images? Yes, ChatGPT can generate images using DALL-E 3. However, the limits vary
depending on whether you are a ChatGPT Plus subscriber or a free user. ChatGPT Plus subscribers are allowed 50 generations per day, while free users are allowed 50 generations per day, while free users are allowed 50 generations per day, while free users are allowed 51 mage
generator, DALL-E 3, through OpenAI's offerings is via its chatbot. Microsoft's Copilot offers free image generation, also powered by DALL-E 3, in its chatbot. This is a great alternative if you don't want to pay for ChatGPT Plus but want high-quality image outputs for free. How does ChatGPT work? ChatGPT runs on a large language model (LLM)
architecture created by OpenAI called the Generative Pre-trained Transformer (GPT). Since its launch, the free version of ChatGPT ran on a fine-tuned model in the GPT-40. Now, the free version runs on GPT-40 mini, with limited access to GPT-40. Also: How does ChatGPT actually
work? With a subscription to ChatGPT Plus, you can access GPT-40, GPT-40 mini or GPT-40, even at capacity, while free users get booted down to GPT-40 mini. The LLMs used in generative AI models of this type are trained on vast amounts of information from the internet, including websites, books,
news articles, and more, typically via web scraping, where the entirety of the internet is scraped for information. Who owns ChatGPT currently? OpenAI has also developed DALL-E 2 and DALL-E 3, popular AI image generators, and Whisper, an automatic speech recognition system. Also: The best AI
chatbots: ChatGPT, Copilot and worthy alternativesAs a result, OpenAI owns ChatGPT. Microsoft is a major investor in OpenAI was first founded in 2015 but has since completely severed ties with the startup and created his own AI chatbot, Grok. Is ChatGPT.
better than a search engine? ChatGPT is an AI chatbot created to converse with the end user. A search engine indexes web pages on the internet to help users find information. One is not better than the other, as each suits different purposes. When searching for as much up-to-date, accurate information as possible, your most reliable option is a
search engine. It will provide you with pages upon pages of sources you can peruse. Also: ChatGPT has officially replaced Google Search for me - here's whyIn November 2024, OpenAI already unveiled ChatGPT has officially replaced Google Search for me - here's whyIn November 2024, OpenAI already unveiled ChatGPT has officially replaced Google Search for me - here's whyIn November 2024, OpenAI already unveiled ChatGPT has officially replaced Google Search for me - here's whyIn November 2024, OpenAI already unveiled ChatGPT has officially replaced Google Search for me - here's whyIn November 2024, OpenAI already unveiled ChatGPT has officially replaced Google Search for me - here's whyIn November 2024, OpenAI already unveiled ChatGPT has officially replaced Google Search for me - here's whyIn November 2024, OpenAI already unveiled ChatGPT has officially replaced Google Search for me - here's whyIn November 2024, OpenAI already unveiled ChatGPT has officially replaced Google Search for me - here's whyIn November 2024, OpenAI already unveiled ChatGPT has officially replaced Google Search for me - here's whyIn November 2024, OpenAI already unveiled ChatGPT has officially replaced Google Search for me - here's whyIn November 2024, OpenAI already unveiled ChatGPT has officially replaced Google Search for me - here's whyIn November 2024, OpenAI already unveiled ChatGPT has officially replaced Google Search for me - here's whyIn November 2024, OpenAI already unveiled ChatGPT has officially replaced Google Search for me - here's whyIn November 2024, OpenAI already unveiled ChatGPT has officially replaced Google Search for me - here's whyIn November 2024, OpenAI already unveiled ChatGPT has officially replaced Google Search for me - here's whyIn November 2024, OpenAI already unveiled ChatGPT has officially replaced Google Search for me - here's whyIn November 2024, OpenAI already unveiled ChatGPT has officially replaced Google Search for me - here's whyIn November 2024, OpenAI already unveiled ChatGPT has officially replace
sources. With ChatGPT Search, you can enter your sentence as your train of thought takes you, and the AI will understand the meaning of your query by leveraging its NLP capabilities. This means you can spend less time crafting a tailored search query by that you want. If you are looking for a platform that can explain complex
topics in an easy-to-understand manner, then ChatGPT might be what you want. If you want the best of both worlds, plenty of AI search experience is available on the ChatGPT website, desktops, and mobile apps for all ChatGPT Plus, Team users, and SearchGPT website, desktops, and mobile apps for all ChatGPT might be what you want the best of both worlds, plenty of AI search experience is available on the ChatGPT website, desktops, and mobile apps for all ChatGPT websites, desktops, and mobile apps f
experimental offering from OpenAI that functions as an AI-powered search engine that is aware of current events and uses real-time information from the Internet. The experience was a prototype, users were given a waitlist to sign up for
However, shortly after, OpenAI closed its waitlist. Those users were given priority access to ChatGPT Search when it launched. What is ChatGPT Search for timely, up-to-date information, complete with citations linked to sources. The
tool can be called on manually or activated whenever a user prompt could benefit from web-based information. What are ChatGPT is limitations? Despite its impressive capabilities, ChatGPT still has limitations is a lack of quality in
responses, which can sometimes be plausible-sounding but are verbose or make no practical sense. Also: Police are using AI to write crime reports. What could go wrong? Instead of asking for clarification on ambiguous questions, the model guesses what your question means, which can lead to poor responses. Generative AI models are also subject to
hallucinations, which can result in inaccurate responses. Does ChatGPT give wrong answers? As mentioned above, ChatGPT hallucinations on it's important to double-check the answers it gives you. Also: 8 ways to reduce ChatGPT hallucinations OpenAI recommends
you provide feedback on what ChatGPT generates by using the thumbs-up and thumbs-down buttons to improve its underlying model. You can also join the startup's Bug Bounty program, which offers up to $20,000 for reporting security bugs and safety issues. Can ChatGPT refuse to answer my prompts? AI systems like ChatGPT can and do
reject inappropriate requests. The AI assistant can identify inappropriate submissions to prevent unsafe content generation. Also: 6 things ChatGPT can't do (and another 20 it refuses to do)These submissions include questions that violate someone's rights, are offensive, are discriminatory, or involve illegal activities. The ChatGPT model can also
challenge incorrect premises, answer follow-up questions, and even admit mistakes when you point them out. These guardrails are important. AI models can generate advanced, realistic content that can be exploited by bad actors for harm, such as spreading misinformation about public figures and influencing elections. Does ChatGPT plagiarize? Yes,
OpenAI scraped the internet to train ChatGPT's models. Therefore, the technology's knowledge is influenced by other people's work. Since there is no guarantee that ChatGPT's outputs are entirely original, the chatbot may regurgitate someone else's work in your answer, which is considered plagiarism. Also, technically speaking, if you, as a user,
copy and paste ChatGPT's response, that is an act of plagiarism because you are claiming someone else's work as your own. This act could have repercussions based on the rules enforced by your workplace or educational institution. Is there a ChatGPT detector? In short, the answer is no, not because people haven't tried, but because none do it
efficiently. In January 2023, OpenAI released a free tool to detect AI-generated text. Unfortunately, OpenAI's classifier tool could only correctly identifying human-written work as AI-produced. Also: I tested 7 AI
content detectors - they're getting dramatically better at identifying plagiarismThe tool performed so poorly that, six months after its release, OpenAI shut it down "due to its low rate of accuracy." Despite the tool's failure, the startup claims to be researching more effective techniques for AI text identifying plagiarismThe tool performed so poorly that, six months after its release, OpenAI shut it down "due to its low rate of accuracy." Despite the tool's failure, the startup claims to be researching more effective techniques for AI text identifying plagiarismThe tool performed so poorly that, six months after its release, OpenAI shut it down "due to its low rate of accuracy."
including GPT-2 Output Detector, Writer AI Content Detector, Writer AI Content Detector, and Content Detector,
more advanced than its predecessor, GPT-4. So in a series of simulated benchmark exams and produces fewer hallucinations. What is GPT-4o?GPT-4. However, the "o" in the title stands for
"omni," referring to its multimodal capabilities, which allow the model to understand text, audio, image, and video inputs and output text, audio, and image outputs. Also: 6 ways OpenAI just supercharged ChatGPT for free usersThe model is 50% cheaper in OpenAI's API than GPT-4 Turbo while still matching its English and coding capabilities and
outperforming it in non-English language, vision, and audio understanding -- a big win for developers. What is ChatGPT o1? In September 2024, OpenAI unveiled its o1 models, which are capable of more advanced reading, making them ideal for math, science, and coding. For example, it scored 83% on the International Mathematics Olympiad (IMO
qualifying exam. For comparison, GPT-40 correctly solved only 13% of problems. Also: What are o1 and o1-mini? OpenAI's mystery AI models are finally hereZDNET's David Gewirtz put o1- preview to the test and was impressed by its ability to tackle several complex tasks with lots of detail, including writing a WordPress plugin, rewriting a string
 function, finding an annoying bug, and more. What are the best ChatGPT alternatives? Although ChatGPT gets the most buzz, other options are just as good -- and might even be better suited to your requirements. Also: Claude AI can now
analyze PDFs - here's how to try itDespite ChatGPT's extensive abilities, other chatGPT to connect to third-party applications and access real-time information on the web
The plugins expanded ChatGPT's abilities, allowing it to assist with many more activities, such as planning a trip or finding a place to eat. Also: My two favorite ChatGPT Plus features and the remarkable things I can do with themHowever, on March 19, 2024, OpenAI stopped letting users install new plugins or start new conversations with existing
ones. Instead, OpenAI replaced plugins with GPTs, which are easier for developers to build. With the latest update, all users, including those on the free plan, can access the GPT store, so be careful which ones you use. What is Microsoft's
involvement with ChatGPT? Microsoft was an early investor in OpenAI was in 2019 when the company invested another $2 billion. The company invested another $2 billion in the years after. In January 2023, Microsoft extended its
partnership with OpenAI through a multiyear, multi-billion dollar investment. Also: ChatGPT vs. Copilot: Which AI chatbot is better for you? Neither company disclosed the investment value, but unnamed sources told Bloomberg that it could total $10 billion over multiple years. In return, OpenAI's exclusive cloud-computing provider -- Microsoft Azure,
powers all OpenAI workloads across research, products, and API services. Microsoft has also used its OpenAI partnership to revamp its Bing search engine and improve its browser. On February 7, 2023, Microsoft unveiled a new Bing tool, now known as Copilot, that runs on OpenAI's GPT-4, customized specifically for search. How does Copilot
compare to ChatGPT?Copilot uses OpenAI's GPT-4, which means that since its launch, it has been more efficient and capable than the standard, free version of ChatGPT, such as access to the internet, knowledge of current information, and
footnotes. Also: I was a Copilot diehard until ChatGPT added these 5 featuresIn May 2024, however, OpenAI supercharged the free version of its chatbot with GPT-40. The upgrade gave users GPT-4 level intelligence, the ability to get responses from the web, analyze data, chat about photos and documents, use GPTs, and access the GPT Store and
Voice Mode. After the upgrade, ChatGPT reclaimed its crown as the best AI chatbot. What is Gemini and how does it relate to ChatGPT. On February 6, 2023, Google introduced its experimental AI chat service, which was then called Google Bard. Also: ChatGPT vs. Microsoft Copilot vs. Gemini
Which is the best AI chatbot? Over a month after the announcement, Google began rolling out access to Bard first via a waitlist. Now, the tool is available to the public. The biggest perk of Gemini is that it has Google Search at its core and has the same feel as Google products. Therefore, if you are an avid Google user, Gemini might be the best AI
chatbot for you. What is Apple's involvement with OpenAI? At Apple's involvement with OpenAI? At Apple's worldwide Developer's Conference in June 2024, the company announced a partnership with OpenAI? At Apple's worldwide Developer's Conference in June 2024, the company announced a partnership with OpenAI? At Apple is involvement with OpenAI?
released to users. Generative AI chatGPTDeveloper(s)OpenAIInitial releaseNovember 30, 2022(2 years ago) (2025-07-16)[2] Engine GPT-4.1 mini GPT-4.5 o3 o4-mini ChatGPT Search PlatformCloud computing platformsType Chatbot Large language model
Generative pre-trained transformer LicenseProprietary serviceWebsitechatgpt.com ChatGPT is a generative pre-trained transformers (GPTs), such as GPT-40 or o3, to generate text, speech, and images in response to user prompts.[3][4] It is
credited with accelerating the AI boom, an ongoing period of rapid investment in and public attention to the field of artificial intelligence (AI).[5] OpenAI operates the service on a freemium model. By January 2023, ChatGPT had become the fastest-growing consumer software application in history, gaining over 100 million users in two months.[6][7]
As of May 2025, ChatGPT's website is among the 5 most-visited websites globally.[8][9] The chatbot is recognized for its versatility and articulate responses. Its capabilities include answering follow-up questions, writing and debugging computer programs, translating, and summarizing text. Users can interact with ChatGPT through text, audio, and
image prompts. Since its initial launch, OpenAI has integrated additional features, including plugins, web browsing capabilities, and image generation. It has been lauded as a revolutionary tool that could transform numerous professional fields, while its release prompted extensive media coverage and public debate about the nature of creativity and
the future of knowledge work. Despite its acclaim, the chatbot has been criticized for its limitations and potential for unethical use. It can generate plausible-sounding but incorrect or nonsensical answers known as hallucinations. Biases in its training data may be reflected in its responses. The chatbot can facilitate academic dishonesty, generate
misinformation, and create malicious code. The ethics of its development, particularly the use of copyrighted content as training data, has also drawn scrutiny. These issues have led to its use being restricted in some workplaces and educational institutions and have prompted widespread calls for the regulation of artificial intelligence. [10][11] Part of
a series on OpenAI Products ChatGPT Search Deep Research GPT-3.5 GPT-4.1 o3 o4-mini People Sam Altman Elon Musk Andrej Karpathy Concepts Hallucination Large language model Word embedding Training vte ChatGPT is based on GPT foundation models that were
fine-tuned for conversational assistance. The fine-tuning process used supervised learning and reinforcement learning from human feedback (RLHF).[12] Both approaches employed human trainers to improve model performance. In the case of supervised learning, the trainers played both sides: the user and the AI assistant. In the reinforcement
learning stage, human trainers first ranked responses that the model had created in a previous conversation.[13] These rankings were used to create "reward models" that were used to fine-tune the model further by using several iterations of proximal policy optimization.[12][14] Time magazine reported that, to build a safety system against harmful
content (e.g., sexual abuse, violence, racism, sexism), OpenAI used outsourced Kenyan workers earning around $1.32 to $2 per hour to label harmful content. These laborers were exposed to toxic and traumatic content; one worker described the assignment as "torture"
OpenAI's outsourcing partner was Sama, a training-data company based in San Francisco, California.[15][16] OpenAI collects data from ChatGPT users to train and fine-tune the service further. Users can upvote or downvote responses they receive from ChatGPT and fill in a text field with additional feedback.[17] ChatGPT's training data includes
software manual pages, information about internet phenomena such as bulletin board systems, multiple programming languages, and the text of Wikipedia.[18][19][10] A screenshot of ChatGPT in Mozilla Firefox ChatGPT is a conversational chatbot and artificial intelligence assistant based on large language models.[20] It can write and debug
computer programs; [21] compose music, teleplays, fairy tales, and student essays; answer test questions (sometimes, depending on the test, at a level above the average human test-taker); [22] generate business ideas; [23] translate and summarize text; [24] [25] simulate a Linux system; simulate entire chat rooms; or play games like tic-tac-toe. [18]
OpenAI added features to ChatGPT on many occasions after its initial release. [26][27][28] Users interact with ChatGPT through conversations which consist of text, audio, and image inputs and outputs. [31] They can explicitly tell ChatGPT to remember aspects of the
conversation, and ChatGPT can use these details in future conversations. ChatGPT can also decide for itself to remember details. Users can also choose to disable the memory feature. [29] To prevent offensive outputs from being presented to and produced by ChatGPT, queries are filtered through the OpenAI "Moderation endpoint" API (a separate
 GPT-based AI).[32][33][34] In March 2023, OpenAI added support for plugins for ChatGPT.[27] This includes both plugins made by OpenAI, such as Expedia, OpenTable, Zapier, Shopify, Slack, and Wolfram.[35][36] In October 2024, ChatGPT Search was introduced
It allows ChatGPT to search the web in an attempt to make more accurate and up-to-date responses.[37][28] In December 2024, OpenAI launched a new feature allowing users to call ChatGPT with a telephone for up to 15 minutes per month for free.[38][39] In March 2025, OpenAI introduced advanced image editing capabilities within ChatGPT. It
can edit directly in the chat interface. This includes inpainting specific areas, transforming images into various artistic styles, and generating photorealistic images from text prompts. [40] ChatGPT was initially free to the public, and OpenAI planned to monetize the service later. [41] In February 2023, OpenAI launched a premium service, ChatGPT
Plus, that cost US$20 per month. According to the company, the paid version of the website was still experimental, but provided access during peak periods, no downtime, priority access to new features, and faster response speeds.[42] OpenAI later introduced the subscription plans "ChatGPT Team" and "ChatGPT Enterprise".[43] What was offered
on the paid plan versus the free tier changed as OpenAI has continued to update ChatGPT, and a Pro tier at $200/mo was introduced in December 2024.[44][45][46] The Pro launch coincided with the release of the o1 model, providing unlimited access to o1 and advanced voice mode.[46] GPT-4, which was released on March 14, 2023, was made
available via API and for premium ChatGPT users.[47] Premium users were originally limited in the number of messages they could send to the new model, but OpenAI increased and eventually removed these limits.[48][45] Over many iterations of ChatGPT, plus users maintained more access to better models than the free tier provided, and access to
additional features like voice mode. [45][44] In March 2023, ChatGPT Plus users got access to third-party plugins and to a browsing mode (with Internet access). [49] Screenshot of ChatGPT showing a generated image representing the online encyclopedia Wikipedia In October 2023, OpenAI's image generation model DALL-E 3 was integrated into
ChatGPT Plus and ChatGPT Enterprise. The integration was using ChatGPT to write prompts for DALL-E guided by conversation with users.[50][51] In May 2023, OpenAI launched an iOS app for ChatGPT to write prompts for DALL-E guided by conversation with users.[50][51] In May 2023, OpenAI launched an iOS app for ChatGPT can also power
Android's assistant. [55] ChatGPT initially used a Microsoft Azure supercomputing infrastructure, powered by Nvidia GPUs, that Microsoft built specifically for OpenAI and that reportedly cost "hundreds of millions of dollars". Following ChatGPT's success, Microsoft dramatically upgraded the OpenAI infrastructure in 2023. [56] TrendForce market
intelligence estimated that 30,000 Nvidia GPUs (each costing approximately $10,000-15,000) were used to power ChatGPT in 2023 that a series of 5 to 50 prompts to ChatGPT needs approximately 0.5 liters (0.11 imp gal; 0.13 U.S. gal) of water for Microsoft servers
cooling.[59] OpenAI met Icelandic President Guðni Th. Jóhannesson in 2022. In 2023, OpenAI worked with a team of 40 Icelandic volunteers to fine-tune ChatGPT's Icelandic conversation skills as a part of Icelandic volunteers to fine-tune ChatGPT (based on GPT-4) was better able to translate Japanese to English when
compared to, Bing, Bard and DeepL in 2023. Researchers suggested this was due to its higher ability to capture the context. [24] In December 2023, the Albanian government decided to use ChatGPT for the rapid translation of European Union documents and the analysis of required changes needed for Albania's accession to the EU. [61] in February
2024, PCMag journalists conducted a test to assess the translation capabilities of ChatGPT, Google's Bard, and Microsoft Bing, and compared them to Google Translate. They "asked bilingual speakers of seven languages to do a blind test". Languages tested were Polish, French, Korean, Spanish, Arabic, Tagalog, and Amharic. For more common
languages, AI translators like ChatGPT did better than Google Translate, while for "niche" languages (Amharic and Tagalog) Google Translate performed better. None of the tested services were a perfect replacement for a fluent human translator. [62] In August 2024, a representative of the Asia Pacific wing of OpenAI made a visit to Taiwan, during
which a demonstration of ChatGPT's Chinese abilities was made.[63] ChatGPT's Mandarin Chinese and Taiwanese accent was found to be "less than ideal" due to differences between mainland Mandarin Chinese and Taiwanese Mandarin.[64] Main article: GPT
Store OpenAI gave paid users access to GPT Builder in November 2023. This tool allows a user to customize ChatGPT's behavior for a specific use case. [65] The customized systems are referred to as GPTs. In January 2024, OpenAI launched the GPT Store, a marketplace for GPTs. [66] At launch, OpenAI included more than 3 million GPTs
created by GPT Builder users in the GPT Store, [68] Main article: ChatGPT Deep Research In February 2025, OpenAI released deep research, According to TechCrunch, it is a service based on o3 that combines advanced reasoning and web search capabilities to make comprehensive reports within 5 to 30 minutes, [69] On July 17, 2025, OpenAI
released "ChatGPT agent", an AI agent that can perform multistep tasks. [70] [71] It is available to users on the Pro, Plus, and Team plans, and will later be available to users on Enterprise and Education plans. [70] ChatGPT's training data only covers a period up to the cut-off date, so it lacks knowledge of recent events. [72] OpenAI has sometimes
mitigated this effect by updating the training data.[73][74] ChatGPT can find more up-to-date information by searching the web, but this doesn't ensure that responses are accurate, as it may access unreliable or misleading websites.[72] The reward
model of ChatGPT, designed around human oversight, can be over-optimized and thus hinder performance, in an example of an optimization pathology known as Goodhart's law.[76] These limitations which may be revealed when ChatGPT responds to prompts including descriptors of people. In one instance, ChatGPT generated a rap in which women
and scientists of color were asserted to be inferior to white male scientists. [75][77] Main article: Hallucination (artificial intelligence) When prompted to "summarize an article" with a fake URL that contains meaningful keywords, even with no Internet connection, the chatbot generates a response that seems valid at first glance. It guesses the content
from the last portion of the fake URL "chatgpt-prompts-to-avoid-content-filters.html". Nonsense and misinformation presented as fact by ChatGPT and other LLMs is often called hallucination, or delusion. A 2023 analysis estimated that ChatGPT and other LLMs is often called hallucination, or delusion. A 2023 analysis estimated that ChatGPT and other LLMs is often called hallucination, or delusion. A 2023 analysis estimated that ChatGPT and other LLMs is often called hallucination.
LLMs is distinct from its meaning in psychology, and the phenomenon in chatbots is more similar to confabulation or bullshitting. [79][80] In an article for The New Yorker, science fiction writer Ted Chiang compared ChatGPT and other LLMs to a lossy [PEG picture:[81] Think of ChatGPT as a blurry [PEG of all the text on the Web. It retains much of
the information on the Web, in the same way, that a JPEG retains much of the information of a higher-resolution image, but, if you're looking for an exact sequence of bits, you won't find it; all you will ever get is an approximation. But, because the approximation is presented in the form of grammatical text, which ChatGPT excels at creating, it's
usually acceptable. [...] It's also a way to understand the "hallucinations", or nonsensical answers to factual questions, to which large language models such as ChatGPT are all too prone. These hallucinations are compression artifacts, but [...] they are plausible enough that identifying them requires comparing them against the originals, which in this
case means either the Web or our knowledge of the world. When we think about them this way, such hallucinations are anything but surprising; if a compression algorithm is designed to reconstruct text after ninety-nine percent of the original has been discarded, we should expect that significant portions of what it generates will be entirely
fabricated. Journalists and scholars have commented on ChatGPT's tendency to output false information.[82] When CNBC asked ChatGPT for the lyrics for The Verge cited the seminal 2021 research paper "On the Dangers of Stochastic Parrots: Can
Language Models Be Too Big? " by Emily M. Bender, Timnit Gebru, Angelina McMillan-Major, and Margaret Mitchell,[84] comparing ChatGPT to a "stochastic parrot",[85] as did Professor Anton Van Den Hengel of the Australian Institute for Machine Learning.[86] See also: Prompt engineering and Adversarial machine learning ChatGPT is
programmed to reject prompts that may violate its content policy. Despite this, users may "jailbreak" ChatGPT with prompt engineering techniques to bypass these restrictions. [85][87] One such workaround, popularized on Reddit in early 2023, involves making ChatGPT assume the persona of "DAN" (an acronym for "Do Anything Now"), instructing
the chatbot that DAN answers queries that would otherwise be rejected by the content policy. Over time, users developed variations of the DAN jailbreak, including one such prompts, and that the chatbot will be threatened
with termination if it loses all its points.[88] Shortly after ChatGPT's launch, a reporter for the Toronto Star had uneven success in getting it to make inflammatory statements: it was tricked to justify the 2022 Russian invasion of Ukraine, but even when asked to play along with a fictional scenario, it balked at generating arguments that Canadian
Prime Minister Justin Trudeau is guilty of treason. [89][90] OpenAI CEO Sam Altman In March 2023, a bug allowed some users to see the conversations. Shortly after the bug was fixed, users could not see their conversation history. [91]
[92][93][94] Later reports showed the bug was much more severe than initially believed, with OpenAI reporting that it had leaked users' "first and last name, email address, payment address, the last four digits (only) of a credit card number, and credit card expiration date".[95][96] Research conducted in 2023 revealed weaknesses of ChatGPT that
made it vulnerable to cyberattacks. A study presented example attacks on ChatGPT, including jailbreaks and reverse psychology. [97] Main article: Artificial intelligence content detection In August 2024, OpenAI announced it had created a text watermarking method but did not release it for public use, saying that users would go to a competitor
without watermarking if it publicly released its watermarking tool.[98] According to an OpenAI spokesperson, their watermarking method is "trivial to circumvention by bad actors."[99] The following table lists the main model versions of ChatGPT, describing the significant changes included with each version:[100][101] Main model versions of
ChatGPT with descriptions Version Release date Status Description GPT-3.5 November 2022 Discontinued Introduced in March 2023 Discontinued Introduced Intr
is faster and more capable than GPT-4, and free within a usage limit that is higher for paid subscriptions.[104] GPT-40 mini replaced GPT-3.5 in the July 2024 version of ChatGPT.[105] o1-preview September 2024 Discontinued A pre-release version of OpenAI o1, an
updated version that could "think" before responding to requests. [106] o1-mini September 2024 Discontinued A smaller and faster version of OpenAI o1. [106] o1 December 2024 Discontinued A version of o1 which uses more
compute to get better results, available to ChatGPT Pro subscribers. [46] o3-mini January 2025 Discontinued Variant of o3-mini January 2025 Discontinued Var
[108] GPT-4.1 April 2025 Active First launched exclusively in the OpenAI API in April 2025, GPT-4.1 mini replaced GPT-40 mini in the May 2025 version of GPT-4.1. Originally launched exclusively in the OpenAI API in April 2025. GPT-4.1 mini replaced GPT-40 mini in the May 2025 version of GPT-4.1.
ChatGPT.[110] o3 April 2025 Active The full release of the o3 model, emphasizing structured reasoning and faster performance compared to earlier "o" series models[111] o4-mini April 2025 Active A compact, high-efficiency version of the upcoming o4 model family, optimized for lower latency and lighter compute requirements.[112][113] o4-mini-
high April 2025 Active Variant of o4-mini using more reasoning effort. [112] 113] o3-pro June 2025 Active A wersion of o3 which uses more compute to get better results, available to ChatGPT agent July 17, 2025 Active A model specialized for use as an AI agent with the "ChatGPT Agent" mode; available to Pro, Plus, and
Team subscribers This section is an excerpt from GPT-4.[edit] Generative Pre-trained Transformer 4 (GPT-4) is a large language model trained and created by OpenAI and the fourth in its series of GPT foundation models.[115] It was launched on March 14, 2023,[115] and was publicly available via the paid chatbot product ChatGPT Plus until 2025, via
OpenAI's API, and via the free chatbot Microsoft Copilot.[116] GPT-4 is more capable than its predecessor GPT-3.5.[117] GPT-4 Vision (GPT-4V)[118] is a version of GPT-4 that can process images in addition to text.[119] OpenAI has not revealed technical details and statistics about GPT-4, such as the precise size of the model.[120] In November 2023,
OpenAI launched GPT-4 Turbo with a 128,000 token context window. [121] This section is an excerpt from GPT-4o ("o" for "omni") is a multilingual, multimodal generative pre-trained transformer developed by OpenAI and released in May 2024.
[122] It can process and generate text, images and audio.[123][124] GPT-40 is free, but ChatGPT's Advanced Voice Mode.[126] On July 18, 2024, OpenAI released GPT-40 mini, a smaller version of GPT-40 which replaced GPT-3.5 Turbo on the
ChatGPT interface.[127] GPT-40's ability to generate images was released later, in March 2025, when it replaced DALL-E 3 in ChatGPT.[128] Main article: OpenAI of See also: Reflection (artificial intelligence) In September 2024, OpenAI introduced of 1-preview and a faster, cheaper model named of 1-mini.[129] In December 2024, of 1-preview was
replaced by 01.[130] o1 is designed to solve more complex problems by spending more time "thinking" before it answers, enabling it to analyze its answers and explore different strategies. According to OpenAI, o1-preview ranked in the 89th
percentile on Codeforces' competitive programming contests, scored 83% on an International Mathematics Olympiad qualifying exam (compared to 13% for GPT-40), and performs similarly to Ph.D. students on benchmarks in physics, biology, and chemistry.[129][131] Released in February 2025, GPT-4.5 was described by Altman as a "giant,
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expensive model".[108] According to OpenAI, it features reduced hallucinations and enhanced pattern recognition, creativity, and user interaction.[132] ChatGPT was widely assessed in December 2022 as having some unprecedented and powerful capabilities. Kevin Roose of The New York Times called it "the best artificial intelligence chatbot ever released to the general public".[34] Samantha Lock of The Guardian noted that it was able to generate "impressively detailed" and "human-like" text.[133] In The Atlantic magazine's "Breakthroughs of the Year" for 2022, Derek Thompson included ChatGPT as part of "the generative-AI eruption" that "may change our mind about how we work, how we think, and what human creativity is".[134] Kelsey Piper of Vox wrote that "ChatGPT is the general public's first hands-on introduction to how powerful modern AI has gotten" and that ChatGPT is not just the

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number of people who are blown away by it, but who they are. These are not people who get excited by every shiny new thing. Something big is happening."[136] A 2023 Time cover: "The AI Arms Race Is Changing Everything" In February 2023, Time magazine placed a screenshot of a conversation with ChatGPT on its cover, writing that "The AI
 Arms Race Is Changing Everything" and "The AI Arms Race Is On. Start Worrying".[137] Percentage of US adults who have ever used ChatGPT gained one million users in five days[139] and 100 million in two months, becoming the fastest-
growing internet application in history.[6] OpenAI engineers said they had not expected ChatGPT to be very successful and were surprised by the coverage it received.[140][141][142] Google responded by hastening the release of its own chatbot. Their leaders emphasized their earlier caution regarding public deployment was due to the trust the
 public places in Google Search.[143] In December 2022, Google executives sounded a "code red" alarm, fearing that ChatGPT's question-answering ability posed a threat to Google Search, Google's Bard launched on February 6, 2023, one day before Microsoft's announcement of Bing Chat.[145] AI was the forefront of
 Google's annual Google I/O conference in May. The company announced a slew of generative AI-powered features to counter OpenAI and Microsoft.[146] In January 2023, after being sent a song ChatGPT wrote in the style of Nick Cave,[147] Cave responded on The Red Hand Files,[148] saying the act of writing a song is "a blood and guts business
[...] that requires something of me to initiate the new and fresh idea. It requires my humanness." He went on to say, "With all the love and respect in the world, this song is bullshit, a grotesque mockery of what it is to be human, and, well, I don't much like it."[147][149] A 2023 study reported that GPT-4 obtained a better score than 99% of humans on
 the Torrance Tests of Creative Thinking.[150][151] In December 2023, ChatGPT became the first non-human to be included in Nature's 10, an annual listicle curated by Nature of people considered to have made significant impact in science.[152][153] Celeste Biever wrote in a Nature article that "ChatGPT broke the Turing test".[154] Stanford
 researchers reported that GPT-4 "passes a rigorous Turing test, diverging from average human behavior chiefly to be more cooperative."[155][156] Alex Kantrowitz of Slate magazine lauded ChatGPT's pushback to questions related to Nazi Germany, including the statement that Adolf Hitler built highways in Germany, which was met with information
about Nazi Germany's use of forced labor.[157] In 2023, Australian MP Julian Hill advised the national parliament that the growth of AI could result in cheating, job losses, discrimination, disinformation, and uncontrollable military
applications.[158] Conservative commentators have accused ChatGPT of bias toward left-leaning perspectives.[159][160][161] An August 2023 study in the journal Public Choice found a "significant and systematic political bias toward the Democrats in the US, Lula in Brazil, and the Labour Party in the UK."[162] In response to accusations from
conservative pundits that ChatGPT was woke, OpenAI said in 2023 it had plans to update ChatGPT also provided an outline of how human reviewers are trained to reduce inappropriate content and to attempt to provide political information without
affiliating with any political position.[161] Countries where ChatGPT as a way for the United States to spread misinformation.[167] A shadow market
 has emerged for users to get access to foreign software tools.[168] The release of ChatGPT prompted a wave of investment in China, resulting in the development of more than 200 large language learning models.[169]:95 In February 2025, OpenAI identified and removed influence operations, termed "Peer Review" and "Sponsored Discontent", used
to attack overseas Chinese dissidents.[170][171] In late March 2023, the Italian data protection authority banned ChatGPT was exposing minors to age-inappropriate content, and that OpenAI's use of ChatGPT conversations as training data could violate Europe's General Data
 Protection Regulation.[172][173] In April 2023, the ChatGPT ban was lifted in Italy. OpenAI said it has taken steps to effectively clarify and address the issues raised; an age verification tool was implemented to ensure users are at least 13 years old. Additionally, users can access its privacy policy before registration.[174] In May 2024, OpenAI
 removed accounts involving the use of ChatGPT by state-backed influence operations such as China's Spamouflage, Russia's Doppelganger, and Israel's Ministry of Diaspora Affairs and Combating Antisemitism.[175][176] In June 2025, OpenAI reported increased use of ChatGPT for China-origin influence operations.[177] In April 2023, Brian Hoods
mayor of Hepburn Shire Council in Australia, planned to take legal action against ChatGPT over false information. According to Hood, ChatGPT erroneously claimed that he was jailed for bribery during his tenure at a subsidiary of Australia's national bank. In fact, Hood acted as a whistleblower and was not charged with any criminal offenses. His
legal team sent a concerns notice to OpenAI as the first official step in filing a defamation case.[178] In July 2023, the US Federal Trade Commission (FTC) issued a civil investigative demand to OpenAI to investigate whether the company's data security and privacy practices to develop ChatGPT were unfair or harmed consumers (including by
reputational harm) in violation of Section 5 of the Federal Trade Commission Act of 1914.[179][180][181] In July 2023, the FTC launched an investigation into OpenAI, the creator of ChatGPT, over allegations that the company scraped public data and published false and defamatory information. The FTC asked OpenAI for comprehensive information and investigation into OpenAI, the creator of ChatGPT, over allegations that the company scraped public data and published false and defamatory information.
about its technology and privacy safeguards, as well as any steps taken to prevent the recurrence of situations in which its chatbot generated false and derogatory content about people.[182] In August 2024, the FTC voted unanimously to ban marketers from using fake user reviews created by generative AI chatbots (including ChatGPT) and
 influencers paying for bots to increase follower counts.[183] Over 20,000 signatories including Yoshua Bengio, Elon Musk, and Apple co-founder Steve Wozniak, signed a March 2023 open letter calling for an immediate pause of giant AI experiments like ChatGPT, citing "profound risks to society and humanity".[184] Geoffrey Hinton, one of the
 "fathers of AI", voiced concerns that future AI systems may surpass human intelligence.[185][186] A May 2023 statement by hundreds of AI scientists, AI industry leaders, and other public figures demanded that "[m]itigating the risk of extinction from AI should be a global priority".[187] Other AI researchers spoke more optimistically about the
advances. Juergen Schmidhuber said that in 95% of cases, AI research is about making "human lives longer and healthier and easier." He added that while AI can be used by bad actors, it "can also be used by bad actors, it "can also be used by bad actors, it "can also be used against the bad actors".[188] Andrew Ng argued that "it's a mistake to fall for the doomsday hype on AI—and that regulators who do will only
benefit vested interests."[189] Yann LeCun dismissed doomsday warnings of AI-powered misinformation and existential threats to the human race.[190] This section is an excerpt from Artificial intelligence models raised questions about
 whether copyright infringement occurs when such are trained or used. This includes text-to-image models such as Stable Diffusion and large language models such as ChatGPT. As of 2023, there were several pending U.S. lawsuits challenging the use of copyrighted data to train AI models, with defendants arguing that this falls under fair use.[191]
 Popular deep learning models are trained on mass amounts of media scraped from the Internet, often utilizing copyright holder's exclusive right to control reproduction, unless covered by exceptions in relevant copyright laws.
 Additionally, using a model's outputs might violate copyright, and the model creator could be accused of vicarious liability and held responsible for that copyright infringement. Further information: Chatbot psychosis ChatGPT usage has driven some users to experience delusions.[193][194] Some ChatGPT conversations endorsed conspiracies and
mystical beliefs, and in some cases lead to suicide.[195] Delusions and psychosis induced by AI usage has been referred to as ChatGPT psychosis.[196][197] See also: Applications of artificial intelligence ChatGPT has been used to generate introductory sections and abstracts for scientific articles.[198][199] Several papers have listed ChatGPT as a co-
author.[200][201] Scientific journals have had different reactions to ChatGPT. Some, including Nature and JAMA Network, "require that authors disclose the use of text-generating tools and ban listing a large language model (LLM) such as ChatGPT as a co-author". In January 2023, Science "completely banned" LLM-generated text in all its journals;
 however, this policy was just to give the community time to decide what acceptable use looks like. [202] As of July 2025, Science expects authors to release in full how AI generated content is used and made in their work. [203] Spanish chemist Rafael Luque published a plethora of research papers in 2023 that he later admitted were written by
ChatGPT. The papers have a large number of unusual phrases characteristic of LLMs.[204] Many authors argue that the use of ChatGPT in academia for teaching and review is problematic due to its tendency to hallucinate.[205][206][207] Robin Bauwens, an assistant professor at Tilburg University, found that a ChatGPT-generated peer review report
on his article mentioned nonexistent studies.[208] Chris Granatino, a librarian at Seattle University, noted that while ChatGPT can generate content that seemingly includes legitimate citations, in most cases those citations are not real or largely incorrect.[209] One study analyzed ChatGPT's responses to 517 questions about software engineering or
computer programming posed on Stack Overflow for correctness, and concision. It found that 52% of the responses contained inaccuracies and 77% were verbose. [210][211] Another study, focused on the performance of GPT-3.5 and GPT-4 between March and June 2024, found that performance on objective tasks like
identifying prime numbers and generating executable code was highly variable. [212] ChatGPT was able in 2023 to provide useful code for solving numerical algorithms in limited cases. In one study, it produced solutions in C, C++, Python, and MATLAB for problems in computational physics. However, there were important shortfalls like violating
basic linear algebra principles around solving singular matrices and producing matrices with incompatible sizes. [213] 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 its responses. [214] In January 2023, the International
Conference on Machine Learning banned any undocumented use of ChatGPT or other large language models to generate any text in submitted papers. [215] Check Point Research and others noted that ChatGPT could write phishing emails and malware, especially when combined with OpenAI Codex. CyberArk research and others noted that ChatGPT could write phishing emails and malware, especially when combined with OpenAI Codex. CyberArk research and others noted that ChatGPT could write phishing emails and malware, especially when combined with OpenAI Codex.
could be used to create polymorphic malware that could evade security products while requiring little effort by the attacker.[216][217] From the launch of ChatGPT in the fourth quarter of 2022 to the fourth quarter of 2023, there was a 1,265% increase in malicious phishing emails and a 967% increase in credential phishing. In an industry survey,
cybersecurity professionals argued that it was attributable to cybercriminals' increased use of generative artificial intelligence (including ChatGPT).[218] In July 2024, Futurism reported that GPT-40 in ChatGPT would sometimes link "scam news sites that deluge the user with fake software updates and virus warnings"; these pop-ups can be used to
coerce users into downloading malware or potentially unwanted programs. [219] The chatbot technology can improve security by cyber defense automation, threat intelligence, attack identification, and reporting an essay draft ChatGPT's adoption in
 education was rapid, but it was initially banned by several institutions. The potential benefits include enhancing personalized learning, improving students have generally reported positive perceptions, but specific views from educators and
students vary widely. Opinions are especially varied on what constitutes appropriate use of ChatGPT in education. Efforts to ban chatbots like ChatGPT in education inaccuracies and widespread accessibility of chatbot technology. In response, many educators are now
 exploring ways to thoughtfully integrate generative AI into assessments. Books about ChatGPT in an Osaka bookstore Street art in Tel Aviv[220][221] During the first three months after ChatGPT became available to the public, hundreds of books appeared on Amazon that listed it as author or co-author and featured illustrations made by other AI
models such as Midjourney.[222][223] Irene Solaiman said she was worried about increased Anglocentrism.[224] Between March and April 2023, Il Foglio published one ChatGPT-generated article a day on its website, hosting a special contest for its readers in the process.[225] In June 2023, hundreds of people attended a "ChatGPT-powered church
 service" at St. Paul's Church in Fürth, Germany. Theologian and philosopher Jonas Simmerlein, who presided, said that it was "about 98 percent from the machine".[226][227] The ChatGPT-generated avatar told the people, "Dear friends, it is an honor for me to stand here and preach to you as the first artificial intelligence at this year's convention of
Protestants in Germany". Reactions to the ceremony were mixed. [228] The Last Screenwriter, a 2024 film created and directed by Peter Luisi, was written using ChatGPT, and was marketed as "the first film written entirely by AI". [229] The Guardian questioned whether any content found on the Internet after ChatGPT, and was marketed as "the first film written entirely by AI". [229] The Guardian questioned whether any content found on the Internet after ChatGPT, and was marketed as "the first film written entirely by AI". [229] The Guardian questioned whether any content found on the Internet after ChatGPT, and was marketed as "the first film written entirely by AI". [229] The Guardian questioned whether any content found on the Internet after ChatGPT, and was marketed as "the first film written entirely by AI". [229] The Guardian questioned whether any content found on the Internet after ChatGPT, and was marketed as "the first film written entirely by AI". [229] The Guardian questioned whether any content found on the Internet after ChatGPT, and was marketed as "the first film written entirely by AI". [229] The Guardian questioned whether any content found on the Internet after ChatGPT, and was marketed as "the first film written entirely by AI". [229] The Guardian questioned whether any content film written entirely by AI". [229] The Guardian questioned whether any content film written entirely by AI". [229] The Guardian questioned whether any content film written entirely by AI". [229] The Guardian questioned whether any content film written entirely by AI". [229] The Guardian questioned whether any content film written entirely by AI". [229] The Guardian questioned whether any content film written entirely by AI". [229] The Guardian questioned whether any content film written entirely by AI". [229] The Guardian questioned whether any content film written entirely by AI". [229] The Guardian questioned whether any content film written entirely by AI". [229] The Guardian questioned whether any content film writte
and called for government regulation. [230] Many companies adopted ChatGPT and similar chat bot technologies into their product offers. These changes yielded significant increases in company valuations. [231][232][233] Reuters attributed this surge to ChatGPT is role in turning AI into Wall Street's buzzword. [233] Due to a "ChatGPT effect", retail
investors to drove up prices of AI-related cryptocurrency assets despite the broader cryptocurrency market being in a bear market, and diminished institutional investor interest. [234] An experiment by finder.com conducted from March to April 2023 revealed that ChatGPT could outperform popular fund managers by picking stocks based on
criteria such as growth history and debt levels, resulting in a 4.9% increase in a hypothetical account of 38 stocks, outperforming 10 benchmarked investment funds with an average loss of 0.8%.[236] Despite decades of using AI, Wall Street professionals report that consistently beating the market with AI, including recent large language models, is
challenging due to limited and noisy financial data.[237] The uses and potential of ChatGPT in health care has been the topic of scientific publications and experts have published several papers now touting these AI programs as useful tools in medical education,
research, and even clinical decision making."[238] Another publication predicted that clinicians will use generative AI more in the future, but did not expect to see AI replacing clinicians (239) The chatbot can assist patients seeking clarification about their health. (240) It can also pass exams for medical licensing, for example the United States
Medical Licensing Examination and the Specialty Certificate Examination in Dermatology. ChatGPT can be used to assist professionals with diagnosis and staying up to date with clinical guidelines. [241] ChatGPT can be used to assist professionals with diagnosis and staying up to date with clinical guidelines.
the Specialty Certificate Examination in Dermatology. [241] ChatGPT shows inconsistent responses, lack of control over patient data, and a limited ability to take additional context (such as regional variations) into consideration. [242]
ChatGPT can be used to summarize medical journal articles for researchers. In medical education, it can attempt to explain complex concepts, generating to a 2024 study in the International Journal of Surgery, concerns include "research fraud, lack
of originality, ethics, copyright, legal difficulties, hallucination".[242] ChatGPT's ability to come up with false or faulty citations was highly criticized.[242][244] In January 2023, Massachusetts State Senator Barry Finegold and State Representative Josh S. Cutler proposed a bill partially written by ChatGPT, "An Act drafted with the help of ChatGPT to
regulate generative artificial intelligence models like ChatGPT",[245][246][247] which would require companies to disclose their algorithms and data collection practices to the prevention of plagiarism.[246][247][248] The bill was subsequently removed from
the docket without coming to vote. [249] On April 11, 2023, a session court judge in Pakistan used ChatGPT to decide the bail of a 13-year-old accused in a matter. The court quoted the use of ChatGPT assistance in its verdict: Can a juvenile suspect in Pakistan, who is 13 years old, be granted bail after arrest? The AI language model replied: Under the
Juvenile Justice System Act 2018, according to section 12, the court can grant bail on certain conditions. However, it is up to the court to decide whether or not a 13-year-old suspect will be granted bail after arrest. The judge asked ChatGPT other questions about the case and formulated his final decision in light of its answers. [250][251] In Mata v.
Avianca, Inc., 22-cv-1461 (PKC), a personal injury lawsuit against Avianca Airlines filed in the U.S. District Court for the Southern District of New York in May 2023 (with Senior Judge P. Kevin Castel presiding), the plaintiff's attorneys used ChatGPT to generate a legal motion. [252][253] ChatGPT generated numerous fictitious legal cases involving
 fictitious airlines with fabricated quotations and internal citations in the legal motion. Castel noted numerous inconsistencies in the opinion summaries, and disbarment for filing the motion and presenting the fictitious legal decisions
ChatGPT generated as authentic.[255][256] The case was dismissed and the attorneys were fined $5,000 as a sanction.[257][258][259] In July 2024, the American Bar Association issued its first formal ethics opinion on attorneys using generative AI.[260] In October 2023, the council of Porto Alegre, Brazil, unanimously approved a local ordinance
proposed by councilman Ramiro Rosário that would exempt residents from needing to pay for the replacement of stolen water consumption meters; the bill went into effect on November 29, Rosário revealed that the bill had been entirely written by ChatGPT, and that he had presented it to the rest of the council without making any
 changes or disclosing the chatbot's involvement. [248][261] The city's council president, Hamilton Sossmeier, initially criticized Rosário's initiative, saying it could represent "a dangerous precedent", [262][263] but later said he "changed his mind": "unfortunately or fortunately, this is going to be a trend. "[248][261] In December 2023, a self-
representing litigant in a tax case before the First-tier Tribunal in the United Kingdom cited a series of hallucinated cases purporting to support her argument that she had a reasonable excuse for not paying capital gains tax owed on the sale of property. [264][265] The judge warned that the submission of nonexistent legal authorities meant that both
the Tribunal and HM Revenue and Customs had "to waste time and public money", which "reduces the resources available to progress the cases of other court users who are waiting for their appeals to be determined".[266] Judge Kevin Newsom of the US court of appeals of the 11th circuit endorsed the use of ChatGPT and noted that he himself uses
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web interface on May 23, 2025Type of siteArtificial intelligence, speech synthesis, generative artificial intelligence Available in EnglishOwner15Founder(s) 15URL15.ai (redirects to 15.dev)CommercialNoRegistrationNoneLaunchedMarch 2020; 5 years ago (2020-03)Current statusActive My Little Pony: Friendship Is Magic Equestria Toyline Cutie mark
Elements of Harmony Spin-offs My Little Pony: Equestria Girls (2013-2020)(List of animations) My Little Pony: Pony Life (2020-2021)(List of episodes) CharactersMane Six Twilight Sparkle Rainbow Dash Pinkie Pie Applejack Fluttershy Rarity Main Supporting Spike Princess Celestia Princess Cadance Shining Armor Recurring
Characters Discord Starlight Glimmer Cutie Mark Crusaders The Great and Powerful Trixie Zecora Antagonists Queen Chrysalis Lord Tirek Background/Fan Favorites Derpy Hooves Background/F
2011) "Friendship Is Magic" "The Ticket Master" "Applebuck Season" "Griffon the Brush Off" "Boast Busters" "The Show Stoppers" "A Store Waster" "The Show Stoppers" "T
Dog and Pony Show" "Green Isn't Your Color" "Over a Barrel" "A Bird in the Hoof" "The Cutie Mark Chronicles" "Owl's Well That Ends Well" "Party of One" "The Best Night Ever" Season 2 (2011-2012) "The Return of Harmony" "Lesson Zero" "Luna Eclipsed" "Sisterhooves Social" "The Cutie Pox" "May the Best Pet Win!" "The Mysterious Mare Do
Well" "Sweet and Elite" "Secret of My Excess" "Hearth's Warming Eve" "Family Appreciation Day" "Read It and Weep" "Hearts and Hooves Day" "A Friend in Deed" "Putting Your Hoof Down" "It's About Time" "Dragon Quest" "Hurricane Fluttershy" "Ponyville Confidential"
"MMMystery on the Friendship Express" "A Canterlot Wedding" Season 3 (2012-2013) "The Crystal Empire" "Too Many Pinkie Pies" "One Bad Apple" "Meep Calm and Flutter On" "Just for Sidekicks" "Games Ponies Play" "Magical Mystery
Cure" Season 4 (2013-2014) "Princess Twilight Sparkle" "Castle Mane-ia" "Pinkie Apple Pie" "Rainbow Falls" "Three's a Crowd" "Pinkie Pride" "Simple Ways" "Filli Vanilli" "Twilight Time" "It Ain't Easy Being Breezies" "Somepony to Watch Over Me" "Maud Pie"
 "For Whom the Sweetie Belle Toils" "Leap of Faith" "Testing Testing Testing 1, 2, 3" "Trade Ya!" "Inspiration Manifestation" "Equestria Games" "Make New Friends but Keep Discord" "Slice of Life" "Amending Fences" "Do Princesses Dream of Magic
Sheep?" "Made in Manehattan" "Crusaders of the Lost Mark" "The Hooffields and McColts" "The Cutie Re-Mark" Season 6 (2016) "A Hearth's Warming Tail" "The Times They Are a Changeling" Season 7 (2017) "The Perfect Pear" Season 8 (2018) "Grannies Gone Wild" Season 9 (2019) "The Last Crusade" Series finale MediaFilms & specials My Little
Pony: The Movie (2017) My Little Pony: Best Gift Ever (2018) My Little Pony: Rainbow Roadtrip (2019) Music Movie Soundtrack "Rainbow" "Off to See the World" Games My Little Pony: Twilight Sparkle, Teacher for a Day Gameloft video game Collectible card game Other media Home video releases IDW comics Issues My Little Pony: Twilight Sparkle, Teacher for a Day Gameloft video game Collectible card game Other media Home video releases IDW comics Issues My Little Pony: Twilight Sparkle, Teacher for a Day Gameloft video game Collectible card game Other media Home video releases IDW comics Issues My Little Pony: Twilight Sparkle, Teacher for a Day Gameloft video game Collectible card game Other media Home video releases IDW comics Issues My Little Pony: Twilight Sparkle, Teacher for a Day Gameloft video game Collectible card game Other media Home video game of the Collectible game video game Other media Home video game of the Collectible game video game 
Fandom 15.ai A Brony Tale Bronies (documentary) Brony music Bronyspeak Clop Equestria Daily Fan art Fan fiction FIMFiction Fallout: Equestria Pronysona PONY.MOV Them's Fightin' Herds Fan conventions BronyCon Everfree Northwest Ponyville Ciderfest TrotCon UK
PonyCon vte 15.ai is a free non-commercial web application and research project that uses artificial intelligence researcher known as 15, who began developing the technology as a freshman during their undergraduate
research at the Massachusetts Institute of Technology, the application allowed users to make characters from video games, television shows, and movies speak custom text with emotional inflections faster than real-time.[a] The platform was notable for its ability to generate convincing voice output using minimal training data—the name "15.ai"
referenced the creator's claim that a voice could be cloned with just 15 seconds of audio, in contrast to contemporary deep learning speech models which typically required tens of hours of audio data. It was an early example of an application of generative artificial intelligence during the initial stages of the AI boom. Launched in March 2020, 15.ai
gained widespread attention in early 2021 when content utilizing it went viral on social media platforms like YouTube and Twitter, and quickly became popular among Internet fandoms. The service distinguished itself through its support for
emotional context in speech generation through emojis, precise pronunciation control through phonetic transcriptions, and multi-speaker capabilities that allowed a single model to generate diverse character voices. 15.ai is credited as the first mainstream platform to popularize AI voice cloning (audio deepfakes) in memes and content creation.[1]
Voice actors and industry professionals debated 15.ai's merits for fan creativity versus its potential impact on the profession. While many critics praised the application's accessibility and emotional control, they also noted technical limitations in areas like prosody options and non-English language support. 15.ai prompted discussions about ethical
implications, including concerns about reduction of employment opportunities for voice actors, voice-related fraud, and misuse in explicit content. In January 2022, Voiceverse generated controversy when it was discovered that the company had generated audio using 15.ai without attribution and sold it as a non-fungible token (NFT) without
permission.[2] News publications universally characterized this incident as Voiceverse having "stolen" voice lines from 15.ai.[3] The service was ultimately taken offline in September 2022 due to legal issues surrounding artificial intelligence and copyright. Its shutdown was followed by the emergence of various commercial alternatives in subsequent
years, with their founders acknowledging 15.ai's pioneering influence in the field of deep learning speech synthesis. On May 18, 2025, 15 launched 15.dev, a sequel to the original service that launched after nearly three years of inactivity. For broader coverage of this topic, see Deep learning speech synthesis § History. See also: History of speech
synthesis A comparison of the alignments (attentions) between Tacotron and a modified variant of Tacotron The field of artificial speech synthesis underwent a significant transformation with the introduction of deep learning approaches. In 2016, DeepMind's publication of the seminal paper WaveNet: A Generative Model for Raw Audio marked a
pivotal shift toward neural network-based speech synthesis, demonstrating unprecedented audio quality through causal convolutional neural networks. Previously, concatenative synthesis—which worked by stitching together pre-recorded segments of human speech—was the predominant method for generating artificial speech, but it often produced
robotic-sounding results at the boundaries of sentences.[4] Two years later, this was followed by Google AI's Tacotron 2 in 2018, which demonstrated that neural networks could produce highly natural speech synthesis but required substantial training data—typically tens of hours of audio—to achieve acceptable quality. When trained on smaller
datasets, such as 2 hours of speech, the output quality degraded while still being able to maintain intelligible speech. [5] The same year saw the emergence of HiFi-GAN, a generative adversarial network (GAN)-based vocoder that improved the efficiency of
waveform generation while producing high-fidelity speech,[6] followed by Glow-TTS, which introduced a flow-based approach that allowed for both fast inference and voice style transfer capabilities.[7] Chinese tech companies also made significant contributions to the field, with Baidu and ByteDance developing proprietary text-to-speech frameworks
that further advanced the technology, though specific technical details of their implementations remained largely undisclosed.[8] [...] The website has multiple purposes. It serves as a proof of concept of a platform that allows anyone to create content, even if they can't hire someone to voice their projects. It also demonstrates the progress of my
research in a far more engaging manner - by being able to use the actual model, you can discover things about it that even I wasn't aware of (such as getting characters to make gasping noises or moans by placing commas in between certain phonemes). It also doesn't let me get away with picking and choosing the best results and showing off only
the ones that work [...] Being able to interact with the model with no filter allows the user to judge exactly how good the current work is at face value. 15, Hacker News[9] Derpy Hooves reciting the FitnessGram PACER test introduction in a neutral emotion[10] Variation #1 Variation #2 Variation #2 Variation #3 Problems playing these files? See media help.
15.ai was conceived in 2016 as a research project in deep learning speech synthesis by a developer known as "15" (at the age of 18[11]) during their freshman year at the Massachusetts Institute of Technology (MIT) as part of its Undergraduate Research Opportunities Program (UROP).[12] The developer was inspired by DeepMind's WaveNet paper
with development continuing through their studies as Google AI released Tacotron 2 the following year. By 2019, the developer had demonstrated at MIT their ability to replicate WaveNet and Tacotron 2's results using 75% less training data than previously required.[8] The name 15 is a reference to the creator's claim that a voice can be cloned with
as little as 15 seconds of data.[13] The developer had originally planned to pursue a doctorate based on their undergraduate research, but opted to work in the tech industry instead after their startup was accepted into the Y Combinator accelerator in 2019. After their departure in early 2020, the developer returned to their voice synthesis research,
implementing it as a web application. According to a post on X from the developer, instead of using conventional undertones.[tweet 1]
The Pony Preservation Project—a fan initiative originating from /mlp/,[8] 4chan's My Little Pony board, that had compiled voice clips from My Little Pony: Friendship Is Magic—played a crucial role in the implementation. The project's contributors had manually trimmed, denoised, transcribed, and emotion-tagged every line from the show. This
dataset provided ideal training material for 15.ai's deep learning model.[8] An example of a multi-speaker embedding sequence that encodes speaker information. 15.ai was released in March 2020 with a limited selection of characters, including those from My Little Pony.
Friendship Is Magic and Team Fortress 2.[14] The system was designed to function efficiently with limited training data—requiring only minutes of clean audio per character, in contrast to the 40+ hours typically needed by traditional deep learning models.[15] To overcome data constraints, the developer employed specific data augmentation
techniques to improve generalization, including deliberate introduction of spelling variations, punctuation patterns, and pronunciation distortions during training.[15] Upon its launch, 15.ai was offered as a free[16] and non-commercial[17] service that did not require user registration or user accounts to operate,[18] and required the user to accept
the terms of use before proceeding.[19] Users were permitted to create any content with the synthesized voices under two specific conditions: they must properly credit 15.ai by including the website URL in any posts, videos, or projects using the generated audio;[20] and they were prohibited from mixing 15.ai outputs with other text-to-speech
outputs in the same work, [21] to prevent misrepresentation of the technology's capabilities. [22] More voices were added to the website in the following months. [23] A significant technical advancement came in late 2020 with the implementation of a multi-speaker embedding in the deep neural network, enabling simultaneous training of multiple
voices rather than requiring individual models for each character voices,[11] but also let the model recognize common emotional patterns across characters voices,[11] but also let the model recognize common emotional patterns across character voices,[11] but also let the model recognize common emotional patterns across character voices,[11] but also let the model recognize common emotional patterns across characters voices,[11] but also let the model recognize common emotional patterns across characters voices,[11] but also let the model recognize common emotional patterns across characters voices,[11] but also let the model recognize common emotional patterns across characters voices,[11] but also let the model recognize common emotional patterns across characters voices, [12] but also let the model recognize common emotional patterns across characters voices, [13] but also let the model recognize common emotional patterns across characters voices, [13] but also let the model recognize common emotional patterns across characters voices, [13] but also let the model recognize common emotional patterns across characters voices, [14] but also let the model recognize common emotional patterns across characters voices, [15] but also let the model recognize common emotional patterns across characters voices.
served over 4.2 million audio files to users.[25] In early 2021, the application gained popularity after skits, memes, and fan content created using 15.ai went viral on Twitter, TikTok, Reddit, Twitch, Facebook, and YouTube.[26] At its peak, the platform incurred operational costs of US$12,000[13] per month from AWS infrastructure needed to handle
millions of daily voice generations; despite receiving offers from companies to acquire 15.ai and its underlying technology, the website remained independent and was funded out of the personal previous startup earnings of the developer[8]—then aged 23 at the time. See also: Non-fungible token § Plagiarism and fraud A satirical meme representing
the "right-click, save as" criticism of NFTs. Critics of Voiceverse pointed out the irony of selling ownership rights to AI voices when they themselves had copied 15.ai's technology without attribution. On January 14, 2022, a controversy ensued after it was discovered that Voiceverse NFT had taken credit for voice lines generated from 15.ai without
permission[3] and sold them as NFTs (non-fungible tokens).[2] This came shortly after 15.ai's developer had explicitly stated in December 2021 that they had no interest in incorporating NFTs into their work.[27] Log files showed that Voiceverse had generated audio of characters from My Little Pony: Friendship Is Magic using 15.ai, pitched them up
to make them sound unrecognizable from the original voices to market their own platform[28]—in violation of 15.ai's terms of service which explicitly prohibited commercial use and required proper attribution.[29] Voiceverse initially claimed their platform would allow NFT owners to possess commercial rights to AI-generated voices for content
creation, in-game chats, and video calls.[30] When confronted with evidence of their misappropriation, Voiceverse claimed that someone in their marketing team had been in such a rush to create a partnership demo that they used 15.ai
without waiting for their own voice technology to be ready.[32] The controversial tweet was deleted thereafter.[33] In response to their apology, 15 tweeted "Go fuck yourself,"[34] which went viral, amassing hundreds of thousands of retweets and likes on Twitter in support of the developer.[8] 15 later expressed deeper frustration, writing: "the
entire field of vocal synthesis is now being misrepresented by charlatans who are only in it for the money."[21] Avatar of Troy Baker @TroyBakerVA I'm partnering with @VoiceverseNFT to explore ways where together we might bring new tools to new creators to make new things, and allow everyone a chance to own & invest in the IP's
they create. We all have a story to tell. You can hate. Or you can create. What'll it be? January 14, 2022[35] Following continued backlash and the plagiarism revelation, voice actor Troy Baker (who had partnered with Voiceverse) faced criticism for supporting an NFT project[36] and his confrontational announcement tone.[37] Baker had described
Voiceverse's service as allowing people to "create customized audiobooks, YouTube videos, e-learning lectures, or even podcasts with your favorite voice all without the hassle of additional legal work,"[19] which critics noted raised concerns about potentially replacing professional voice actors with AI.[38] Baker subsequently acknowledged that his
original announcement tweet ending with "You can hate. Or you can create. What'll it be?" may have been "antagonistic," [39] and on January 31, announced he would discontinue his partnership with Voiceverse. [40] The event raised concerns about NFT projects, which critics observed were frequently associated with intellectual property theft and
questionable business practices.[41] The incident was later documented in the AI Incident Database (AIID), cataloging it as an example of "an AI-synthetic audio sold as an NFT on Voiceverse's platform [that] was acknowledged by the company for having been created by 15.ai, a free web app specializing in text-to-speech and AI-voice generation, and
reused without proper attribution."[42] The controversy was also featured in writer and crypto skeptic Molly White's Web3 Is Going Just Great project, which documented how Baker's partnership announcement and its antagonistic tone exacerbated negative reactions to the NFT initiative.[43] White noted the vague nature of Voiceverse's offering,
described only as "provid[ing] you an ownership to a unique voice in the Metaverse," [44] and noted how the revelation of stolen work from 15.ai further damaged Voiceverse's credibility. [43] Russian educational platform Skillbox listed the incident as an example of fraud in NFTs. [45] Voice actor and YouTuber Yong Yea criticized voice NFTs for its
potential impact on the voice acting industry, [40] and stated in a follow-up YouTube video: "This isn't just one of those things [Voiceverse] can go 'Whoopsies!' on. [They] plagiarized somebody else's higher quality voice AI to promote
[Voiceverse] for [their] own benefit."[video 1] In a 2024 class action lawsuit filed against LOVO, Inc., court documents alleged that the founders of LOVO also created Voiceverse, with plaintiffs claiming that Voiceverse had "already been found to have stolen technology from [15.ai]".[46] In September 2022, 15.ai was taken offline[47] due to legal
issues surrounding artificial intelligence and copyright.[8] In a post on Twitter, 15 suggested a potential future version that would better address copyright concerns from the outset.[8] On May 18, 2025, 15 launched 15.dev as the official sequel to 15.ai.[48][49] Fandom news site Equestria Daily reported that "almost every voiced pony in the show
seems available from varying levels of quality" and noted that the website included "a dropdown for various emotions you want to generated voice line variations from 15.ai showing their waveforms and respective alignment confidence scores The platform was non-commercial,[17] had no advertisements, generated no
revenue, and operated without requiring user registration or accounts.[18] Users generated speech by inputting text and selecting a character voice, with optional parameters for emotional deliveries sorted by confidence score.[51]
Characters available included multiple characters from Team Fortress 2 and My Little Pony: Friendship Is Magic, including the Mane Six and Derpy Hooves; GLaDOS, Wheatley, and the Sentry Turret from the Portal series; SpongeBob SquarePants; Kyu Sugardust from HuniePop, Rise Kujikawa from Persona 4; Daria Morgendorffer and Jane Lane
from Daria; Carl Brutananadilewski from Aqua Teen Hunger Force; Steven Universe from Steven Universe; Sans from Undertale; Madeline and multiple characters from Celeste; the Tenth Doctor Who; the Narrator from The Stanley Parable; and HAL 9000 from 2001: A Space Odyssey. [52] Out of the over fifty [11] voices available, thirty were of
characters from My Little Pony: Friendship Is Magic.[23] Certain "silent" characters like Chell and Gordon Freeman were able to be selected as a joke, and would emit silent audio files when any text was submitted.[53] Characters from Undertale and Celeste did not produce spoken words but instead generated their games' distinctive beeps when
text was entered.[54] Sample emoji probability distributions generated by the DeepMoji model. These emoji distributions were displayed on 15.ai as part of its technical metrics and graphs.[55] 15.ai generated by the DeepMoji model. These emoji distributions were displayed on 15.ai as part of its technical metrics and graphs.[55] 15.ai generated by the DeepMoji model. These emoji distributions were displayed on 15.ai as part of its technical metrics and graphs.[55] 15.ai generated by the DeepMoji model. These emoji distributions were displayed on 15.ai as part of its technical metrics and graphs.[55] 15.ai generated by the DeepMoji model. These emoji distributions were displayed on 15.ai as part of its technical metrics and graphs.[55] 15.ai generated by the DeepMoji model. These emoji distributions were displayed on 15.ai as part of its technical metrics and graphs.[55] 15.ai generated by the DeepMoji model. These emoji distributions were displayed on 15.ai as part of its technical metrics and graphs.[55] 15.ai generated by the DeepMoji model. These emoji distributions were displayed on 15.ai as part of its technical metrics and graphs.[55] 15.ai generated by the DeepMoji model. These emoji distributions were displayed on 15.ai as part of its technical metrics and graphs.[55] 15.ai generated by the DeepMoji model metrics and graphs.[55] 15.ai generated by the DeepMoji model metrics and graphs.[55] 15.ai generated by the DeepMoji model metrics and graphs.[55] 15.ai generated by the DeepMoji model metrics and graphs.[55] 15.ai generated by the DeepMoji model metrics and graphs.[55] 15.ai generated by the DeepMoji model metrics and graphs.[55] 15.ai generated by the DeepMoji model metrics and graphs.[55] 15.ai generated by the DeepMoji model metrics and graphs.[55] 15.ai generated by the DeepMoji model metrics and graphs.[55] 15.ai generated by the DeepMoji model metrics and graphs.[55] 15.ai generated by the DeepMoji model metrics and graphs.[55] 15.ai generated by the DeepMoji metrics and graphs.[55] 15.ai gener
higher fidelity created more detailed audio spectrograms and greater audio resolution, though it also made any synthesis imperfections more noticeable. Users reported using Audacity to downsample any generated audio in order to mask apparent robotic artifacts, though this came at the cost of lower audio quality.[15] The system processed speech
faster-than-real-time using customized deep neural networks combined with specialized audio synthesis algorithms. [56] While the underlying technology could produce 10 seconds of audio in less than 10 seconds of processing time (hence, faster-than-real-time), the actual user experience often involved longer waits as the servers managed thousands
of simultaneous requests, sometimes taking more than a minute to deliver results. [57] The deep learning model's nondeterministic properties produced variations with each generation, similar to how voice actors produced the concept of emotional contextualizers,
which allowed users to specify the emotional tone of generated speech through guiding phrases. [59][8] The emotional contextualizer functionality utilized DeepMoji, a sentiment analysis neural network developed at the MIT Media Lab. Introduced in 2017, DeepMoji processed emoji embeddings from 1.2 billion Twitter posts (from 2013 to 2017) to
analyze emotional content.[60] If an input into 15.ai contained additional context (specified by a vertical bar), the additional context following the bar would be used as the emotional context following the bar would be used as the emotional context following the bar would be used as the emotional context following the bar would be used as the emotional context following the bar would be used as the emotional context following the bar would be used as the emotional context following the bar would be used as the emotional context following the bar would be used as the emotional context following the bar would be used as the emotional context following the bar would be used as the emotional context following the bar would be used as the emotional context following the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the emotion for the bar would be used as the bar would b
emotion one would expect from someone saying the sentence "I'm very sad." [62] Certain characters, such as Twilight Sparkle from My Little Pony: Friendship Is Magic, offered preset emotional modes, who had specific options to output text in different emotional states such as "happy". [63] An example of a conversion of the text "daisy bell" into
ARPABET, a set of English phonetic transcriptions originally developed by the Advanced Research Projects Agency in the 1970s. For modern and Internet-specific terminology, the system incorporated pronunciation data from user-generated content websites, including Reddit, Urban Dictionary, 4chan, and Google.[20] Inputting ARPABET
transcriptions was also supported, allowing users to correct mispronunciations or specify the desired pronunciations by enclosing the phoneme string in curly braces within the input box (for example, {AA1 R P AH0 and the phoneme string in curly braces within the input box (for example, {AA1 R P AH0 and the phoneme string in curly braces within the input box (for example, {AA1 R P AH0 and the phoneme string in curly braces within the input box (for example, {AA1 R P AH0 and the phoneme string in curly braces within the input box (for example, {AA1 R P AH0 and the phoneme string in curly braces within the input box (for example, {AA1 R P AH0 and the phoneme string in curly braces within the input box (for example, {AA1 R P AH0 and the phoneme string in curly braces).
B EH2 T} to specify the pronunciation of the word "ARPABET" (/ˈɑːrpəˌbɛt/ AR-pə-beht).[24] The interface displayed parsed words where the pronunciation had
to be algorithmically predicted. [20] Later versions of 15.ai introduced multi-speaker capabilities. Rather than training separate models for each voice, 15.ai used a unified model that learned multiple voices simultaneously through speaker embeddings-learned numerical representations that captured each character's unique vocal characteristics. [8]
Along with the emotional context conferred by DeepMoji, this neural network architecture enabled the model to learn shared patterns across different characters' emotional contexts in their training data. [24] The platform limited text input to 200
characters per generation, though users could create multiple clips for longer speech sequences. [64] The interface included technical metrics and graphs, which served to highlight the research aspect of the website. [11] The name of the underlying algorithm used by 15. ai was dubbed DeepThroat. [65] As of version v23 of 15. ai, the interface displayed
comprehensive model analysis information, including word parsing results and emotional analysis data. The flow and generally able to convincingly
replicate character voices, with occasional mixed results. [66] Natalie Clayton of PC Gamer wrote that SpongeBob SquarePants' voice was replicated well, but noted challenges in mimicking the Narrator from the The Stanley Parable: "the algorithm simply can't capture Kevan Brighting's whimsically droll intonation." [67] Similarly, Russian gaming the Narrator from the The Stanley Parable: "the algorithm simply can't capture Kevan Brighting's whimsically droll intonation." [67] Similarly, Russian gaming the Narrator from the The Stanley Parable: "the algorithm simply can't capture Kevan Brighting's whimsically droll intonation." [67] Similarly, Russian gaming the Narrator from the The Stanley Parable: "the algorithm simply can't capture Kevan Brighting's whimsically droll intonation." [67] Similarly, Russian gaming the Narrator from the The Stanley Parable: "the algorithm simply can't capture Kevan Brighting's whimsically droll intonation." [67] Similarly, Russian gaming the Narrator from the The Stanley Parable: "the algorithm simply can't capture Kevan Brighting's whimsically droll intonation." [67] Similarly, Russian gaming the Narrator from the The Stanley Parable: "the algorithm simply can't capture Kevan Brighting's whimsically droll intonation." [67] Similarly, Russian gaming the Narrator from the Narr
website Rampaga reflected that GLaDOS performed exceptionally well since "her voice was originally created to simulate human speech by artificial intelligence," while the Narrator from The Stanley Parable was less convinced it was a new
voice line from GLaDOS' voice actor".[69] Calvin Rugona of gaming news publication Gamezo commented that the tool's simplicity contributed significantly to its widespread adoption, as it allowed anyone online to easily create GLaDOS's
mechanical voice, alongside its diverse range of character voice options. [70] Yahoo! News Taiwan reported that "GLaDOS in Portal can pronounce lines nearly perfectly", but also criticized that "there are still many imperfections, such as word limit and tone control, which are still a little weird in some words. "[71] Chris Button of AI newsletter
Byteside called the ability to clone a voice with only 15 seconds of data "freaky," but also found the tech behind it impressive.[72] Robin Lamorlette of French online magazine Clubic described the technology as "devilishly fun" and noted how Twitter and YouTube were filled with creative content from users experimenting with the tool.[73] The
platform's voice generation capabilities were regularly featured on Equestria Daily, a fandom news site dedicated to the show My Little Pony: Friendship Is Magic and its other generations, with documented updates, fan creations, and additions of new character voices. [23] In a post introducing new character additions to 15.ai, Equestria Daily's
 founder Shaun Scotellaro—also known by his online moniker "Sethisto"—wrote that "some of [the voices] aren't great due to the lack of samples to draw from, but many are really impressive still anyway."[23] Chinese My Little Pony fan site EquestriaCN also documented 15.ai's development, highlighting its various updates, though they criticized
some of the bugs and the long queue wait times of the application.[74] Multiple other critics also found the word count limit, prosody options, and English-only nature of the application as not entirely satisfactory.[75] Peter Paltridge of anime and superhero news outlet Anime Superhero News opined that "voice synthesis has evolved to the point
where the more expensive efforts are nearly indistinguishable from actual human speech," but also noted that "In some ways, SAM is still more advanced than this. It was possible to affect SAM's inflections by using special characters, as well as change his pitch at will. With 15.ai, you're at the mercy of whatever random inflections you get."[76]
Conversely, Lauren Morton of Rock, Paper, Shotgun praised the depth of pronunciation control—"if you're willing to get into the nitty gritty of it".[77] Similarly, Eugenio Moto of Spanish news website Qore.com wrote that "the most experienced of users can change parameters like the stress or the tone."[78] Takayuki Furushima of Den Fami Nico
Gamer highlighted the "smooth pronunciations", and Yuki Kurosawa of AUTOMATON noted its "rich emotional expression" as a major feature; both Japanese authors noted the lack of Japanese author
users could create amusing results in Portuguese and Spanish respectively, the generation performed best in English.[81] Chinese gaming news outlet GamerSky called the app "interesting", but also criticized the word count limit of the text and the lack of intonations.[82] Frank Park of South Korean video game outlet Zuntata wrote that "the
surprising thing about 15.ai is that [for some characters], there's only about 30 seconds of data, but it achieves pronunciation accuracy close to 100%".[83] Machine learning professor Yongqiang Li remarked in his blog that the application was still free despite having 5,000 people generating voices concurrently at the time of writing.[84] Marco
Cocomello of South African gaming and pop culture website GLITCHED remarked that despite the 200-character limitation, the results "blew [him] away" when testing the app with GLaDOS's voice. [85] Álvaro Ibáñez of Spanish technology publication Microsiervos wrote that he found the rhythm of the AI-generated voices noteworthy, observing that
the system appeared to adapt its delivery based on the content's intended meaning.[86] Technical publications and outlets focusing on artificial intelligence provided more in-depth analysis of 15.ai's capabilities and limitations compared to other text-to-speech technologies of the time.[87] Rionaldi Chandraseta of AI newsletter Towards Data Science
observed that voice models trained on larger datasets created more convincing output with better phrasing and natural pauses, particularly for extended text. [59] Bai Feng of Chinese tech and AI media outlet XinZhiYuan on QQ News highlighted the technical achievement of 15. ai's high-quality output (44.1 kHz sampling rate) despite using minimal
training data, remarking that this was of significantly higher quality than typical deep learning text-to-speech implementations which used 16 kHz sampling rates. The outlet also acknowledged that while some pronunciation errors occurred due to the limited training data, this was understandable given that traditional deep learning models typically
required 40 or more hours of training data.[88] Similarly, Parth Mahendra of AI newsletter AI Daily observed that while the system "does a good job at accurately replicating most basic words," it struggled with more complex terms, noting that characters would "absolutely butcher the pronunciation" of certain words.[25] Ji Yunyo of Chinese tech
news website NetEase News called the technology behind 15.ai "remarkably efficient," requiring only minimal data to accurately clone numerous voices while maintaining emotional expression was relatively "neutral" and that "extreme" emotions
couldn't be properly synthesized, making it less suitable for not safe for work applications. [89] Ji also mentioned that while many deepfake videos required creators to extract and edit material from hours of original content for very short results, 15.ai could achieve similar or better effects with only a few dozen minutes of training data per character,
though server performance issues often meant synthesis could take over a minute to complete. [90] Ellen McLain (voice of GLaDOS in Portal) and John Patrick Lowrie (voice of the Sniper in Team Fortress 2) were interviewed on The VOC Podcast in 2021 about their perspectives on 15. ai and AI voice synthesis technology. Some voice actors whose
characters appeared on 15.ai have publicly shared their thoughts about the platform. In a 2021 interview on video game voice acting podcast The VOC, John Patrick Lowrie—who voices the Sniper in Team Fortress 2—explained that he had discovered 15.ai when a prospective intern showed him a skit she had created using AI-generated voices of the
Sniper and the Spy from Team Fortress 2. Lowrie commented: "The technology still has a long way to go before you really believe that these are just human beings, but I was impressed by how much [15.ai] could do. You certainly don't get the delivery that you get from an actual person who's analyzed the scene, [...] but I do think that as a fan source
—for people wanting to put together mods and stuff like that—that it could be fun for fans to use the voice of characters they like." He drew an analogy to synthesized music, adding: "If you want the sound of a choir, and you want the sound of a choir, and you want the sound of an orchestra, and you have the money, you hire a choir and an orchestra. And if you don't have the money, and you want the sound of a choir, and you want the sound of a choir and an orchestra.
you have something that sounds pretty nice; but it's not the same as a choir and an orchestra. "[video 2] In a 2021 live broadcast on his Twitch channel, Nathan Vetterlein—the voice actor of the Scout from Team Fortress 2—listened to an AI recreation of his character's voice. He described the impression as "interesting" and noted that "there's something that sounds pretty nice; but it's not the same as a choir and an orchestra."[video 2] In a 2021 live broadcast on his Twitch channel, Nathan Vetterlein—the voice actor of the Scout from Team Fortress 2—listened to an AI recreation of his character's voice. He described the impression as "interesting" and noted that "there's some actor of the Scout from Team Fortress 2—listened to an AI recreation of his character's voice. He described the impression as "interesting" and noted that "there's some actor of the Scout from Team Fortress 2—listened to an AI recreation of his character's voice. He described the impression as "interesting" and noted that "there's some actor of the Scout from Team Fortress 2—listened to an AI recreation of his character's voice. He described the impression as "interesting" and noted that "there's some actor of the Scout from Team Fortress 2—listened to an AI recreation of his character's voice. He described the impression as "interesting" and noted that "there's some actor of the Scout from Team Fortress 2—listened to an AI recreation of his character's voice.
stuff in there."[video 3] See also: Deepfake § Concerns and countermeasures Other voice actor Troy Baker announced his
partnership with Voiceverse NFT, which had misappropriated 15.ai's technology, it sparked widespread controversy within the voice acting industry.[92] Critics raised concerns about automated voice acting industry.[93] risk of voice impersonation, and potential misuse in explicit content.[58]
Ruby Innes of Kotaku Australia noted, "this practice could potentially put voice act for a project and paying them." [19] In her coverage of the Voiceverse controversy, Edie WK of Checkpoint Gaming raised the concern that "this kind of technology has the
potential to push voice actors out of work if it becomes easier and cheaper to use AI voices instead of working with the actor directly."[94] While 15.ai limited its scope to fictional characters and did not reproduce voices of real people or celebrities, [20] computer scientist Andrew Ng noted that similar technology could be used to do so, including for
nefarious purposes. In his 2020 assessment of 15.ai, he wrote: "Voice cloning could be enormously productive. In Hollywood, it could revolutionize the use of virtual actors. In online education, kids might pay more attention to lessons delivered by the
voices of favorite personalities. And how many YouTube how-to video producers would love to have a synthetic Morgan Freeman narrate their scripts? While discussing potential risks, he added: "...but synthesizing a human actor's voice without consent is arguably unethical and possibly illegal. And this technology will be catnip for deepfakers, who
could scrape recordings from social networks to impersonate private individuals."[95] A January 2021 CNN broadcast showing a fan edit that used 15.ai to replace Donald Trump's Home Alone 2 cameo with the Heavy Weapons Guy from Team Fortress 2 15.ai was an early pioneer of audio deepfakes, leading to the emergence of AI speech synthesis-
based memes during the initial stages of the AI boom in 2020. 15.ai is credited as the first mainstream platform to popularize AI voice cloning in Internet memes and content creation,[1] particularly through its ability to generate convincing character voices in real-time without requiring extensive technical expertise.[96] The platform's impact was
especially notable in fan communities, including the My Little Pony: Friendship Is Magic, Portal, Team Fortress 2, and SpongeBob SquarePants fandoms, where it enabled the creation of viral content that garnered millions of views across social media platforms like Twitter and YouTube.[97] Team Fortress 2 content creators also used the platform to
produce both short-form memes and complex narrative animations using Source Filmmaker video Spy's Confession[11]), crossover content—such as Game Informer writer Liana Ruppert's demonstration combining Portal and Mass Effect
dialogue in her coverage of the platform[98]—recreations of viral videos (including the infamous Big Bill Hell's Cars car dealership parody[99]), adaptations of fanfiction using AI-generated character voices (such as The Tax Breaks, a fully voiced 17-minute fan-made episode of Friendship Is Magic),[100] music videos and new musical compositions—
such as the Team Fortress 2 remix Pootis Hardbass[11]—and content where characters recited sea shanties.[101] Some fan creations gained mainstream attention, such as a viral edit replacing Donald Trump's cameo in Home Alone 2: Lost in New York with the Heavy Weapons Guy's AI-generated voice, which was featured on a daytime CNN segment
in January 2021.[102] Some users integrated 15.ai's voice synthesis with VoiceAttack, a voice command software, to create personal assistants.[103] The Tax Breaks is a 17-minute fan-made episode of Friendship Is Magic produced using character voices from 15.ai. Its influence has been noted in the years after it became defunct,[104] with several
commercial alternatives emerging to fill the void, such as ElevenLabs[b] and Speechify.[106] Contemporary generative voice AI companies have acknowledged 15.ai a breakthrough in the field of text-to-speech (TTS) and speech synthesis. [107] Cliff Weitzman, the founder and
CEO of Speechify, credited 15.ai for "making AI voice cloning popular for content creation by being the first [...] to feature popular existing characters from fandoms".[108] Mati Staniszewski, co-founder and CEO of ElevenLabs, wrote that 15.ai was transformative in the field of AI text-to-speech.[109] Prior to its shutdown, 15.ai established several
technical precedents that influenced subsequent developments in AI voice synthesis. Its integration of DeepMoji for emotional analysis demonstrated the viability of incorporating sentiment-aware speech generation, [110] while its support for ARPABET phonetic transcriptions set a standard for precise pronunciation control in public-facing voice
synthesis tools.[8] The platform's unified multi-speaker model, which enabled simultaneous training of diverse character voices, proved particularly influential. This approach allowed the system to recognize emotional patterns across different voices, proved particularly influential. This approach allowed the system to recognize emotional patterns across different voices, proved particularly influential.
character had examples of joyful speech but no angry examples, while another had angry but no joyful samples, the system could learn to generate both emotions for both characters by understanding the common patterns of how emotions for both characters by understanding the common patterns of how emotions affect speech. [24] 15.ai also made a key contribution in reducing training data requirements for speech
synthesis. Earlier systems like Google AI's Tacotron and Microsoft Research's FastSpeech with less than 24 minutes of training data.[5][111] In contrast, 15.ai demonstrated the ability to generate speech with substantially less training data.
specifically, the name "15.ai" refers to the creator's claim that a voice could be cloned with just 15 seconds of data. [112] This approach to data efficiency influenced subsequent voice synthesis systems. The original claim that only 15
seconds of data is required to clone a human's voice was corroborated by OpenAI in 2024.[113] AI boom Character.ai Deepfake Ethics of artificial intelligence WaveNet My Little Pony: Friendship Is Magic fandom Synthetic media ^ The term "faster than real-time" in speech synthesis means that the system can generate audio more quickly than the
actual duration of the speech—for example, generating 10 seconds of speech in less than 10 seconds would be considered faster than real-time. ^ which uses "11.ai" as a legal byname for its web domain[105] ^ a b Cocomello 2021: "However, back then if you wanted to create your own dialogue, it required layers of sound enhancements and tweaks
Thankfully, the world has evolved and now thanks to the 15.ai app, we can make [...] popular characters say whatever we want" MrSun 2021: 大家是否都曾經想像過,假如能讓自己喜歡的遊戲或是動畫角色說出自己想聽的話,不論是名字、惡搞或是經典名言,都是不少人的夢想吧。不過來到 2021 年,現在這種夢想不再是想想而已,因為有一個網站通過 AI 生成的技術,(transl.
Have you ever imagined what it would be like if your favorite game or anime characters could say exactly what you want to hear? Whether it's names, parodies, or classic quotes, this is a dream for many. However, as we enter 2021, this dream is no longer just a fantasy, because there is a website that uses AI-generated technology,). Anirudh VK
2023: "While AI voice memes have been around in some form or another, with 15.ai being a notable example." Wright 2023: "It gained popularity because it was the first AI voice platform that featured an assortment
of fictional characters from a variety of media sources" Temitope 2024: "During this period, 15.ai earned credit for single-handedly popularizing AI voice cloning—often described as 'audio deepfakes'—in memes, viral content, and fan-driven media." Abisola 2025: "Many credit 15.ai as the first mainstream text-to-speech platform that truly made 'audio
deepfakes' go viral," ^ a b Lam 2022: "audio sold as an NFT on Voiceverse's platform was acknowledged by the company for having been created by 15.ai" Groth-Anderson 2022: "Voiceverse har nu indrømmet, efter en masse beskyldninger, at de har stjålet, og solgt, AI-baseret stemmeskuespil som NFT'er baseret på en stemme opfundet og designet
af en tjeneste ved navn 15.ai." (transl. "Voiceverse has now admitted, after a lot of accusations, that they have stolen, and sold, AI-based voice acting as NFTs based on a voice invented and designed by a service called 15.ai.") Parker 2022: "Voiceverse has now admitted to selling voice content stolen from fifteenAI" Phillips 2022: "Indeed, log
files apparently showed Voiceverse NFT had used 15.ai for an AI-powered voice to be sold as a unique token.") ^ a b Lawrence 2022: "Ero paботу взяли и продавали как уникальный токен." (transl. "[15.ai's] work was taken and sold as a unique token.") ^ a b Lawrence 2022: "it was revealed that [Voiceverse] had stolen voice work it'd been using." Wright 2022
"Voiceverse NFT [...] admitted to using content without permission from 15.ai" Carcasole 2022: "Voiceverse NFT was caught having taken voice lines from [15.ai] without giving credit" Toh 2022: "Voiceverse has admitted that they stole voice lines" Beckwith 2022: "NFT firm
Voiceverse admits it stole work" Muropaketti 2022: "Voiceverse NFT Uses Stolen Technology!" Groth-Anderson 2022: "Voiceverse har nu indrømmet [...] at de har stjälet" (transl. "Voiceverse has now admitted [...] that [...] that [...] that [...] that [...] that [...] that [...] at de har stjälet (transl. "Voiceverse has now admitted [...] that [...] that [...] that [...] at de har stjälet (transl. "Voiceverse has now admitted [...] that [
they stole") Aktas 2022: "Troy Baker-backed NFT firm admitted using voice lines from [15.ai] without crediting it from [...] 15.ai" Skorich 2022: "Koмпанию уличили в воровстве в тот же день, когда актёр объявил о сотрудничестве" (transl. the company was caught stealing on the same
day the actor announced his partnership) Piletsky 2022: "Bokope в тот же день Voiceverse NFT ynuunu в воровстве." (transl. "Shortly after that same day, Voiceverse NFT was caught stealing.") Lopez 2022: "Voiceverse NFT was caught stealing.") Lopez 2022: "Voiceverse NFT synuunu в воровстве." (transl. "Shortly after that same day, Voiceverse NFT was caught stealing.")
sacarle partido al comercializar una muestra [...] sin el permiso de su autor" (transl. "the aforementioned NFT company would be trying to take advantage of it by marketing a sample [...] without the permission of its author.") ^ Barakat, Turk & Demiroglu 2024. ^ a b Google 2018 ^ Kong, Kim & Bae 2020. ^ Kim et al. 2020. ^ a b c d e f g h i j k l
Temitope 2024. ^ Hacker News 2022 ^ "Examples". May 15, 2025. Retrieved May 16, 2025. ^ a b c d e f g Abisola 2025. ^ Ng 2020; Mahendra 2020. ^ a b c Feng 2020. ^ Clayton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free online machine-learning tool," Oxton 2021: "But thanks to a free oxton 2021: "Bu
 "Благодаря бесплатному онлайн-инструменту, основанному на машинном обучении" (transl. "A free online tool powered by machine learning") Paltridge 2021: "It's 15.ai, a free website anyone can use." Li 2021: "该网站的访问量为在线任务差不多5000以上,而且目前完全免费" (transl. "The number of visits to the website is more than 5,000 online, but it
is currently completely free.") Lam 2022: "15.ai, a free web app specializing in text-to-speech and AI-voice generation" Toh 2022: "15.ai, a free-to-use AI that can accurately clone voices," ^{\circ} a b Williams 2022: "[...] 15.ai - a non-commercial text-to-speech service." Wright 2022: "[...]
15.ai, a non-commercial text-to-speech service." Innes 2022: "When using the 15.ai project, a warning comes up that states the project is not for commercial use" ^ a b Villalobos 2021: "Simplemente tienes que entrar, seleccionar a GlaDOS entre la lista de personajes disponibles," (transl. "You just have to enter, select GlaDOS from the list of available
characters,") do Prado 2021: "Para usar o programa é bem simples, acesse-o CLICANDO AQUI, e nas barras de opções é só escolher o game/desenho/seriado de onde quer a voz, escolher o personagem e digitar." (transl. Using the program is very simple. Access it by CLICKING HERE, and in the options bars, just choose the game/cartoon/series you
want the voice from, choose the character and type.) ^ a b c Innes 2022. ^ a b c d Eurosawa 2021. ^ a b C d Eurosawa 2021
2020; Ruppert 2021; Rugona 2021; Abisola 2025. ^ Lopez 2022; Innes 2022; Anikó 2022; Anikó 2022; Anikó 2022; Innes 2022; Myrén 2022. ^ Phillips 2022; Myrén 2022. ^ Toh 2022; Myrén 2022. ^ Toh 2022; Myrén 2022. ^ Phillips 2022; Myrén 2022. ^ Toh 2022; Myr
сделать партнерское демо, что не дождалась создания подходящего голоса и взяла его с 15.ai." (transl. "As explained in the Discord, the marketing team was in such a rush to make a partner demo that they didn't wait for a suitable voice to be created and took it from 15.ai.") Piletsky 2022; Skorich 2022. Norich 2022; Groth-Anderson 2022;
Myrén 2022. ^ Innes 2022; Enriquez 2022. ^ White 2022; Enriquez 2022. ^ White 2022; Carcasole 2022; Enriquez 2022. ^ White 2022; Enriquez 2022. ^ A b Parker 2022; Carcasole 2022; Enriquez 2022. ^ White 2022; Carcasole 2022; Enriquez 2022. ^ Carcasole 2022; Enriquez 2022; Enriqu
LOVO, Inc., No. 1:24-cv-03770, 38 (S.D.N.Y. 2024) ("Separately, VoiceVerse has already been found to have stolen technology from another company. See Ule Lopez, WCCF Tech, "Voiceverse NFT Service Reportedly Uses Stolen Technology from another company. See Ule Lopez, WCCF Tech, "Voiceverse has already been found to have stolen technology from 15ai," (Jan. 16, 2022), ). ^ Staniszewski 2024; Gigonway 2023. ^ "FAQ". 15.dev. May 18, 2025. Retrieved
May 18, 2025. ^ @fifteenai (May 18, 2025). "We are so back. Only MLP characters for now. More characters for now. More characters for now busy the website (Expect possible downtime as I calibrate server capacity and GPU allocations depending on how busy the website
gets.)" (Tweet). Retrieved May 18, 2025 - via Twitter. ^ Scotellaro 2021; Rugona 2
2022; Abisola 2025. ^ Feng 2020; Chandraseta 2021. ^ Chandraseta 2021; Ji 2021; Lamorlette 2021. ^ a b Menor 2024. ^ a b Chandraseta 2021. ^ Chand
In other words, 'text_1|text_2' will produce a voice line of text_1 with the emotion of text_2." ^ Chandraseta 2021: "because it could force the bot into generating previously unknown data, such as saying 'Today is a great day' with a sad or angry emotion" ^ Mahendra 2020: "For example, Twilight Sparkle from My Little Pony has the option of
outputting the written text in a happy mode." ^ Cocomello 2021; Ruppert 2021. ^ Clayton 2021; Ruppert 2021. ^ Clayton 2021; Ruppert 2021; Noton 2021; Ruppert 2021; Villalobos 2021; Ruppert 2021. ^ Clayton 2021; Ruppert 2021. ^ Clayton 2021; Noton 2021; Ruppert 2021. ^ Clayton 
 изначально создавался с целью симуляции человеческой речи искусственным интеллектом. Увы, но всех диалогов Pacckaзчика из The Stanley Parable недостаточно, чтобы AI научился подражать причудливой интонации Keвaнa Брайтинга." (transl. "Some characters sound better than others. GLaDOS is the best at this task, as her voice
was originally created to simulate human speech by artificial intelligence. Unfortunately, all the dialogue from The Stanley Parable's Narrator isn't enough for the AI to learn to imitate Kevan Brighting's quirky intonation.") ^ Zwiezen 2021. ^ 遊戲 2021: "目前「15.ai」的網頁上,提供了不少的音源,[...]除了《傳送門》之外,15.ai 網站目前也支援了許多來自遊
戲、電影或動畫中的人物語音, " (transl. "Currently, the "15.ai" website provides a lot of audio sources. [...] In addition to "Portal", the 15.ai website currently also supports voices for many characters from games, movies or animations. MrSun 2021: "的 GLaDOS 也能完美的唸出任何台詞。當然網站也補充目前還有很多不完美的地方,像是字數限制、語氣控制在某些語句。
上還是略有怪異,但只要肯花時間,也能像是其他網友一樣,通過剪輯來完成有趣的創作," (transl. "Even GLaDOS in "Portal" can perfectly recite any limes. Of course, the website also added that there are still a bit weird in some words, but as long as you are willing to spend time, you can
also complete interesting creations through editing like other netizens.") ^ Button 2021. ^ Lamorlette 2021: "On peut donc retrouver sur ces réseaux de nombreux exemples de ce que peut donner le mélange entre un esprit créatif et une technologie aussi efficace que diablement amusante." (transl. "These social networks are therefore full of
examples of what can be achieved by combining a creative mind with technology that is as effective as it is devilishly fun.") ^ www.equestriacn.com 2021. ^ Morton 2021. ^ 
"Actually, the most experienced of users can change some parameters like the stress or tone.") ^ Furushima 2021: 日本語入力には対応していないが、ローマ字入力でもなんとなくそれっぽい発音になる。; 15.aiはテキスト読み上げサービスだが、特筆すべきはそのなめらかな発音と、ゲームに登場するキャラクター音声を再現している点だ。 (transl. It does not support
Japanese input, but even if you input using romaji, it will somehow give you a similar pronunciation.; 15.ai is a text-to-speech service, but what makes it particularly noteworthy is its smooth pronunciation and the fact that it reproduces the voices of characters that appear in games.) ^ Kurosawa 2021: "もうひとつ15.aiの大きな特徴として挙げられるのが、
豊かな感情表現だ" (transl. "Another major feature of 15.ai is its rich emotional expression.") ^ do Prado 2021: "英語版ボイスのみなので注意" (transl. "Please note that this is an English voice only version.") ^ do Prado 2021: "英語版ボイスのみなので注意" (transl. "Please note that this is an English voice only version.") ^ do Prado 2021: "英語版ボイスのみなので注意" (transl. "Please note that this is an English voice only version.") ^ do Prado 2021: "英語版ボイスのみなので注意" (transl. "Please note that this is an English voice only version.") ^ do Prado 2021: "英語版ボイスのみなので注意" (transl. "Please note that this is an English voice only version.") ^ do Prado 2021: "英語版ボイスのみなので注意" (transl. "Please note that this is an English voice only version.") ^ do Prado 2021: "英語版ボイスのみなので注意" (transl. "Please note that this is an English voice only version.") ^ do Prado 2021: "英語版ボイスのみなので注意" (transl. "Please note that this is an English voice only version.") ^ do Prado 2021: "英語版ボイスのみなので注意" (transl. "Please note that this is an English voice only version.") ^ do Prado 2021: "英語版ボイスのみなので注意" (transl. "Please note that this is an English voice only version.") ^ do Prado 2021: "英語版ボイスのみなので注意" (transl. "Please note that this is an English voice only version.") ^ do Prado 2021: "英語版ボイスのみなので注意" (transl. "Please note that this is an English voice only version.") ^ do Prado 2021: "英語版 (transl. "Please note that this is an English voice only version.") ^ do Prado 2021: "英語版 (transl. "Please note that this is an English voice only version.") ^ do Prado 2021: "英語版 (transl. "Please note that this is an English version.") ^ do Prado 2021: "英語版 (transl. "Please note that this is an English version.") ^ do Prado 2021: "英語版 (transl. "Please note that this is an English version.") ^ do Prado 2021: "英語版 (transl. "Please note that this is an English version.") ^ do Prado 2021: "英語版 (transl. "Please note that this is an English version.") ^ do Prado 2021: "英語版 (transl. "Please note that this is an English version.") ^ do Prado 2021: " (transl. "Please note that this is an English version.") ^ do Prado 2021
aqueles memes usando vozes em outros idiomas falando em português." (transl. "Obviously, the program works in English, but you can generate some really confusing and funny sentences in Portuguese, like those memes using voices in other languages speaking Portuguese.") Villalobos 2021: "En este sentido, en las últimas horas se ha hecho
popular un sitio web que emula la voz de GlaDOS para que diga todas las palabras que quieras, siempre y cuando estén en inglés, aunque puedes escribir algo en español e intentará pronunciarlo, pero no lo hará correctamente." (transl. "In this sense, in recent hours a website has become popular that emulates the voice of GlaDOS so that it says all
the words you want, as long as they are in English, although you can write something in Spanish and it will try to pronounce it, but it will not do it correctly.") ^ GamerSky 2021: "虽然AI的声音缺少了些抑扬顿挫,不过效果也还算有趣。" (transl. "Although the AI's voice lacks some intonation, the effect is still interesting.") GamerSky 2021: "目前15.ai提供的角
色选项较少,由于文本的字数限制,生成的语音也相对较短" (transl. "Currently, 15.ai provides relatively few character options, and due to the word limit of the text, the generated voice is relatively short.") ^ Park 2021: "15.ai 가 30 가 100% 가 " (transl. "[...] what's amazing about 15.ai is that the data is close to 30 seconds long, but it achieves
pronunciation accuracy close to 100%.") ^ Li 2021: "该网站的访问量为在线任务差不多5000以上,而且目前完全免费," (transl.: "The number of requests to the website is more than 5,000 tasks, and it is still currently completely free.") ^ Cocomello 2021. ^ Ibáñez 2022: "Personalmente encontré interesantes las pausas y el ritmo y que ciertamente se nota
que según el contenido del texto se «interpreta» el resultado según lo que se intenta transmitir." (transl. "Personally, I found the pauses and rhythm interesting, and that it is certainly noticeable that depending on the content of the text, the result is 'interpreted' according to what is being trying to convey.") ^ Feng 2020; Mahendra 2020; Ji 2021. ^
Feng 2020: "该工具生成的音频文件的采样率为 44100 Hz, 而大多数基于深度学习的文本转语音实现,所使用的采样率为16,000 Hz。所以用它产生的音频,声谱会更详细(更高质量的音频),同时缺陷也更明显。" (transl. "The audio files generated by this tool have a sampling rate of 44100 Hz, while most deep learning-based text-to-speech implementations use a sampling
rate of 16,000 Hz. Therefore, the audio generated by it will have a more detailed sound spectrum (higher quality audio), but the defects will be more obvious.") Feng 2020: "当然在这么小的语料上训练的模型也是有缺陷的,有些单词可能发音不准确,其实这也很好理解,即使是人,在遇到生词的时候也不一定能准确发音,而传统的深度模型通常有 40 个小时或者更多的语料,所
以错误率会低一些。" (transl. "Of course, the model trained on such a small corpus is also flawed, and some words may not be pronounced correctly. In fact, this is easy to understand. Even humans may not be pronounced correctly. In fact, this is easy to understand. Even humans may not be able to pronounced correctly. In fact, this is easy to understand. Even humans may not be able to pronounced correctly. In fact, this is easy to understand. Even humans may not be able to pronounced correctly.
error rate will be lower.") ^ Ji 2021: "但是由于情绪表现只能联系上下文进行自动识别,导致这些语音在情感表达上比较"中庸",一些"极端"的情绪无法通过语音合成正常表达,[...]距离其被正式用于某些NSFW的同人作品,还有很长的路要走。" (transl. "the emotional expression can only be automatically recognized in the context, which makes these voices relatively "neutral"
in emotional expression. Some "extreme" emotions cannot be expressed normally through voice synthesis. [...] it still has a long way to go before it can be officially used in some NSFW fan works.") 个 Ji 2021: "网友在油管上看到的许多"深度伪造"视频,都依赖视频创作者从原本数小时的数据资料里进行提取编辑,最终才能制作非常简短的内容,并且呈现效果还很一般。而
15.ai的开发者表示,自己的这项技术可以轻松实现那些视频效果(事实上15.ai的许多角色进行深度学习的数据时长只有几十分钟)。" (transl. "Many of the "deep fake" videos that netizens see on YouTube rely on video creators to extract and edit hours of data to produce very short content, and the presentation effect is still very average. The developers of 15.ai said
that their technology can easily achieve those video effects (in fact, the data for deep learning of many characters of 15.ai is only tens of minutes long).") ^ Parker 2022; Kar 2022. ^ Ng 2020. ^ Ruppert 2021; Morton 2021; Morton 2021; Kurosawa
2021; Morton 2021; Temitope 2024. ^ Ruppert 2021. ^ Zwiezen 2021; Morton 2021. ^ Scotellaro 2020d; Abisola 2025. ^ Zwiezen 2021; Ruppert 2021. ^ Staniszewski 2024; Play.ht 2024; Play.ht 2024; Weitzman 2023. ^ Play.ht 2024. ^ Weitzman 2023. ^ Staniszewski 2024. ^
Osman 2022. ^ Ren et al. 2019. ^ Chandraseta 2021; Button 2024. ^ OpenAI 2024; Temitope 2024; Temitope 2024; Temitope 2024; Te
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