

chatbot_ai.py

Overview

This script powers the Amex Rewards Assistant chatbot, leveraging LlamaIndex for retrieval and TinyLlama for response generation.

Prerequisites

1. Install Packages:

```
pip install torch transformers accelerate
pip install llama-index llama-index-embeddings-huggingface
sentence-transformers
pip install llama-index llama-index-llms-huggingface
pip install sentence-transformers scikit-learn numpy
pip install fuzzywuzzy python-Levenshtein
```

How it Works

1. Loads Data: Reads `amex_rewards.json` containing Amex rewards information.
2. Creates Documents: Converts rewards data into structured documents using `Document()` from LlamaIndex.
3. Builds or Loads Index: Uses `VectorStoreIndex` from LlamaIndex to store and retrieve data.
4. Generates Responses: Uses the TinyLlama model to respond based on query.
5. Validates Responses: Filters out irrelevant or fabricated responses using similarity checks.

Usage

- Run the Script: `python chatbot_ai.py` or `python3 chatbot_ai.py`