

VTS LLM CHATBOT

The VTS LLM Chatbot is a versatile interactive application designed to facilitate engaging and informative conversations with users. Leveraging Google Generative AI and Stream lit, this chatbot supports multimodal input and output, including text and image interactions. The application offers customizable response generation, language support, and response management features, making it accessible and useful for a wide range of users.

How the VTS LLM Chatbot Helps Common Users

Imagine you're an everyday user seeking assistance, information, or simply engaging in a conversation. The VTS LLM Chatbot is here to help make this interaction seamless, personalized, and intuitive. Here's how it caters to common users:

1. Personalized Assistance:

- Scenario: You have a question about a particular topic or need help with a task. You type your question into the chatbot.

- How It Helps: The chatbot uses advanced AI to understand your query and generate a detailed response. It's like having a knowledgeable assistant available 24/7 to provide accurate and contextually relevant answers.

2. Multilingual Support:

- Scenario: You prefer to interact in your native language or a language you are comfortable with.

- How It Helps: The chatbot allows you to select from various Indian languages or English. Whether you speak Hindi, Bengali, Tamil, or any other supported language, you can receive responses in your chosen language, making the interaction more comfortable and accessible.

3. Image Integration:

- Scenario: You have an image that you want the chatbot to analyse or provide information about.

- How It Helps: You can upload images directly into the chat. The chatbot can analyse the image and provide insights or generate responses based on the visual content. This is particularly useful for tasks like identifying objects or analysing visual data.

4. Customizable Responses:

- Scenario: You have specific preferences for how the chatbot should respond, such as the length or style of responses.

- How It Helps: You can adjust parameters like temperature, maximum output tokens, and sampling methods to tailor the chatbot's responses to your preferences. This customization ensures that the responses are aligned with your expectations.

5. Safety and Moderation:

- Scenario: You want to ensure that the interactions remain respectful and free from harmful content.
- How It Helps: The chatbot includes safety settings that filter out inappropriate or harmful content. You can configure these settings to block various categories of harmful content, ensuring a safe and respectful interaction.

6. Accessible Response Management:

- Scenario: You wish to keep a record of the responses for later reference or share them with others.
- How It Helps: The chatbot provides options to download responses as text or MP3 files. You can also copy responses to your clipboard for easy sharing. These features make it simple to save and revisit information as needed.

7. Interactive History:

- Scenario: You want to review previous conversations or refer back to earlier messages.
- How It Helps: The chatbot displays a history of your interactions, including past messages and any uploaded images. This feature allows you to track the conversation and access earlier information easily.

8. Clear and Fresh Start:

- Scenario: You want to start a new conversation without the clutter of previous chats.
- How It Helps: You can clear the chat history with a single click, starting a new session with a clean slate. This feature ensures that each interaction feels fresh and focused on your current needs.

Key Features:

1. Chat with AI:

- Description: Engage in real-time conversations with the AI chatbot by typing questions or prompts. The chatbot generates responses based on user input and context.

2. Image Upload:

- Description: Users can upload images to the chatbot, which can then analyse or utilize these images to generate more informed responses.

3. Language Selection:

- Description: Users can choose from 10 Indian languages and 7 foreign languages for receiving responses, allowing for a tailored interaction experience:

- **Indian Languages:** English (en), Hindi (hi), Bengali (bn), Telugu (te), Tamil (ta), Gujarati (gu), Kannada (kn), Punjabi (pa), Odia (or), Malayalam (ml)
- **Foreign Languages:** Spanish (es), French (fr), German (de), Italian (it), Portuguese (pt), Arabic (ar), Russian (ru)

4. Response Translation:

- Description: Provides responses in the selected language, with the capability to transliterate text into different scripts as needed.

5. Adjust Model Parameters:

- Description: Users can customize the chatbot's response generation by adjusting parameters such as temperature, maximum output tokens, top-p, and top-k, which affect the creativity and length of the responses.

6. Safety Settings:

- Description: Configurable content moderation settings to block or allow responses based on categories like hate speech, harassment, and dangerous content.

7. Download and Listen to Responses:

- Description: Users can download responses as text or MP3 files and listen to them using the text-to-speech feature, facilitating different ways to access and review the responses.

8. Download and Copy Response:

- Description: Enables users to download responses as text files for offline use and copy response text to the clipboard for easy sharing.

9. View Chat History:

- Description: Displays the history of the conversation with the chatbot, including previous messages and any images shared during the interaction.

10. Clear Chat History:

- Description: Provides an option to clear the chat history, allowing users to start a new session with a clean slate.

Technical Specifications:

- **Backend:** Google Generative AI API
- **Frontend:** Streamlit
- **Text-to-Speech:** Google Text-to-Speech (gTTS)
- **Image Processing:** PIL (Python Imaging Library)
- **Language Transliteration:** Google Translator Library
- **Environment Management:** Python `dotenv` for loading environment variables
- **Cloud Hosting:** The application is hosted on Hugging Face at (<https://huggingface.co/spaces/AnkitKrishna/VTs-LLM-ChatBot>).

Implementation Details:

- **Stream lit Configuration:** The app is configured with a user-friendly interface that includes options for language selection, parameter adjustments, and response management.
- **AI Integration:** Utilizes Google Generative AI for generating responses and analyzing image input.
- **Response Management:** Includes features for downloading, copying, and listening to responses, with a focus on enhancing user interaction and accessibility.

User Input & Customization

Spaces

AnkitKrishna

VTS-LLM-ChatBot

🔖

👍 like 0

🟢 Running

☰

AppFilesCommunitySettings⋮

Select Language for Response

English

Upload Your Image Here

Drag and drop file here

Limit 200MB per file • JPG, PNG, JPEG

Browse files

Adjust Model Parameters Here:

Temperature

0.10

Maximum Output Tokens

3000

Top-P sampling

0.70

Top-K sampling

20

VTS LLM ChatBot

Assistant: Hi there. Can I help you?

You:

Send

Generated Response

Spaces

AnkitKrishna

VTS-LLM-ChatBot

🔖

👍 like 0

🟢 Running

☰

AppFilesCommunitySettings⋮

Select Language for Response

English

Upload Your Image Here

Drag and drop file here

Limit 200MB per file • JPG, PNG, JPEG

Browse files

Adjust Model Parameters Here:

Temperature

0.10

Maximum Output Tokens

3000

Top-P sampling

0.70

Top-K sampling

VTS LLM ChatBot

Assistant: Hi there. Can I help you?

User: What is python?

Assistant: Python is a popular programming language known for its clear syntax and readability. It's a versatile language used for web development, data analysis, machine learning, and more.

Let me know if you'd like to know more about Python. For example, I can tell you about:

- **Its uses:** What can you build with Python?
- **Its features:** What makes it different from other languages?
- **How to learn it:** Where to find resources and get started.

Just ask! 😊

You:

Send

Select Response Language:

Select Language for Response

French

Upload Your Image Here

Drag and drop file here

Limit 200MB per file • JPG, PNG, JPEG

Browse files

apple-fruit.jpg

174.3KB

Adjust Model Parameters Here:

Temperature

0.10

Maximum Output Tokens

3000

Top-P sampling

0.70

VTS LLM ChatBot


Assistant: Hi there. Can I help you?

You:

describe about this image in 30 words?

Send

User: describe about this image in 30 words?



A single, ripe, red apple with a short stem and a healthy green leaf sits against a white background.

Response in French: Une seule pomme rouge mûre avec une tige courte et une feuille verte saine repose sur un fond blanc.

Challenges and Solutions:

- Challenge: Managing and moderating content to ensure safety.
 - Solution: Implemented configurable safety settings to filter out harmful content.
- Challenge: Supporting multiple languages and transliterations.
 - Solution: Integrated language selection and transliteration features using the Indic Transliteration library.
- Challenge: Providing seamless user experience with multiple response management options.
 - Solution: Developed features for response downloading, copying, and audio playback, improving user accessibility and interaction.

Pricing:

- **VTS LLM Chatbot:** Pricing varies based on implementation, including API calls, storage, and processing. Custom pricing may be available depending on specific requirements.

- Other Chatbots:

- ChatGPT: Offers a free tier with limited usage. Subscription plans are available, providing enhanced features and higher usage limits. Pricing depends on subscription level and usage.

- Gemini: Offers free and paid plans with varying levels of access and usage. Pricing details depend on specific services and usage levels.

- Other Market Chatbots: Pricing models vary widely, including free tiers, subscription-based plans, or pay-per-use pricing. Costs depend on features, usage volume, and additional services.

Conclusion:

The VTS LLM Chatbot represents a significant advancement in AI-driven interactive applications. It combines powerful AI capabilities with a user-friendly interface, offering a comprehensive suite of features for engaging and interactive chatbot experiences. The project addresses key aspects of user interaction, content management, and accessibility, setting a foundation for future enhancements and scalability.