College Name: VIT Bhopal University
Student Name: Kavya

StoryCrafter - An AI Story Generator

Phase 1: Proposal & Idea Submission

1. Project Title:

StoryCrafter - An AI Story Generator

2. Domain:

Generative AI | Natural Language Processing (NLP) | Text Generation

This project falls under the domain of Generative AI and Natural Language Processing, specifically focusing on text generation. It uses pre-trained language models to generate coherent and context-aware stories based on user input, demonstrating practical applications of modern NLP techniques in creative writing.

3. Problem Statement:

Generating coherent and contextually relevant text is a major challenge in the field of Natural Language Processing (NLP). Current text generation systems can often produce repetitive or disjointed sentences. The problem lies in understanding how to create structured and compelling stories or content in response to user inputs. This project aims to build an AI-powered system that generates short stories based on user-defined characters and settings, enhancing creative writing processes for users.

4. Proposed Solution:

This project will develop an AI-driven story generator using pre-trained models like GPT-2.

The system will:

- Accept user inputs for character names and settings.
- Use a generative language model to create a short story based on the input.
- Offer different lengths and styles of stories, ensuring creativity and relevance.
- Use a user-friendly interface to allow seamless interaction and story generation.

College Name: VIT Bhopal University
Student Name: Kavya

5. Objectives:

- To create an AI model capable of generating short, coherent stories based on user input.
- To experiment with pre-trained language models like GPT-2 and fine-tune them for story generation.
- To develop an intuitive web interface (using Streamlit) for users to interact with the system.
- To enhance the system with genre-based options for a diverse range of story types.

6. Expected Outcome:

- A fully functional story generation tool that produces creative and relevant short stories.
- A web interface where users can enter characters, settings, and story lengths, and receive generated stories.
- A versatile solution with future possibilities for genre-based stories, and potential for further enhancements like sentiment or plot prediction.

7. Tools & Technologies to be Used:

Name	What It Is	Use in Project
Python	A high-level, interpreted programming language known for its readability and ease of use.	Primary programming language for developing the backend and frontend logic.
PyTorch	An open-source machine learning library for Python, widely used for deep learning tasks.	Used to work with pre-trained models and generate text predictions.
Transformers	A library by HuggingFace for working with transformer-based models, including GPT, BERT, etc.	Used to implement and fine-tune pre-trained language models like GPT-2 for text generation.
Streamlit	A Python framework to build interactive web applications for data science and machine learning.	Used to create the interactive web interface for the story generation tool.

Name	What It Is	Use in Project
VS Code	A source code editor that supports various programming languages and is commonly used for development.	Used as the primary Integrated Development Environment (IDE) for the project.
GitHub	A platform for version control using Git, widely used for code collaboration and repository hosting.	Used to host the project, manage version control, and collaborate with team members.

8. References:

- HuggingFace Transformers Documentation
  - https://huggingface.co/docs/transformers/index
- OpenAI GPT-2 Documentation
  - https://openai.com/research/language-unsupervised
- Streamlit Documentation
  - https://docs.streamlit.io/
- NLP and Text Generation Projects on GitHub
  - https://github.com/topics/text-generation