

# Short Story Generating LLM using GPT-2

## A Mini Project on Creative Text Generation

### Project Overview

This project demonstrates the creation of a custom Language Model capable of generating short pirate-themed stories based on user prompts. Using the GPT-2 model architecture, this system fine-tunes on a handcrafted dataset and generates creative narratives with minimal user input.

### Steps Followed

#### 1. Dataset Creation : pirate\_stories.csv

A custom dataset was manually curated containing short pirate-themed stories. Each row represents a story instance and ensures at least 30–50 words of rich, pirate-style content.

##### Example Format:

Title	Story
The Hidden Map	Captain Flint found a glowing map hidden in the galley's false floor...

#### 2. Data Loading & Formatting

Using pandas, the CSV was read and processed. The relevant columns (e.g., *Title* and *Story*) were merged or structured to create an input suitable for language modeling tasks.

#### 3. Tokenization with GPT-2 Tokenizer

The GPT-2 tokenizer from HuggingFace's transformers library was used to tokenize the input text, converting them into token IDs that GPT-2 can understand.

## 4. Fine-Tuning GPT-2 with Causal Language Modeling

A GPT-2 model was fine-tuned using the `Trainer` and `TrainingArguments` classes from HuggingFace. The model learned to predict the next word in a sequence (causal language modeling), effectively allowing it to generate story-like continuations.

## 5. User Prompt Interface

A user-friendly interface (e.g., CLI or minimal Web UI) allows users to input a prompt. The fine-tuned model then generates a short story based on that prompt using top-k sampling or nucleus sampling for creativity.

## Results

The model successfully generates pirate-themed short stories that maintain coherence, creativity, and stylistic consistency. Prompts like “**The ship sailed into the fog...**” yield rich narratives such as:

"The ship sailed into the fog, and the crew's breath turned shallow. Suddenly, glowing eyes peered from the mist, and a voice growled, 'Ye trespass on cursed waters...'"