

Chatbot Report

Introduction

This report outlines the steps taken to develop and improve a chatbot using Hugging Face models in Streamlit. It also highlights challenges faced and solutions implemented.

Steps Taken

- 1. Project Setup**
 - Installed necessary dependencies including transformers, torch, and streamlit.
 - Configured a Python environment and initialized a GitHub repository.
- 2. Model Selection and Integration**
 - Evaluated different Hugging Face models such as gpt2, gpt-neo, and opt.
 - Loaded tokenizer and model using AutoTokenizer and AutoModelForCausal LM.
- 3. Streamlit UI Implementation**
 - Created a simple user interface for chatbot interaction.
 - Used st.text_input for user queries and st.write for responses.
- 4. Testing and Debugging**
 - Ran local tests to verify model outputs.
 - Addressed errors related to missing dependencies and API integration.

- 5. Version Control and Deployment**
 - Configured Git for version control.
 - Resolved issues related to GitHub push protection due to exposed API keys.

Challenges Faced and Solutions

- 1. GitHub Push Protection Blocked Commits**
 - Problem: GitHub blocked pushes due to detected secrets.
 - Solution: Removed sensitive data from commit history and used .env files.
- 2. Model Loading Issues**
 - Problem: Model downloads were slow or failed due to internet issues.
 - Solution: Cached models locally and verified file paths.
- 3. Streamlit Errors**
 - Problem: ScriptRunContext warnings in Streamlit.
 - Solution: Ensured the script was run using streamlit run chatbot.py.

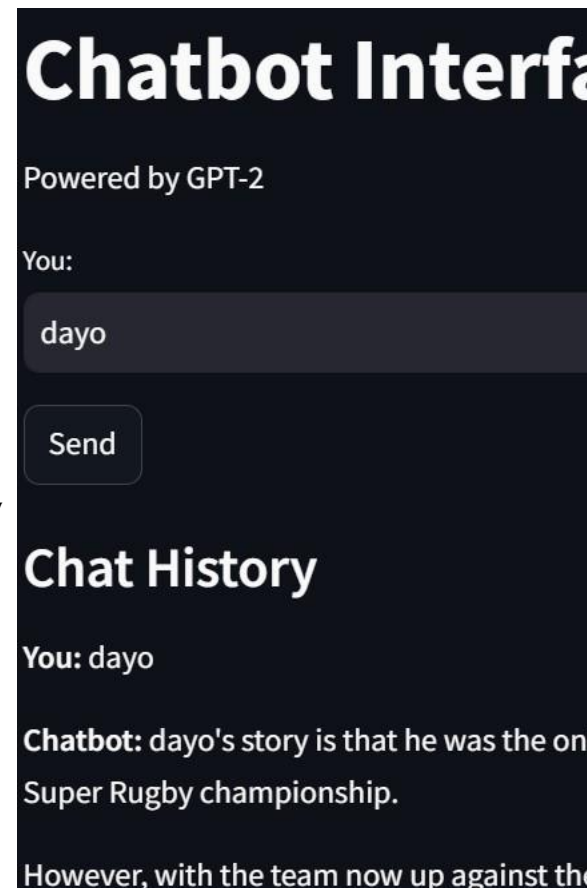
Improvements and Next Steps

- Implement a more advanced model for better responses.
- Optimize model inference speed.

Conclusion

This project successfully integrated a chatbot using Hugging Face models and Streamlit. Despite some challenges, the implementation was improved through debugging and security enhancements.

Github Repository:
<https://github.com/dayoxy/Module-5.git>



Chat History

You: dayo

Chatbot: dayo's story is that he won the Super Rugby championship.

However, with the team now up and running, the team winning the title for a second time.

When asked about the title race, a player making sure the team was on the