Final Report: AI Dungeon Story Generator

1. Introduction

Storytelling has always been a fundamental part of human culture, and with the rise of generative AI, we can now create dynamic and personalized narratives. This project aims to build an interactive AI Dungeon Story Generator using the GPT-2 model to produce creative stories from user-defined prompts and genre choices.

2. Abstract

The project uses Hugging Face's Transformers library with a pre-trained GPT-2 model to generate text. Users can select from predefined genres such as Fantasy, Sci-Fi, Mystery, Adventure, or Random, and input their custom prompt. The app generates multiple versions of the story based on user settings like max length and number of outputs. A Streamlit interface allows interaction, viewing, and downloading the stories as `.txt` files.

3. Tools Used

- Python

- Streamlit

- Hugging Face Transformers (GPT-2)

- Torch

4. Steps Involved in Building the Project

1. Loaded GPT-2 using the Transformers pipeline for text generation.

2. Defined preset genre prompts for user convenience.

3. Built a Streamlit web interface with genre selection, prompt input, sliders for generation length, and number of outputs.

4. Generated stories dynamically with user inputs and displayed them on the page.

5. Added download buttons for each generated story as a `.txt` file.

5. Conclusion

This project showcases how language models can be used for creative applications like storytelling. The AI Dungeon Story Generator is a fun, interactive tool that demonstrates natural language generation in action. It opens the door for future enhancements such as fine-tuning models, adding user profiles, and integrating real-time collaborative storytelling.