

Generative AI Developing Applications Python OpenAI

Introduction to Large Language Models (LLM) and OpenAI



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Life Before LLMs...





What time is it



Images

In Costa Rica

With seconds

Now

Videos

Ct

In the adriatic sea

In JST rn

EST

All filters ▾

Tools

SafeSearch ▾

About 25,220,000,000 results (0.48 seconds)

15:15

Tuesday, September 12, 2023 (CST)
Time in Cartago Province, Concepción

Feedback



Time.is

<https://time.is> :

Time.is - exact time, any time zone

7 million locations, 57 languages, synchronized with atomic clock time.

Exact time, any time zone

7 million locations, 57 languages, synchronized with atomic clock ...

Clock

Time.is. Your clock is 8 minutes and 16.0 seconds behind ...

Eastern Time

From 5 November 2023: UTC -5 / Eastern Standard Time (EST ...

Time in United States now

Time zone info for United States · Switched to UTC -4 / Eastern ...

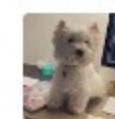
[More results from time.is »](#)

People also ask :

Is it AM or PM?

Life with LLMs!





Do I include a question mark inside or outside quotes?



The placement of a question mark in relation to quotation marks depends on the specific sentence structure and the punctuation involved. In American English, the general rule is to place the question mark inside the quotation marks if the question mark is part of the quoted material, and outside the quotation marks if it applies to the entire sentence.



Here are some examples to illustrate this:

1. She asked, "Is it going to rain today?" (The question mark is inside the quotation marks because it is part of the quoted question.)
2. Did he really say, "I'll be there in five minutes"? (The question mark is outside the quotation marks because it applies to the entire sentence, not just the quoted material.)
3. Who wrote the poem "The Road Not Taken"? (The question mark is outside the quotation marks because it applies to the entire sentence, which is a question about the title of a poem.)

So, the placement of the question mark depends on whether it is part of the quoted r Regenerate ↓

Send a message ▶

Large Language Models (LLM)





⚡ GPT-3.5

⊕ GPT-4 🔒

ChatGPT

Plan an itinerary

for a fashion-focused exploration of Paris

Write an email

requesting a deadline extension for my project

Recommend a dish

to bring to a potluck

Suggest some names

for my cafe-by-day, bar-by-night business

Is ChatGPT an LLM?





Default (GPT-3.5)



Is ChatGPT an LLM?



Yes, ChatGPT is a Large Language Model (LLM). It is based on the GPT-3.5 architecture, which stands for "Generative Pre-trained Transformer 3.5." LLMs like ChatGPT are designed to understand and generate human-like text based on the input they receive. They have a wide range of applications, including natural language understanding, text generation, and various forms of human-computer interaction.



Regenerate

Send a message

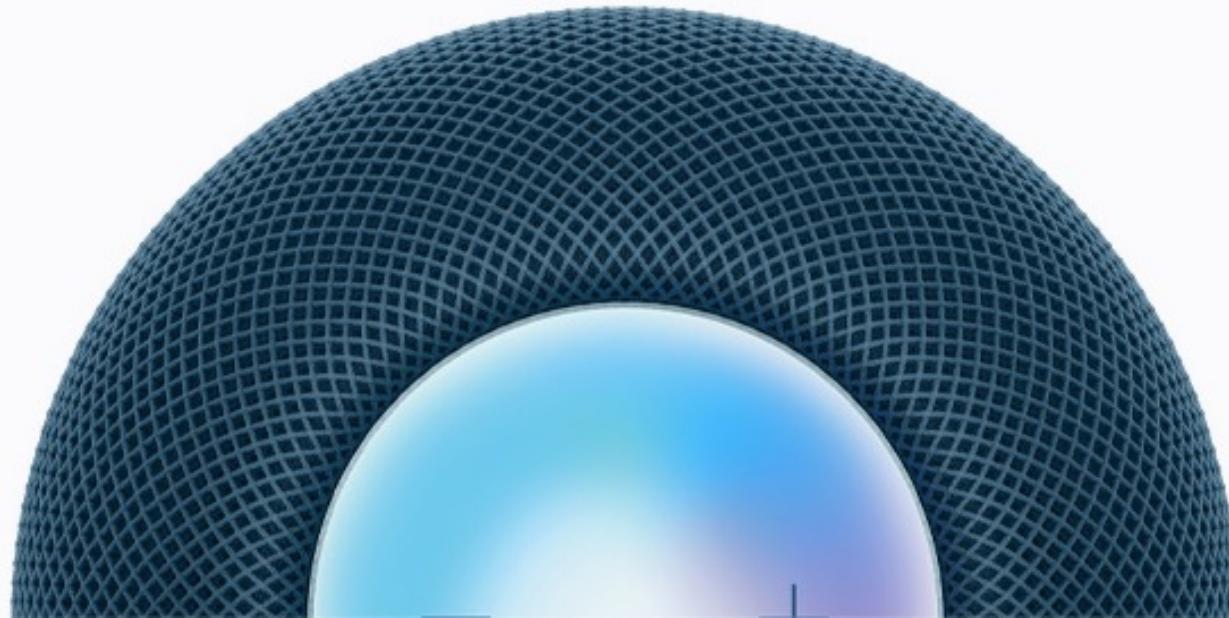


Yes, I am a language model, often referred to as a Large Language Model (LLM). Specifically, I'm based on the GPT-3.5 architecture developed by OpenAI. I'm designed to understand and generate human-like text based on the input I receive. How can I assist you today?





Siri

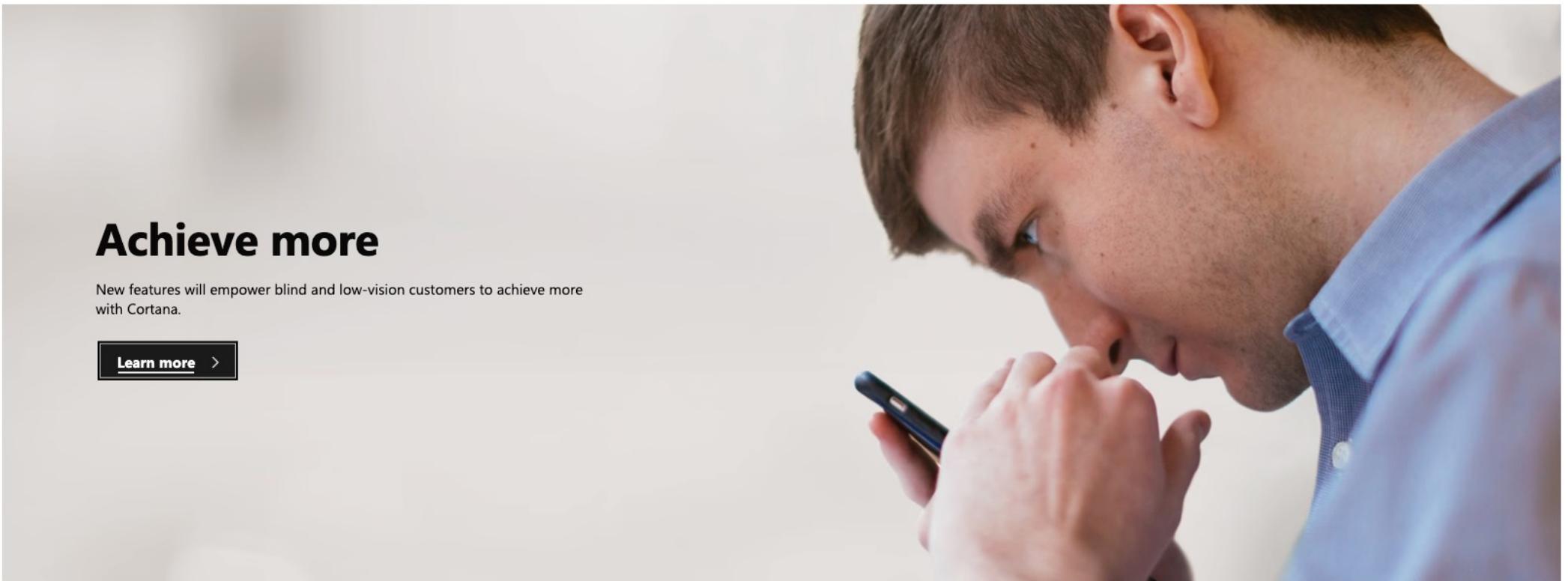


alexa



Scan QR code with your phone's camera to open the Alexa app.

Microsoft | Cortana Support All Microsoft Search Cart Sign in



Achieve more

New features will empower blind and low-vision customers to achieve more with Cortana.

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Cortana helps you achieve more with less effort while allowing you to focus on what matters.



ELIZA: a very basic Rogerian psychotherapist chatbot

Talk to Eliza by typing your questions and answers in the input box.

> Hello, I am Eliza. I'll be your therapist today.

TYPE HERE

I first encountered ELIZA on the Tandy/Radio Shack computers that made up the first computer lab in the junior high school where I taught in the 1970s. By then, ELIZA was a software tween herself.

This early natural language processing program had been written in the mid-1960s at the MIT Artificial Intelligence Laboratory by Joseph Weizenbaum. It supposedly had been created to demonstrate how superficial human to computer communications was at that time. But, when it was put on personal computers, humans found it quite engaging.

WHAT DOES ELIZA DO?

Using "pattern matching" and substitution methodology, the program gives canned responses that made early users feel they were talking to someone who understood their input. The program was limited by the scripts that were in the program. (ELIZA was originally written in [MAD-Slip](#).) Many variations on the original scripts were made as amateur coders played around with the fairly simple code.

Perhaps the most well known variation was called DOCTOR. This was made to respond like a [Rogerian psychotherapist](#). In this instance, the therapist "reflects" on questions by turning the questions back at the patient.

ELIZA was one of the first chatterbots (later clipped to chatbot). It was also an early test case for the Turing Test, a test of a machine's ability to exhibit intelligent behavior equivalent to, or indistinguishable from, that of a human. By today's standards ELIZA fails very quickly if you ask it a few complex questions.



Large Language Models (LLM)



$$y = ax^2 + bx + c$$

$$(x_1, x_2) = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$





Google

 chatgpt

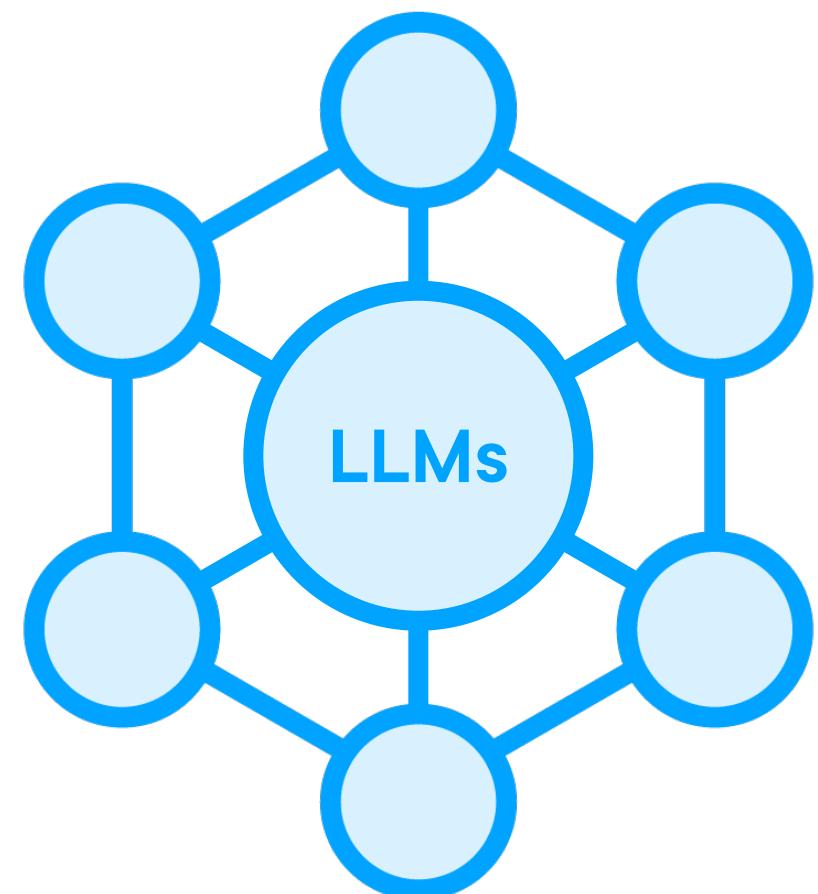
- [chatgpt trained on copyright data](#)
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Google SearchI'm Feeling Lucky

Costa Rica

Report inappropriate predictions

Large Language Models (LLMs)



Built on advanced neural network architectures

- Processing and generating natural language

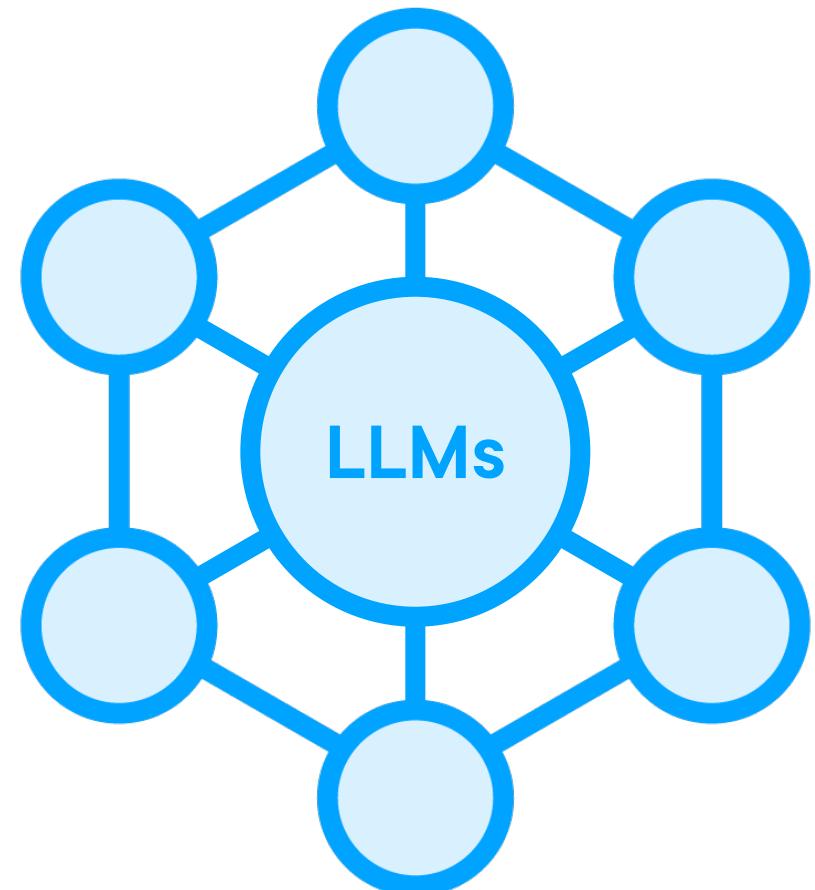
Ability to analyze and comprehend text data

Tasks

- Language translation
- Text summarization
- Question answering
- Creative writing



Large Language Models (LLMs)



Immense scale

- Number of parameters
- Amount of training data

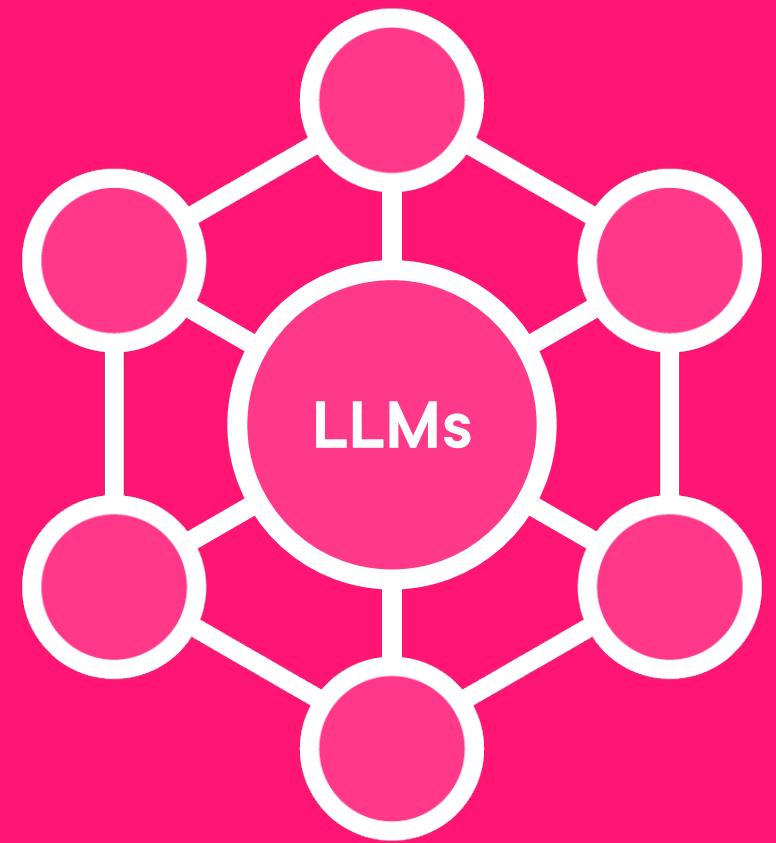
Learn from vast amounts of text

- Patterns, grammar, semantics, and even nuances of human language

The training process

- Exposes the model to diverse sentences
- Enable it to learn to predict the next word
 - Based on the context it has seen





Where did LLMs come from?



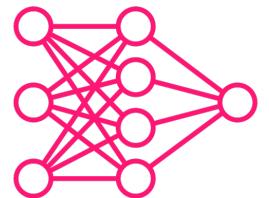
The Journey to Large Language Models



The Journey to Large Language Models



Early Language Models



Neural Language Models



Attention Mechanisms



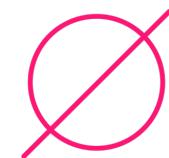
BERT and Pre-training



GPT Series



The Journey to Large Language Models



Zero-Shot and Few-Shot Learning



Fine-Tuning and Specialization



Multilingual and Cross-Lingual Models



Ethical and Bias Concerns



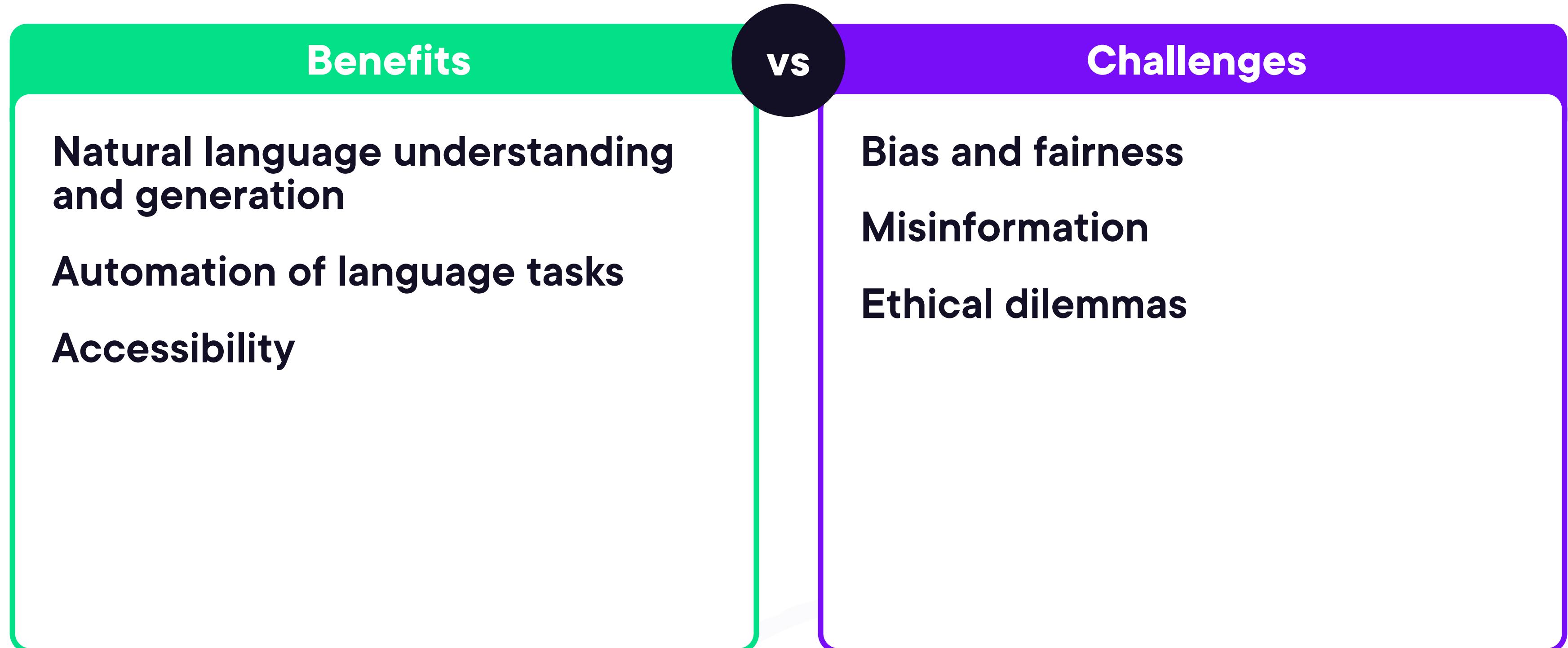
Future Directions



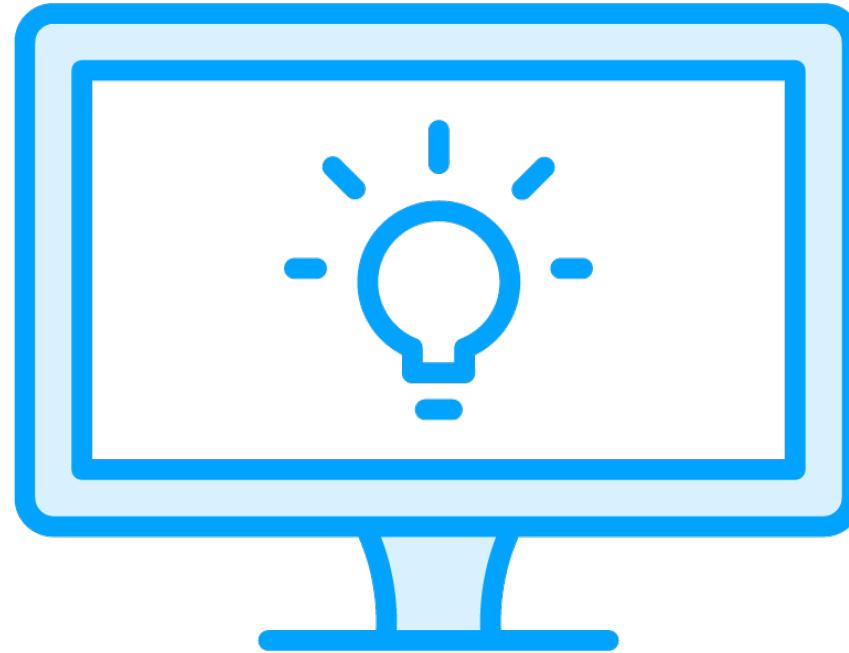
Benefits, Challenges, Applications, Limitations, and Ethical Considerations



Benefits and Challenges



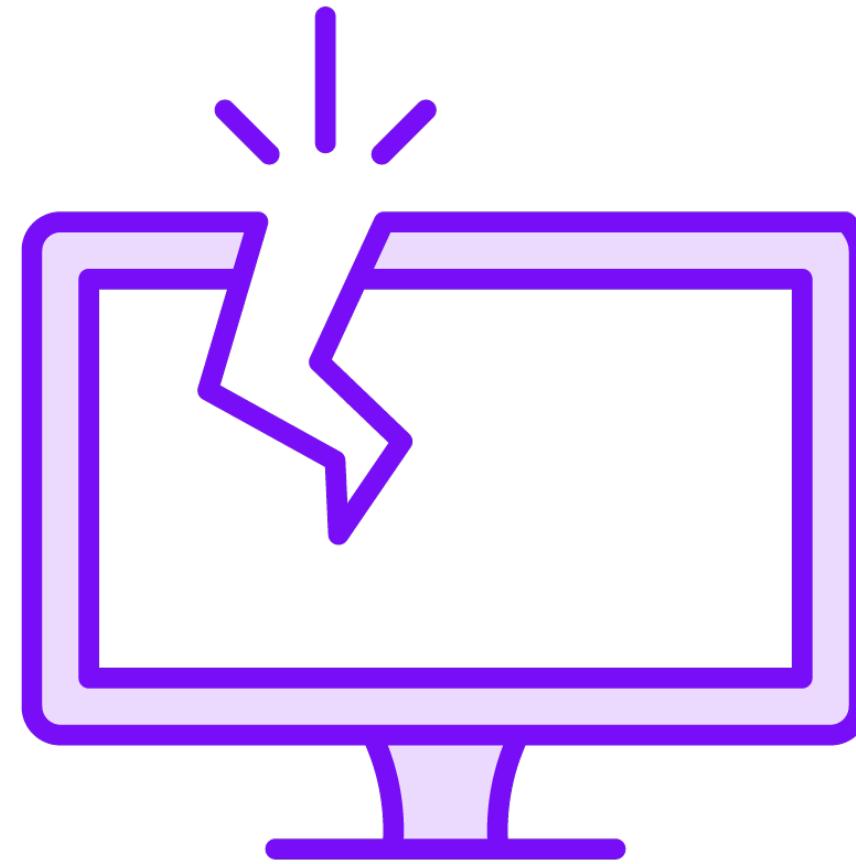
Applications



Content generation
Chat-bots and virtual assistants
Language translation
Code generation
Sentiment analysis



Limitations



- Lack of causality**
- Scale dependency**
- Interpretable representations**
- Lack of true understanding**
- Incorrect information**
- Dependency on data**





Responsible AI Usage



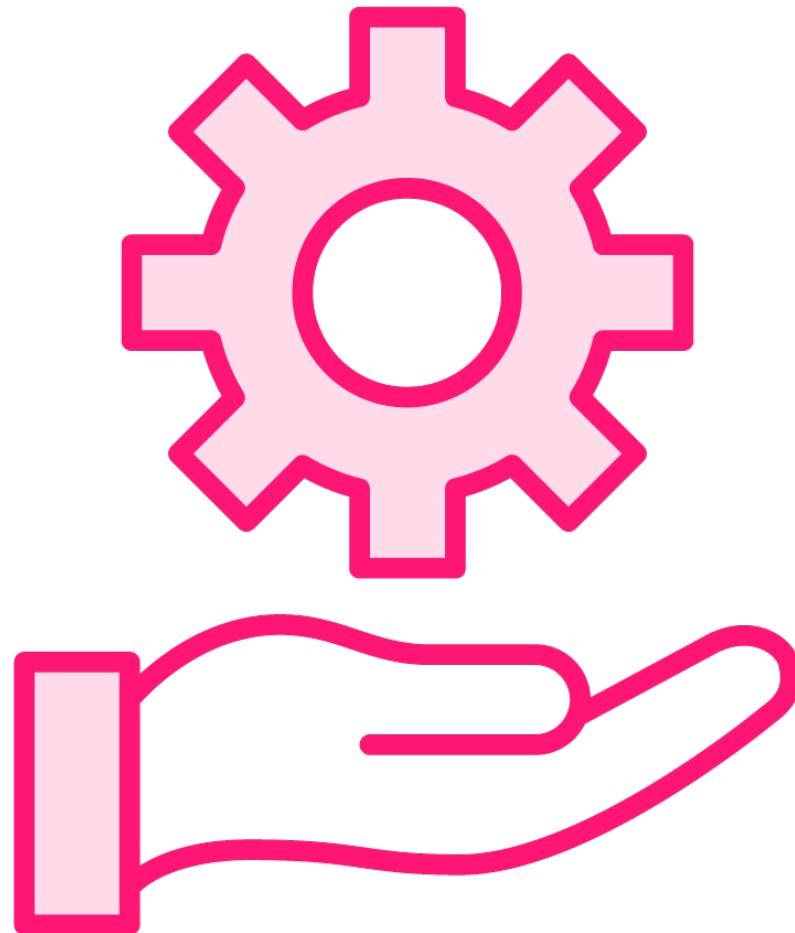
Bias Mitigation and Transparency



Bias identification and removal
Algorithmic auditing
Transparency in training data



Ethical Considerations



**Authenticity and attribution
Ownership and copyright**



User Awareness and Education



**Informed interaction
Critical engagement**



Collaborative Efforts



Global ethical frameworks
Stakeholder engagement





A Little Bit About OpenAI



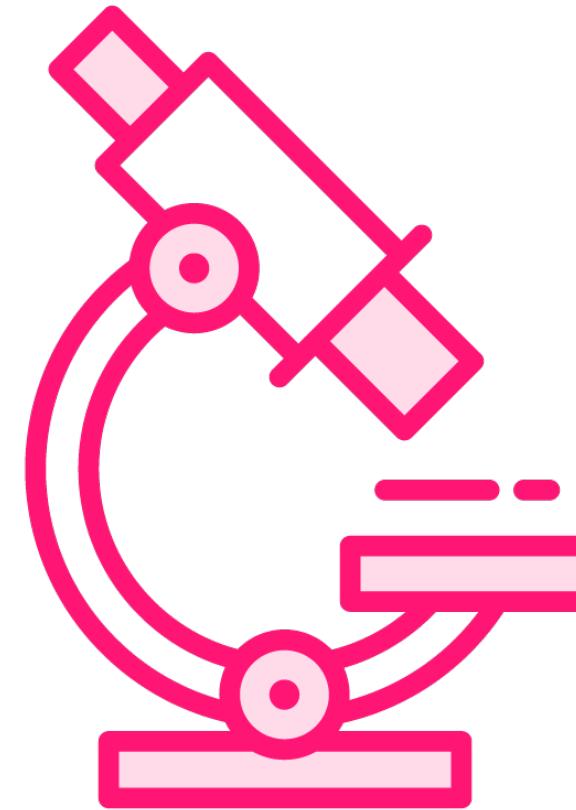
Introducing OpenAI

OpenAI is a non-profit artificial intelligence research company. Our goal is to advance digital intelligence in the way that is most likely to benefit humanity as a whole, unconstrained by a need to generate financial return. Since our research is free from financial obligations, we can better focus on a positive human impact.



Illustration: Justin Jay Wang

Pioneering Research and Development



Groundbreaking research and development

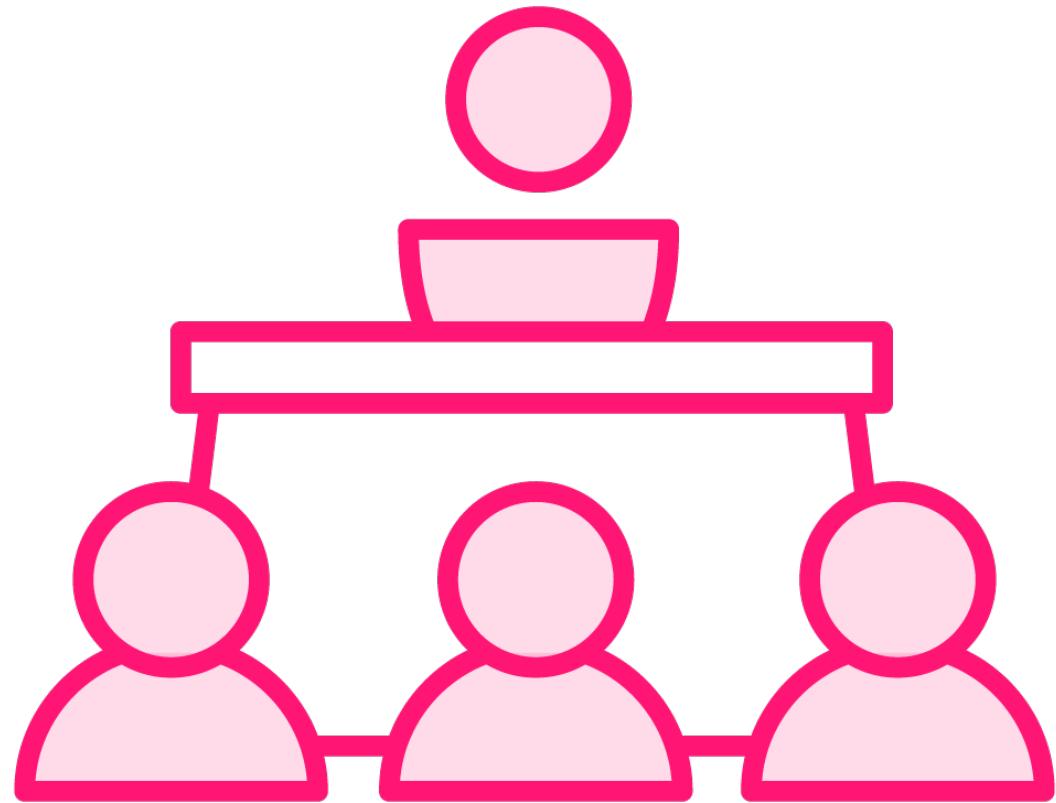
- LLMs serving as a significant milestone

Models like the GPT series

- Have propelled LLMs to the forefront of AI innovation
- Show OpenAI's commitment to pushing the boundaries of natural language processing and understanding



Responsible AI Leadership



Actively engaged with concerns

- Related to bias, misinformation, and ethical usage

Seeks to set standards for responsible AI deployment



Impact on the Field of LLMs



The GPT series has demonstrated the potential of LLMs

- Content generation, chat-bots, and code assistance

Have influenced

- Research directions, industry applications
- The public's perception of AI capabilities



Demo



ChatGPT Demo

