GenAI Project (unit 1)

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Problem Statement(From project ideas readme)

21. **Motivational Quote Generator**

Goal: Generate unique motivational quotes based on keywords like "Success" etc

Tech: gpt2 with high temperature for creativity.

Abstract

This project presents an AI-based Motivational Quote Generator built using the GPT-2 language model. The system generates short motivational quotes based on a user-provided keyword such as *Peace, Success, Health,* or *Education*. Since GPT-2 is a generative, auto-regressive language model that works best with pattern completion rather than complex instructions, the prompt design was carefully optimized to guide the model toward producing meaningful and readable motivational sentences. The application takes user input through a simple command-line interface, generates context-aware text using controlled sampling parameters, and post-processes the output to ensure grammatical correctness and consistent formatting. This project demonstrates practical prompt engineering, text generation control, and limitations of early transformer-based language models like GPT-2 in creative text generation tasks.

Documentation

1. What I understood
   - GPT-2 does not follow instructions like modern LLMs (GPT-4, GPT-4o, etc.).
   - GPT-2 performs best when it is asked to continue a sentence rather than generate ideas from scratch.
   - Abstract or vague prompts (e.g., "write a thoughtful quote") often lead to incomplete, irrelevant, or conversational outputs.
   - Proper prompt anchoring, sampling control, and post-processing are necessary to generate usable motivational quotes.

2. What I Built

   I built an AI Motivational Quote Generator that:

   - Uses the GPT-2 text generation pipeline with tuned parameters (temperature, top_k, top_p, repetition_penalty) to improve fluency and diversity.

   - Cleans the generated output by Removing prompt text, Trimming incomplete sentences, Ensuring proper punctuation
   - Displays the final output as a single motivational quote

Screenshots:

```
    AI MOTIVATIONAL QUOTE GENERATOR
=================================================

Type a keyword (e.g., Success, Grind, Peace)
or 'exit' to quit.


 Generating quote for 'Peace'...

 "Peace ills the mind, but it does not hurt you. You are a man who has done his duty by serving God.


 Generating quote for 'Success'...

 "Success is a process, but it is an individual endeavor. It's not going to happen overnight.
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```
    AI MOTIVATIONAL QUOTE GENERATOR
=================================================

Type a keyword (e.g., Success, Grind, Peace)
or 'exit' to quit.


 Generating quote for 'health'...

 "Health is the most important factor in life. It has so much to do with nutrition, it's everything we have learned from our ancestors on Earth before us.


 Generating quote for 'Sleep'...

 "Sleep _____ is what you do when your brain has an idea of how to live a good life. It's where all the ideas come from, but it doesn't tell us anything.
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```
    AI MOTIVATIONAL QUOTE GENERATOR
===================================================

Type a keyword (e.g., Success, Grind, Peace)
or 'exit' to quit.


 Generating quote for 'success'...

 "Success is all you need to have a successful life. In fact, I believe that if we are as good at what happens in our lives today then people will want us back.


 Generating quote for 'health'...

 "Health is a life-giving force, as we work to make it better for our own lives.


 Generating quote for 'Money'...

 "Money is not a game. It's an idea, it is the engine of our lives that drives us to accomplish what we want.


Thank you for using the quote generator!
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