GEN-AI SUBMISSION 2

NAME: NINAD HEMANT CHAVAN

SRN: PES2UG23CS392

SECTION: F

Problem statement:

The AI Storyteller

Goal: App that takes a starting sentence (e.g., "The knight entered the dark cave") and generates a short creative story.

Tech: Use gpt2 with non-deterministic sampling (do_sample=True) for creativity.

Abstract

The AI Storyteller uses GPT-2 to generate creative stories from user prompts. The system implements non-deterministic sampling with adjustable parameters (temperature, top-k, top-p) to produce diverse, creative narratives. This demonstrates practical application of pre-trained language models for creative text generation.

Documentation

What I Understood

- GPT-2 predicts next words based on context using transformer architecture

- Non-deterministic sampling creates creativity by randomly selecting from probable words

- Key parameters: temperature (controls randomness), top-k (vocabulary limit), top-p (probability threshold), repetition_penalty (reduces repetition)

- Challenge: Balancing creativity with coherence

What I Built

1. Model Loading: Loaded GPT-2 (124M parameters) from Hugging Face

2. Story Generator Function:

- Parameters: temperature=0.8, top_k=50, top_p=0.92, min_length=50

- Features: repetition penalty, n-gram blocking

3. Multiple Variations: Generates 3+ different stories from same prompt

4. Context Enhancement: Adds continuation cues for better narrative flow

---

Output screenshots:

```
# Block 2: Load GPT-2 Model and Tokenizer
print("Loading GPT-2 model and tokenizer...")
model_name = "gpt2"  # You can use "gpt2-medium" or "gpt2-large" for better results

tokenizer = GPT2Tokenizer.from_pretrained(model_name)
model = GPT2LMHeadModel.from_pretrained(model_name)

# Set padding token
tokenizer.pad_token = tokenizer.eos_token

print(f"✓ {model_name} loaded successfully!")
print(f"Model parameters: {model.num_parameters():,}")
```

```
Loading GPT-2 model and tokenizer...
✓ gpt2 loaded successfully!
Model parameters: 124,439,808
```

```
============================================================
AI STORYTELLER - EXAMPLE STORIES
============================================================

■ Story 1
Prompt: 'The knight entered the dark cave'

The knight entered the dark cave and his sword was bound in a circle.

The knights then slowly retreated out of the cave. They found the place where the knights were standing. Suddenly, they saw the knight's body turned to stone and the sword suddenly swung. It was a simple attack. Even though

(1) "How are you? You have been to great lengths to get into my body! I'll show it to you at the very end." (2)
—Hence, "I will show the Sword of Hachiman to everyone." The knight took his knife to the body of

------------------------------------------------------------
■ Story 2
Prompt: 'On a rainy Tuesday, Sarah discovered something unusual'

On a rainy Tuesday, Sarah discovered something unusual. She had been running to her car in the driveway of a home on the edge of the hills. Her daughter said she heard the car start. They pulled up behind her, she told her m

"I didn't even think about it, I just saw the whole tree disappear," Sarah said, "I saw a little bit of blood on it and my dad and mom, they were looking at

------------------------------------------------------------
■ Story 3
Prompt: 'The spaceship landed on the mysterious planet'

The spaceship landed on the mysterious planet Dereja. The crew is on board the ship and were told that there were some strange forces out there trying to control them and take them back to their home. When they return to Ear

The movie ends with a large battle between the survivors and the alien race known as the "Great Tundra". The battle is called the Battle of Dax.

------------------------------------------------------------
```

```
The attention mask is not set and cannot be inferred from input because pad token is same as eos token. As a consequence, you may observe unexpected behavior. Please pass your input's `attention_mask` to obtain reliable results.

✦ FIXED STORY GENERATION
============================================================

■ Prompt: 'The knight entered the dark cave'
------------------------------------------------------------
The knight entered the dark cave. [I know…]
It was a very interesting place, I don't remember where it happened but its name is: D'Arche-sama's Castle in Yudokayama (Yuda). A castle that has been used for thousands of years and had an atmosphere with all sorts to match up against some

■ Prompt: 'Sarah discovered a mysterious box'
------------------------------------------------------------
Sarah discovered a mysterious box. It was wrapped in black tape and had her identification number printed on it, even though she didn't know what the item did! So we took some time to search for that piece of cardboard which contained this

A couple days later when trying their hand with our clues while talking online

■ Prompt: 'The robot activated for the first time'
------------------------------------------------------------
The robot activated for the first time. "I don't know what you're talking about," she said, gesturing to her robotic counterpart and asking how he was doing... I think this is when it started making sense."
Then something went terribly wrong in that moment:        The woman's hand stopped moving immediately after seeing their humanoid friend move towards him again! She grabbed his arm by its hair while still holding onto one of his legs as if
```

```
■ Story with Context Cue:

============================================================
The knight entered the dark cave and asked if her family had been killed. She replied, "We have already returned with them to their hometown."

"You are a noble lady who has many descendants in this world!" The three knights came around him as they said that without hesitation… They were both relieved at seeing his face change into one of sorrowful shock…. It was then he saw it's e
```