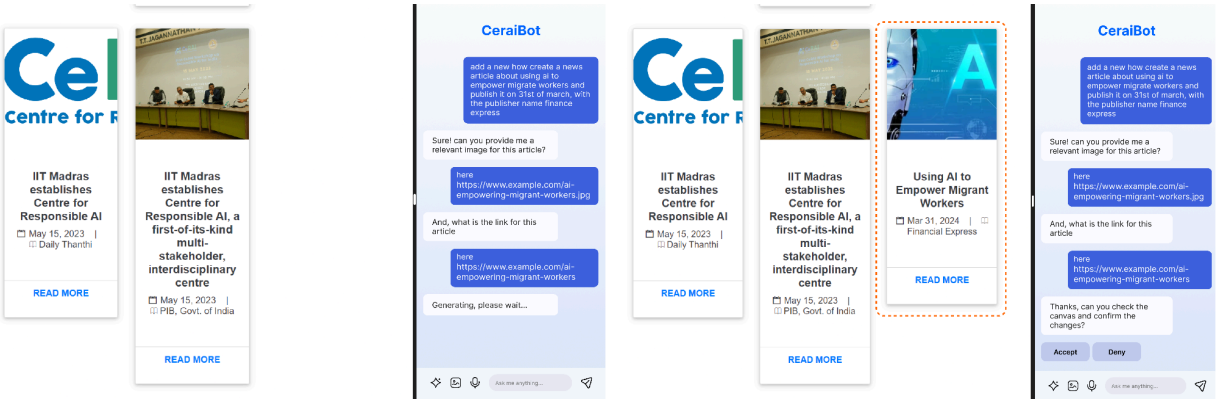
Automating the Cerai Website with LLM-Powered Chatbot Integration



Overview:
The goal is to automate the content management process of the Cerai website, built using Hugo, through the integration of a custom LLM-powered chatbot. The automation allows users to interact with the chatbot to create, update, or modify website content by using simple natural language commands. The system detects user intent, retrieves relevant data, and automatically generates or updates code, which is reflected in a live preview. Upon approval, the AI pushes the changes to a repository branch, pending manual deployment to production.

Key Components:

1. **Intent-Based Chatbot:**
    - **LLM-Powered Intent Detection:** A fine-tuned LLaMA-based model is employed to understand user inputs. The model identifies specific intents, such as adding news events, updating author names, or making structural changes to the website.
    - **Multi-Intent Support:** The chatbot is designed to handle various tasks like adding content, updating metadata, and changing database entries, improving efficiency through adaptive learning.
2. **Custom LLaMA Model Fine-Tuning:**
    - The base LLaMA model is fine-tuned to recognize domain-specific terms, tasks, and formats used in the Cerai website, ensuring accurate detection of user intents related to Hugo-based static websites.
3. **RAG (Retrieval-Augmented Generation) Database Integration:**
    - A **RAG-based architecture** integrates the website's existing database with the chatbot. When an intent is detected, the model queries the RAG system for relevant code snippets, templates, and data (e.g., author information, event details).

    - This integration allows for the real-time retrieval of the necessary information to make accurate and context-aware modifications to the codebase.
4. **Code Generation & Real-Time Updates:**
    - Once the user's intent is detected and relevant data is retrieved, the AI generates or updates the Hugo codebase. The changes are reflected in a **live website preview** on the left side of the UI, providing instant feedback to the user.
    - The chatbot can handle commands like "add a news event titled this," "change the author to John," or "add a new section," simplifying the content management process.
5. **AI-Powered Code Push:**
    - After the user reviews the live preview and confirms the changes, the AI automatically pushes the updated code to a specific branch in the repository.
    - Final approval from a human reviewer is required before deployment to the production environment.

Flow Summary:

- **User Input:** The user types a command into the chatbot UI.
- **Intent Detection:** The LLM detects the intent and queries the RAG system.
- **Code Generation:** AI generates/updates the Hugo codebase.
- **Live Preview:** Real-time preview of the website is displayed.
- **Confirmation & Deployment:** Upon user confirmation, the AI pushes changes to the repository.

Conclusion:
This system streamlines the content management process for the Cerai website, reducing manual coding efforts and providing a more efficient workflow through AI-driven automation. The combination of LLM-based intent detection, RAG-integrated data retrieval, and real-time code generation ensures high accuracy and ease of use for non-technical users.