GENERATIVE AI

It can learn from existing artifacts to generate new, realistic artifacts (at scale) that reflect the training data. It can produce content such as images, video, music, speech, text, software code and product designs.

AI foundation models are trained on a broad set of unlabeled data that can be used for different tasks. Complex math and enormous computing power are needed to create these trained models.

They are, however, prediction algorithms.

CHATGPT

Generative AI most commonly creates content in response to natural language requests. It does not require the use of code. Hitting mainstream headlines in 2022, ChatGPT is a chatbot capable of very human-seeming interactions.

Generative AI, namely ChatGPT is now seen as becoming a general-purpose technology with an impact similar-to that of the steam engine, electricity, and the internet.

TECHNOLOGY BEHIND CHATGPT

DEEP NEURAL NETWORK

- Or DNN's, are what powers ChatGPT.

- They are software architectures that are roughly inspired by the structure of the human brain.

- Learn to perform tasks by processing many examples and tuning their parameters to approximate the common patterns they see within those examples.

TRANSFORMER NETWORKS

- Special neural-network architecture

- Very good at learning from large sequences of data

- Trained through "next token prediction"

- Given large amounts of text gathered from sources such as Wikipedia, news websites, GitHub.

- Text is then broken down into "tokens", or parts of words.

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USES OF CHATGPT

WRITING

- Good tool for writing articles
- Writing a full article in one try will create mixed results
- Working step by step, it can create impressive things

EDITING

- Excellent editing assistant
- Can copy edit, proofread, rephrase, adjust styles, etc.

TRANSLATION

- Can translate using dozens of spoken languages

SUMMARIZING

- Can summarize articles, speeches, and papers
- Is more accurate with guidelines and specific topics to highlight

WRITE CODE

- Very good coding assistant
- Turns functionality descriptions into working code in dozens of coding languages

CONCERNS

HALLUCINATIONS

- Can put together text that is correct in terms of language, but not factually correct
- It will make sense, but it is not true

OLD INFORMATION

- Knowledge is limited to data is was trained on
- Can't answer questions about recent events
- Needs to be given context for information that is up to date

MEMORY LIMITS

- Limited memory span, counted in tokens
- Once your chat history exceeds token limits, it will not remember parts of the beginning of your conversation

PRIVACY

- Your data is sent to OpenAI's servers when interacting
- They preserve parts of the data you provided to retrain and improve its service.
- Don't share sensitive information with ChatGPT!

THE FUTURE

CHATGPT IS GETTING A MEMORY

Currently does not remember what you have said to it in previous sessions. So, you have to start all over each session. That is going to change soon.

WILL IT REPLACE JOBS?

Right now it only works to replace specific activities, not entire jobs that a person does. However, future versions of ChatGPT will become able to do some jobs that are repetitive and high volume. However, this will require lots of testing, quality control, guardrails, and governance.

EDUCATION AND MENTAL HEALTH

Has the potential to revolutionize education by providing a personalized and interactive learning experience for students. Virtual tutors and real-time learning all days and times.

Aiding in mental health treatment, by providing a new channel for individuals to seek help and support. Virtual therapist or counselors through ChatGPT. People could use AI to log their moods, symptoms, and daily activities. ChatGPT could then provide recommendations based on the data provided.

THANK YOU

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