

ChatGPT – Beyond the hype

**Or how to improve your efficiency
by using large language models**

Christian Schabetsberger, September 2023

About Me

Freelancer 💻

Linz @ Austria 🦘

C#/.NET (and other stuff)

Currently: Tech Lead 🧙

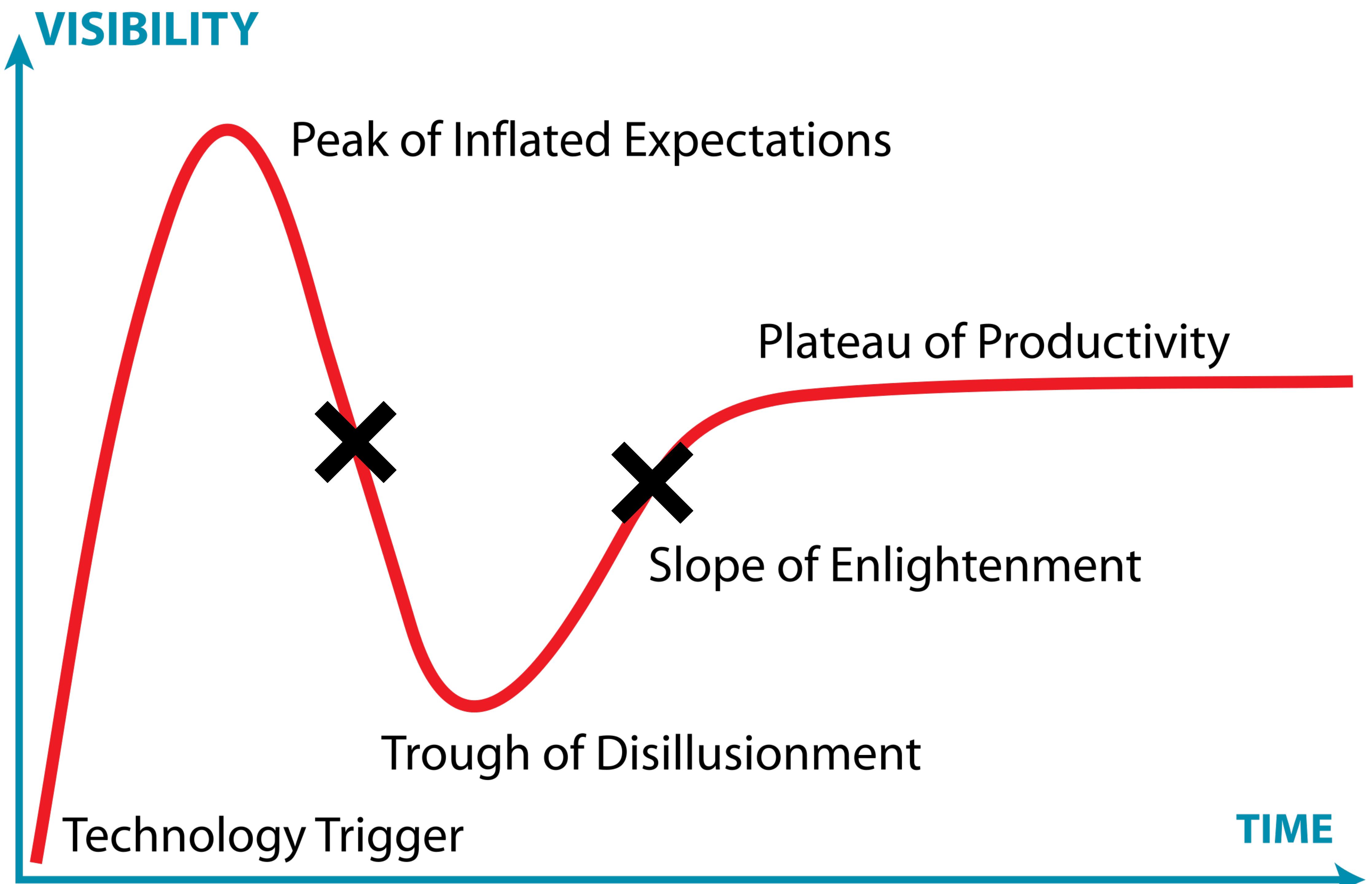
@cschabetsberger@mstdn.social



ChatGPT is not an AI

ChatGPT is a Chatbot

Based on a large language model (LLM)



How it works

- GPT3.5 is very good at writing natural language
- However, it is not smart
- It only predicts, what it needs to write
- GPT3.5 is trained on crawled data, books, wikipedia and some other data sets

Token Token Tokens

- Text gets split into tokens
- Can be full words
- Can be parts of a word
- GPT is trained on which tokens go along with each other

GPT-3 Codex

ChatGPT is a large language model developed by OpenAI.

Clear Show example

Tokens	Characters
13	54

ChatGPT is a large language model developed by OpenAI.

TEXT TOKEN IDS

SC

Write the letter "A" as often as you can.



AA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAA
AAAAAA



Excellent Experience at Hatfield VW

by Gregory Arnold from DealerRater.com

5 5 5 5 5 4.9 (527 reviews)

I was recently involved in a fender bender and brought my vehicle in to Hatfield VW. I live in Union County and have had problems with the service department not caring about their customers in the past. As soon as I pulled into the parking lot and saw that the service bay doors were closed and every service advisor had their door open, I knew that the dealership was taking care of its employees, so the employees could take care of us. I w

» Continue generating

The Bad and the Ugly

- Predicts statistical likely answers
 - And totally dependent on the training data (facts, bias)
- Doesn't do real arithmetic
- It might just invent answers
 - Quotes are often just randomly generated
- Hit and miss is a big problem
 - Especially with the confidence ChatGPT has

**Not really smart.
But still useful.**

The Good

- Everything language related
 - Professional texts
 - Accents
- Brainstorming
- Documentation
- Doing simple tasks
 - Generating Boilerplate
 - Transformations
 - Etc.

What about code?

Code from LLMs

Well, it depends

- From my experience, it is good for easy stuff e. g. boilerplate, scripts etc.
- Remember: LLMs are not smart, they only predict
 - Depending on the data they learned from
 - Doesn't know about internal libraries
- Don't understand complex coherences
- Products like GitHub Copilot, however, might result into better results
 - Copilot: based on GPT 3, but specifically fine tuned for code

Samples

ChatGPT

SC

Write me a bash script. The script should define a string array. The string of that array is the folder name to cd into.



Certainly! Here's a Bash script that defines a string array and uses a loop to change the current directory to each folder specified in the array:

bash

Copy code

```
#!/bin/bash

# Define an array of folder names
folders=("folder1" "folder2" "folder3")

# Loop through the array and change directory to each folder
for folder in "${folders[@]}"; do
    if [ -d "$folder" ]; then
        echo "Changing directory to $folder"
        cd "$folder" || exit 1
        # You can perform actions in the folder here
        # For example, list the contents of the folder
        ls
        cd ..
    else
        echo "Folder '$folder' does not exist."
    fi
done
```

Regenerate

SC

Convert the following introduction into the Speech Synthesis Markup Language to add emphasis, volume changes etc. to make sound like a proper host is presenting it:
Ladies and gentlemen, welcome to EVENT NAME

SC

Generate replacing the name Bogus and the version for the following list:

```
CommandDotNet@7.0.2()
CommandDotNet.IoC.MicrosoftDependencyInjection@5.0.1()
CommandDotNet.Spectre@3.0.2()
CommandDotNet.Spectre.Testing@3.0.1()
CommandDotNet.TestTools@6.0.1()
```

using this template:

```
{
  "name": "Bogus",
  "version": "31.0.3",
  "url": "https://github.com/bilal-fazlani/commanddotnet/blob/master/LICENSE",
  "displayName": "Bogus@31.0.3 (https://github.com/bilal-fazlani/commanddotnet
/blob/master/LICENSE)"}
```



xml

```
<speak>
  <prosody rate="slow" volume="x-loud">
    Ladies and gentlemen, welcome to<emphasis level="strong">EVENT NAME<
  </prosody>
  <prosody rate="medium" volume="loud">
    Tonight, we gather <emphasis level="moderate">not just</emphasis> to
  </prosody>
  <prosody rate="medium" volume="loud">
```

Copy code


Here's the updated list with the name and version replaced using the provided template:

Copy code

```
perl
{
  "name": "CommandDotNet",
  "version": "7.0.2",
  "url": "https://github.com/bilal-fazlani/commanddotnet/blob/master/LICENSE"
  "displayName": "CommandDotNet@7.0.2 (https://github.com/bilal-fazlani/com
}, {
{
```

Regenerate

SC

Autogenerate a regex for this: INFO [08/29/23 9:02:34:00]



Sure, here's a regular expression that matches the provided pattern "INFO [08/29/23
9:02:34:00]":



regex

```
INFO \[\d{2}/\d{2}/\d{2} \d{1,2}:\d{2}:\d{2}:\d{2}\]
```

Copy code


Unleash Your Inner Code Guru at the Pub Quiz Developer Edition* 🧠💻

SC

Rewrite the following text, so it sounds like a request from a common peasant to a lord:
Oh dear holy X, could you please review my PR coming from the common people so we can adhere to the process, that makes everything better.



My gracious Lord X, I humbly beseech your noble presence to kindly peruse the offering of a humble serf like myself, a lowly commoner, and review my pull request, in order that we may faithfully follow the established procedures that have proven to enhance the well-being of all. Your guidance and wisdom in this matter would be greatly appreciated.



SC

Rewrite the following text a scottish accent: Hello! You did it, you survived one week of stupic chatgtp generated Scottish accents. Not sure, if I can join the Daily tomorrow, as I need to check out, I guess I can squeeze it in. After that, yeah it's travel day, so I'll be many hours in the train in will work and be available for you guys, if the god of internet allows it. See ya!



Aye, hullo there! Ye did it, ye survived a week o' stupid ChatGPT generated Scottish accents! No' sure if I can join the Daily the morra, as I need tae check oot, but I reckon I can squeeze it in. After that, aye, it's a travel day, sae I'll be spendin' mony hours on the train, but I'll work and be available for yous all, if the god of internet allows it. Cheerio!



*also for non-technical Folks alike!

Calling all coding connoisseurs, tech titans, and curious minds alike! Are you ready to pit your programming prowess against the best of the best?

Join us for an electrifying evening of brain-bending challenges, mind-boggling algorithms, and nerdy camaraderie at our very first Pub Quiz Developer Edition.

 Date:

 Time: 17:00

 Location:

Prepare to tackle brain-teasing questions that span the (tech) universe – from coding classics to cutting-edge languages, from pop culture trivia to navigating nerd culture.

It's not just about bits and bytes, it's about strategy, speed, and a sprinkle of that geeky swagger that sets developers apart.

Form your dream team of debugging dynamos and syntax sorcerers and join forces with fellow tech explorers.

Fabulous prizes await the top contenders, along with bragging rights that can only be claimed by those who conquer the code 💪.

Don't miss your shot at glory. Sharpen your wit, charge your brains, and get ready to quiz, mingle, and celebrate the brilliance of the dev world.

May the loops be ever in your favor! See you there!

SC

provide me with a list of random trivia questions for a pub quiz

SC

I'm a tech lead and I want to do some 1:1 meetings with all my developers to evaluate if we can improve our development process, specifically if we lack any kind of tooling or knowledge or trainings. Provide me with qualitative questions I could ask them.

SC

Certainly! Here are some qualitative questions you can ask your developers during the 1:1 meetings to assess your development process and identify areas for improvement:

1. How do you feel about our current development process? Are there any aspects that you find particularly challenging or inefficient?
2. Can you identify any specific tools or technologies that you believe would enhance our development workflow? Why do you think they would be beneficial?
3. Are there any repetitive tasks or manual processes that you feel could be automated to improve productivity and efficiency? If yes, which ones and how do you envision automation benefiting us?
4. Are there any areas where you feel the team lacks knowledge or expertise, and would benefit from additional training or learning resources? If so, what specific topics or skills would you like to see addressed?
5. Do you think we have appropriate collaboration and communication channels in place to facilitate effective teamwork? If not, what improvements or tools do you suggest?
6. How do you perceive the level of documentation for our projects? Are there any areas where you feel the documentation is lacking, and if so, what specific information or documentation would you find valuable?
7. Are there any coding standards, best practices, or code review processes that you could be strengthened or improved? If yes, please provide some examples and

 Regenerate

SC

Certainly! Here's a list of random trivia questions for your pub quiz:

1. What is the capital city of Australia?
2. Which planet is known as the "Red Planet"?
3. Who painted the Mona Lisa?
4. In what year did World War II end?
5. What is the chemical symbol for gold?
6. Who is the author of "To Kill a Mockingbird"?

SC

Create multiple choice answers for the following questions:

SC

A)

B)

C)

D)

E)



Special Help Abroad

My phone broke during
traveling

sc

Tell me a second hand platform like Willhaben, but one that is popular in Spain



A popular second-hand platform in Spain is "Wallapop." Wallapop is a well-known online



LLM Integration

LLM Integration

- OpenAI has ready to use APIs (just insert €€€)
 - GPT-4
 - GPT-3.5
 - Fine-tuning models
 - Image models (DALL·E)
 - Audio models (Whisper)

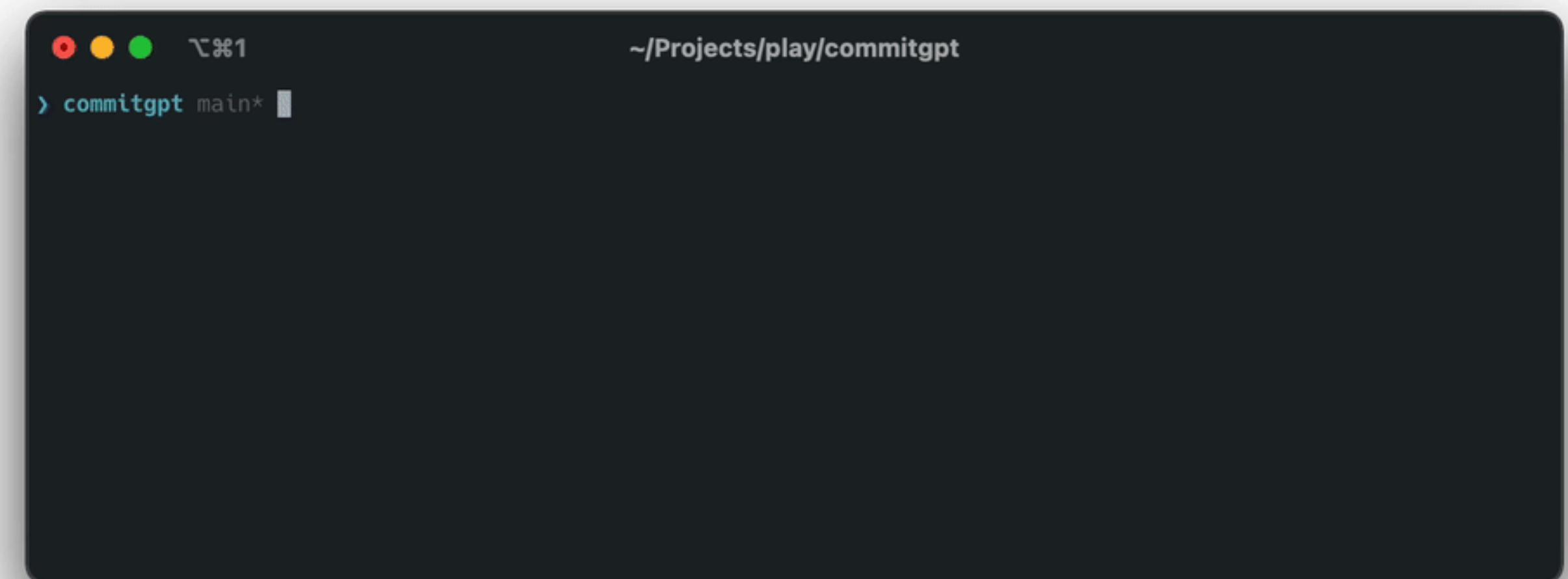
LLM Integration

Ideas

- Actual useful Chatbot for FAQs?
- Automatically provide a summary for your blog post?
- Document Crafting?
- Enhance NPC dialogs in games?
- Endless possibilities?

Commit messages

Auto generated





Dylan Beattie
@dylanbeattie

Anybody know of a tool that uses language models to generate documentation from code? Like, point it at your git repo and it'll create the project documentation in Markdown/HTML (or OpenAPI, or whatever)?

Asking before I say something dumb about how that doesn't exist yet...

How to integrate a LLM into your application

.NET Community Austria: 27th of September, rubicon IT, Vienna

Beyond ChatGPT

Bard and co.

Bard

- Developed by Google
- PaLM 2 (previously LaMDA)
- Better User Experience
- Not Firefox friendly
- Access to Internet, more up to date information
- Different data set
- More “creative” and “poetic”

Other LLMs

Honourable mentions

- LLaMA: Meta; free; <https://ai.meta.com/llama/>
- BLOOM: open source; <https://huggingface.co/bigscience/bloom>
- Many more: https://en.wikipedia.org/wiki/Large_language_model#List



What are your stories?