



AI-Powered Story Generation Chatbot

Presented by TEAM ALPHA NLP

Origin of the creative idea

The development of creative chatbots is driven by the need for more natural, engaging, and efficient interactions in a digital world. By blending advanced AI technologies with creative design, chatbots not only meet these needs but also open up new avenues for innovation and user engagement.



Project vision and mission

Our goal here was to develop a fully functional and efficient chatbot that helps us generate stories with its multiple parameters ex: length, genre, plots etc.

01. Evaluate top LLM models like Llama 2, gpt 2, gpt 3.5 turbo, Llama 3 based on there efficiency and Data and pick one suitable for our project.

02. Develop a Interactive UI and integrate it the backend code.

03. Delivering a Fully Functional and to the mark chatbot that performs the best what it is intended to do.

LLM MODELS



01

GPT 2.0



02

Llama 2



03

GPT 3.5 turbo



04

Llama 3 – 70b

Llama 3

LLaMA 3 stands out as a powerful, efficient, and versatile language model, making it an excellent choice over GPT-2, GPT-3.5 Turbo, and LLaMA 2 for anyone looking to leverage cutting-edge AI for superior natural language understanding and generation.

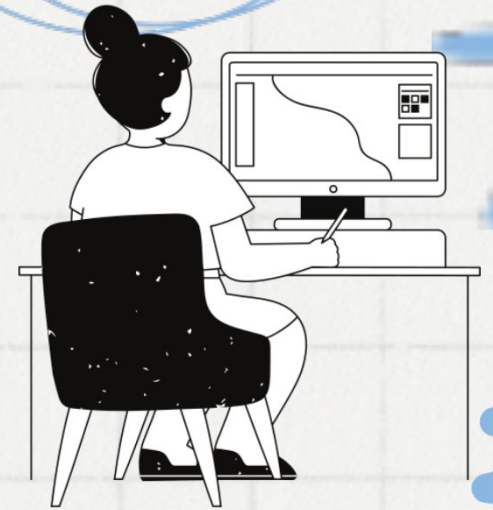


Meta Llama 3 Instruct model performance

	Meta Llama 3 8B	Gemma 7B - It Measured	Mistral 7B Instruct Measured
MMLU 5-shot	68.4	53.3	58.4
GPQA 0-shot	34.2	21.4	26.3
HumanEval 0-shot	62.2	30.5	36.6
GSM-8K 8-shot, CoT	79.6	30.6	39.9
MATH 4-shot, CoT	30.0	12.2	11.0

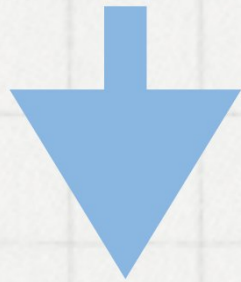
	Meta Llama 3 70B	Gemini Pro 1.5 Published	Claude 3 Sonnet Published
MMLU 5-shot	82.0	81.9	79.0
GPQA 0-shot	39.5	41.5 CoT	38.5 CoT
HumanEval 0-shot	81.7	71.9	73.0
GSM-8K 8-shot, CoT	93.0	91.7 11-shot	92.3 0-shot
MATH 4-shot, CoT	50.4	58.5 Minerva prompt	40.5

LangChain & GROQ-API



To accelerate development and empower our project with large language model capabilities, we opted for the LangChain framework and the GROQ API. This innovative approach bypassed the traditional method of downloading a bulky pre-trained model. Instead, the GROQ API provided seamless access to the LLM, saving on development time and disk space. This also simplified deployment and holds promise for future scalability, as the GROQ API can potentially integrate with cutting-edge LLMs that might not be readily downloadable.

Enhanced Performance



01. Fine Tuning:
process of taking a pre-trained language model and further training it on a specific dataset to adapt it to a particular task or domain, improving its performance and accuracy for that specific use case.



02. Prompt Engineering:
Technique of designing and optimizing the input prompts given to a language model to guide it in generating the most relevant and accurate responses for a desired outcome.

Typescript/React UI

focuses on building scalable, component-based user interfaces using statically typed JavaScript (TypeScript) and a powerful UI library (React), suitable for complex web applications requiring robust architecture and state management.

AI Story Generator

Make your own story!

Story Plot
Ex: A librarian discovers a magical book that can bring stories to life.

Story Length
Short

Creativity Level
A horizontal slider bar with a blue dot in the middle.

Narrative Perspective (Optional)
First Person

Genre (Optional)
Romance

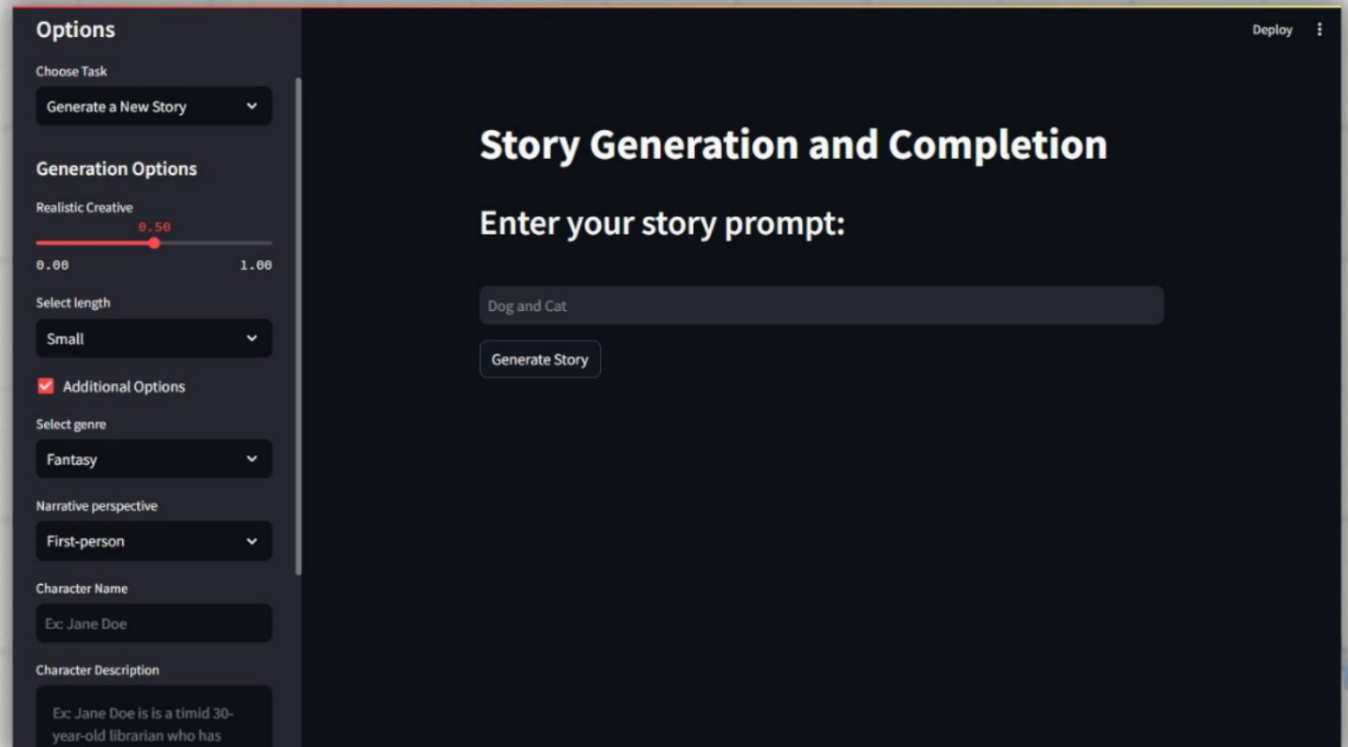
Character Name (Optional)
Ex: Jhon Doye

Character Description (Optional)
Ex: Jhon Doye is a librarian who is working in the old library

Setting Description (Optional)
Ex: An old library with many windows.

Streamlit UI

- tailored for data-driven applications in Python, emphasizing simplicity and interactivity without extensive front-end development knowledge.



The screenshot shows a Streamlit web application interface for story generation. The interface is divided into two main sections: a sidebar on the left for options and a main content area on the right.

Options Sidebar:

- Choose Task:** A dropdown menu with the option "Generate a New Story".
- Generation Options:**
 - Realistic Creative:** A slider ranging from 0.00 to 1.00, currently set at 0.50.
 - Select length:** A dropdown menu with the option "Small".
 - Additional Options:** A checkbox that is checked.
 - Select genre:** A dropdown menu with the option "Fantasy".
 - Narrative perspective:** A dropdown menu with the option "First-person".
 - Character Name:** A text input field with the placeholder text "Ex: Jane Doe".
 - Character Description:** A text input field with the placeholder text "Ex: Jane Doe is a timid 30-year-old librarian who has".

Main Content Area:

- Story Generation and Completion:** The main heading.
- Enter your story prompt:** A text input field with the placeholder text "Dog and Cat".
- Generate Story:** A button to initiate the story generation process.
- Deploy:** A button in the top right corner.




Fast-Api

FastAPI is our backend framework, linking our TypeScript/React frontend to the Python backend where our model is stored. It handles requests from our frontend, ensuring smooth data flow. TypeScript in React keeps our code safe and efficient, while FastAPI manages data processing using Python's tools like Pydantic for reliability. This setup makes our web app fast, scalable, and easy to maintain for real-time updates and complex data tasks.

Final reflections and future steps

To make our storytelling chatbot more engaging and user-friendly, we plan to improve its understanding of natural language and personalize interactions based on user preferences. We'll add pictures and videos to enhance storytelling and create dynamic stories based on user input. Making the chatbot available on different platforms and learning from user feedback will ensure it evolves to meet users' needs. These steps aim to enhance the overall experience and make the chatbot more appealing and interactive



The background of the slide is a light gray grid. It is decorated with various hand-drawn blue doodles, including circles, loops, and wavy lines, scattered around the edges and corners.

Thank you very much!

Team Alpha NLP