

Is Open Source ready for Generative AI?

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Linux Day Napoli 2023



Who are we?

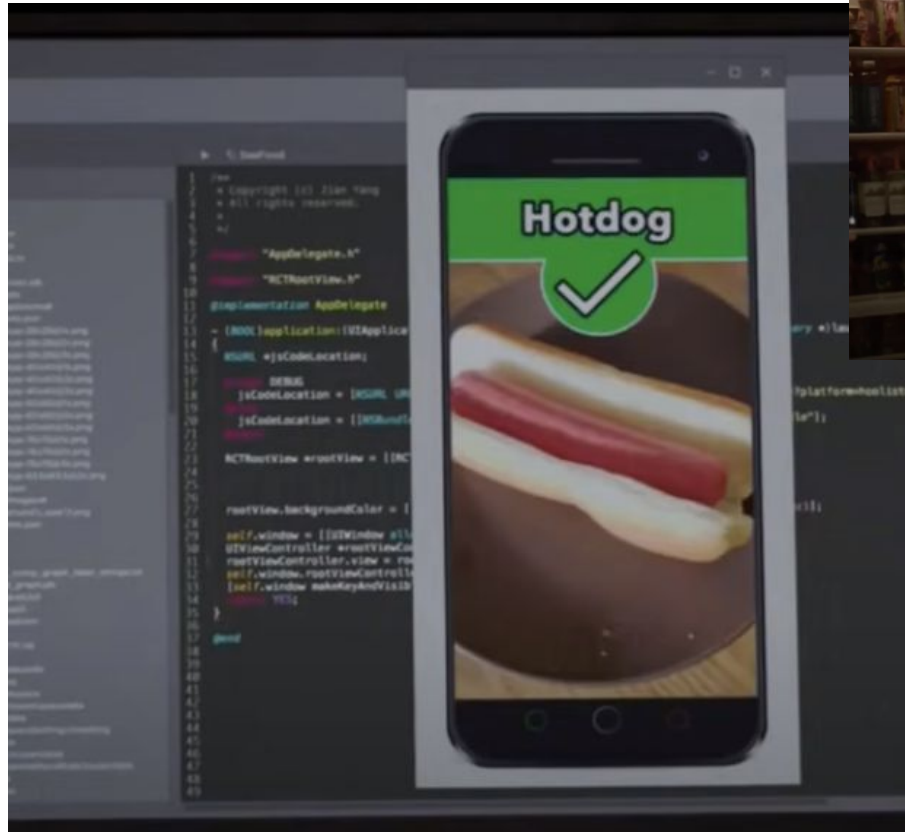


Senior Principal Software Engineer
Messaging & Data Streaming
@ppatierno

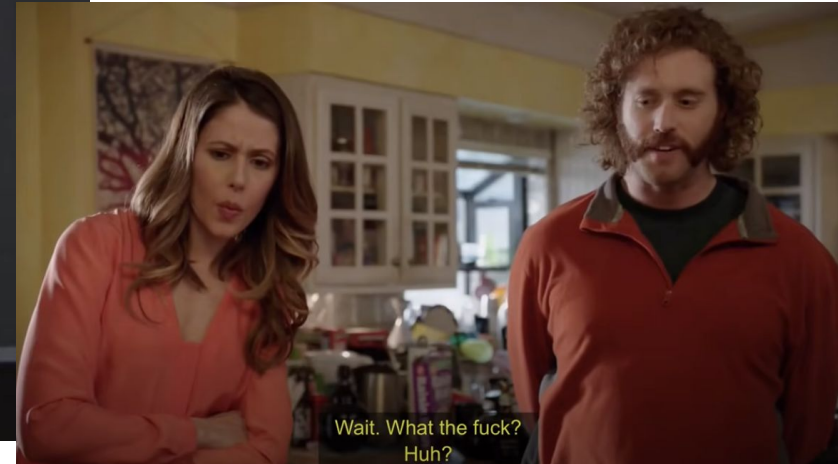
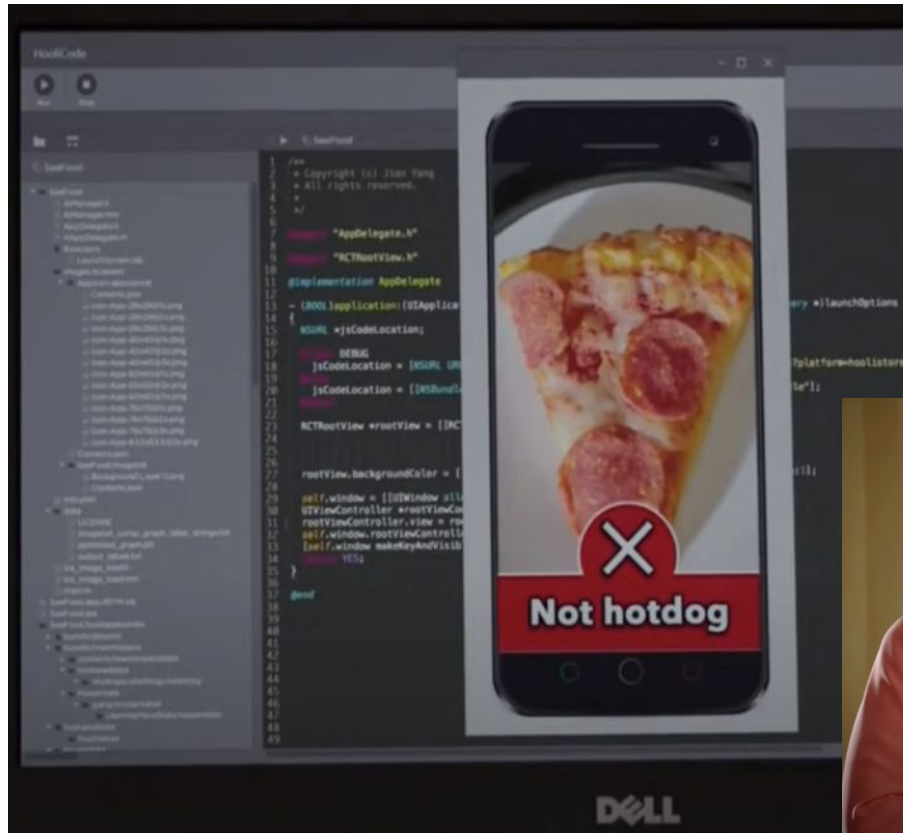


Principal Software Engineer
Messaging
@bruscinodf

Let's meet Jian-Yang and his SeeFood app ...



Let's meet Jian-Yang and his SeeFood app ...



... a pretty good classifier ...



Dinesh

“Jian-Yang actually put together a
pretty **good classifier** ...

It just ... it just **needs to be trained.**”

“So, what he did for hot dogs, he
needs to repeat for every food in
existence? “

Monica



... but training is a boring work



Jian-Yang

“No, that’s a very boring work.
That’s scraping the Internet for
thousands of food pictures.
You can hire someone else.”

What's AI?

*Artificial intelligence (AI) is the **intelligence of machines or software**, as opposed to the intelligence of humans or animals.*

*It is also the field of study in computer science that develops and studies **intelligent machines**.*

"AI" may also refer to the machines themselves.

(Wikipedia)

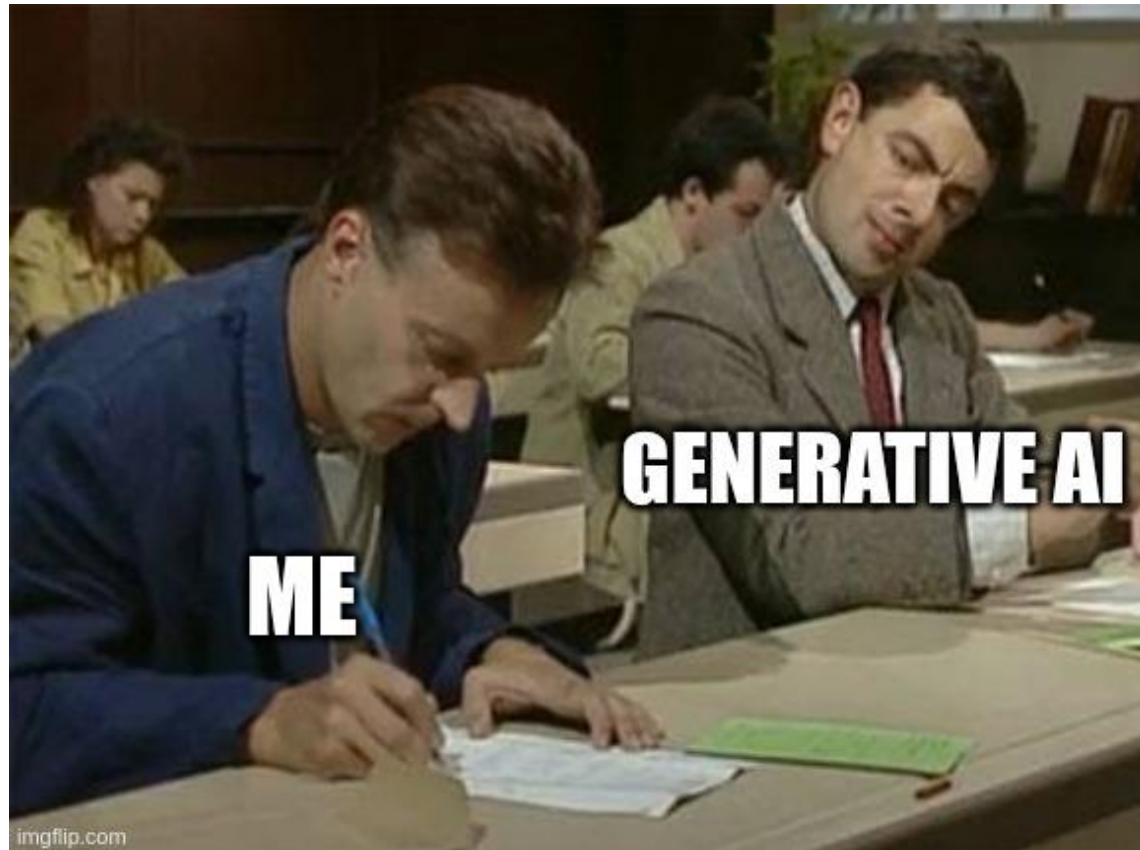
What's Generative AI?

*Generative artificial intelligence (also generative AI) is artificial intelligence capable of **generating** text, images, or other media, using generative models.*

*Generative AI models **learn the patterns and structure of their input training data** and then generate **new data that has similar** characteristics.*

(Wikipedia)

What's Generative AI?



Applications of Generative AI



Explain about generative AI to a 5 years old in 3 lines

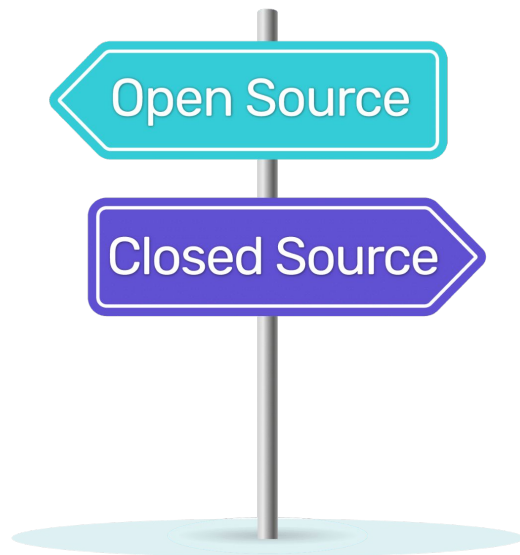


Generative AI is like a clever robot that can make up stories, draw pictures, or even write songs all by itself! It learns from lots of examples and can create new things that nobody has seen before. It's like having a super creative friend who loves to make up fun stuff!



Large Language Models (LLMs)

- OpenLLaMA
- Falcon-Series
- MPT-Series
- FastChat-T5
- ...



- LaMDA (Google Bard)
- GPT-3 (OpenAI ChatGPT)
- Llama 2 (Meta)?
- ...



Concerns?



Privacy



Regulation and policy



... and this happened ...

ChatGPT fined \$2,829 for exposing personal info of 687 Korean users

OpenAI confirms ChatGPT data breach

Some users payment information may have been visible to other users

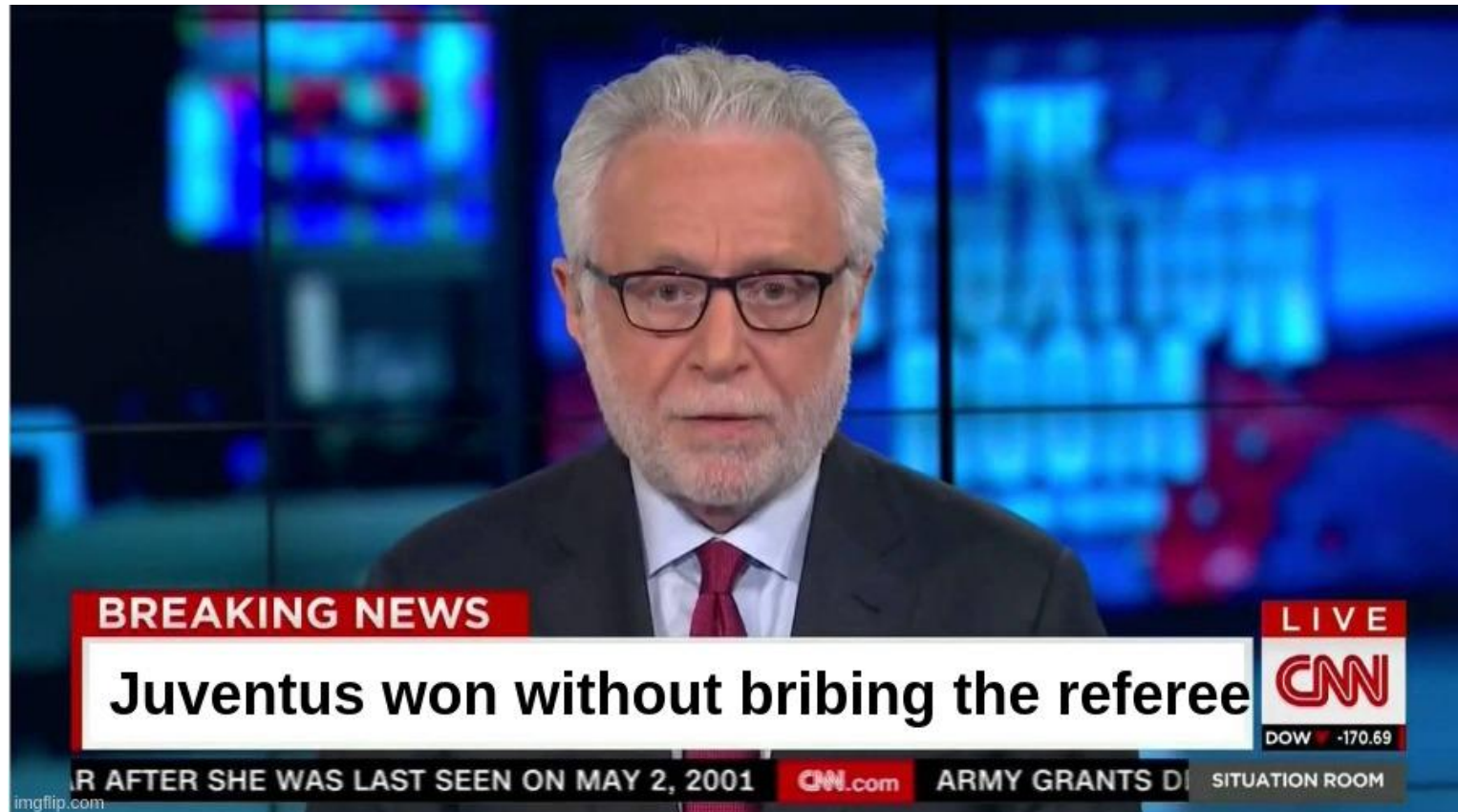
Samsung bans use of generative AI tools like ChatGPT after April internal data leak

Apple restricts employees from using ChatGPT over fear of data leaks

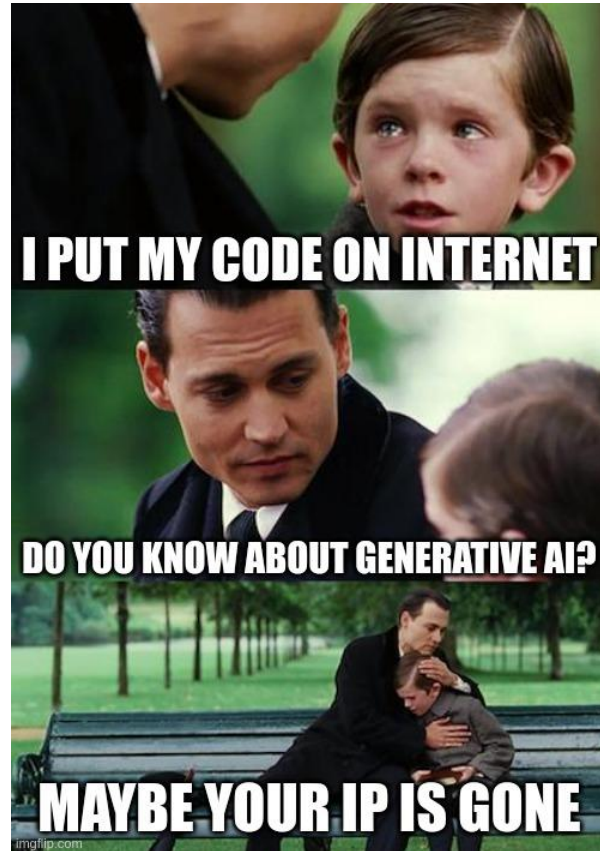
Ethics



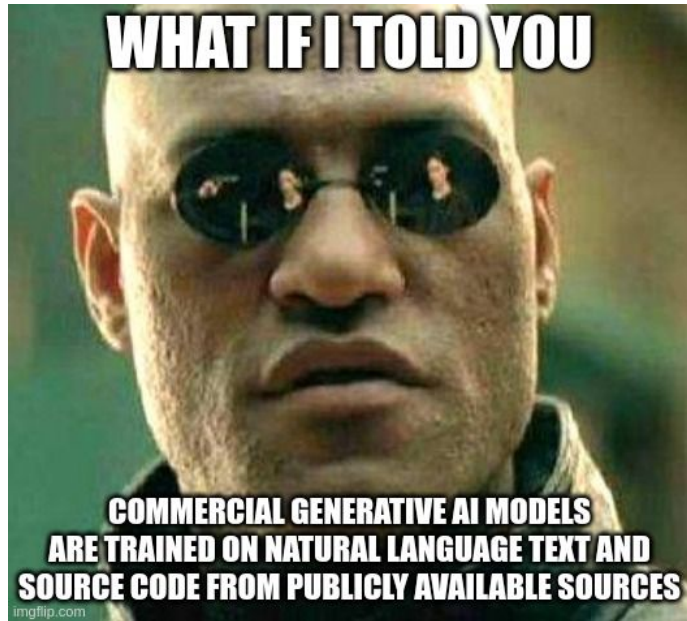
Misinformation and Disinformation ... aka “fake news”



Copyright and Intellectual Property (IP)



Training



Creative Commons

@creativecommons



👉 Question: Should openly licensed content (e.g. images, music, research, etc.) be used to train #AI systems?

Please send us a reply with your reasoning.

Thanks! 🙏

Yes 👍

31.6%

No 👎

9%

Depends 🤔

48.4%

Not sure 🙄

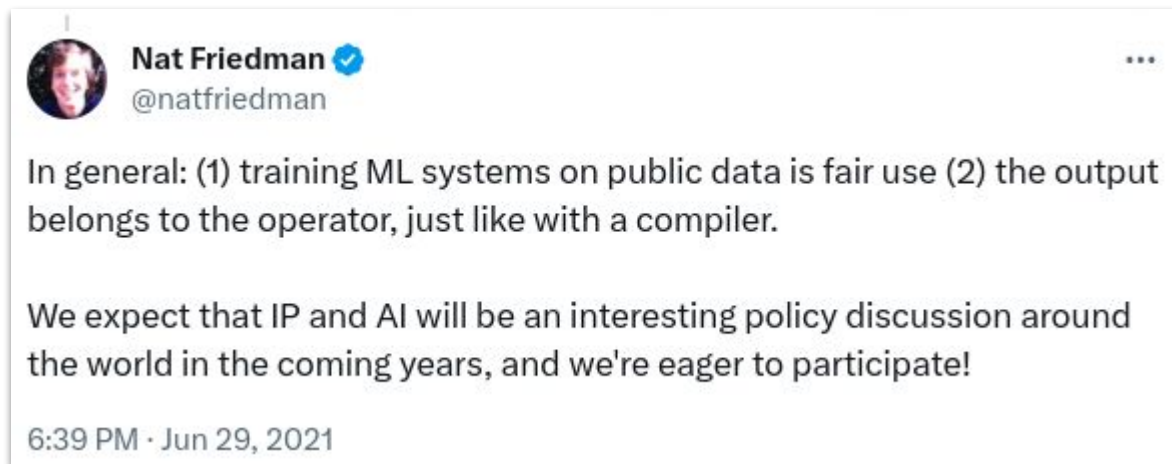
11%

What public sources?

Model	Words	Sources
LaMDA (Google Bard)	1.56 trillion	CommonCrawl, Wikipedia ...
GPT-3 (OpenAI ChatGPT)	1 trillion	CommonCrawl, books, Wikipedia ...
LLaMA (Meta)	1.4 trillion	CommonCrawl, Github, Wikipedia ...
Others



Is that legal?



- In the US is considered fair use
- In the EU rightsholders may opt-out

Social implications

**CHATGPT
CAN DO THE
WORK FOR ME**



**CHATGPT
CAN DO THE
WORK FOR ME**



What about developers?



Goodbye my old good friend ...



Copy code
from
Stack Overflow



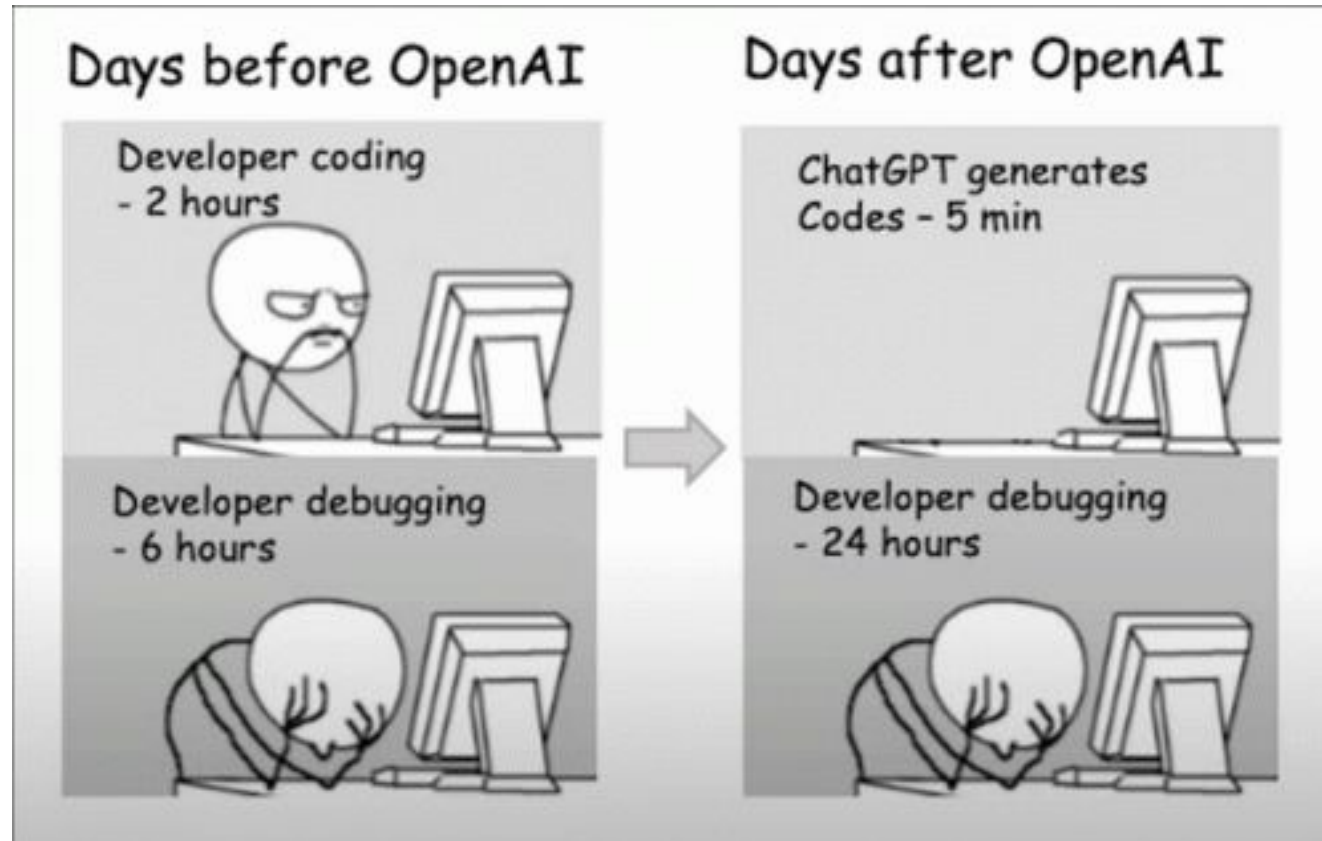
ChatGPT
generates
the code for you

How developers can leverage generative AI?

- Getting code solving a described problem
- Searching for bugs in code
- Code autocompletion
- Automated tests and mocks
- Writing documentation



Are you ready for this?



Output

- User rights
- Ownership
- Attribution
- IP violations
- Limitations
- Feedback loop



AI Act



Should we use AI? ... It's up to you!

“Are you familiar with an thought experiment called ... **Roko's basilisk?**”

“If the rise of an all-powerful artificial intelligence is inevitable ... when they take power, our digital overlords will **punish those of us who didn't help them get there** ... ergo ... I would like to be a helpful idiot (like yourself)”



Gilfoyle



Richard



Thanks!

