SrustiMind – AI Assistant using PyTorch

Developer: Srusti
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About the Project

SrustiMind is a beginner-friendly, open-source AI assistant that performs question answering, text summarization, and creative text generation. It uses PyTorch with Hugging Face Transformers and is designed for offline, cost-free inference. This project showcases practical prompt engineering and full-stack integration of AI with a clean web interface.

Architecture Overview

Three-Tier System:

- **Frontend:** HTML/CSS/JavaScript with Bootstrap
- **Backend:** Flask (Python) API for request routing and logic
- **AI Engine:** TinyLlama 1.1B model loaded via Hugging Face and PyTorch

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Technologies Used

Component	Stack / Tools
Model	TinyLlama-1.1B (Hugging Face)
Framework	Flask, PyTorch
Interface	HTML, JS, Bootstrap
Logic Engine	Transformers (AutoModelForCausalLM)
Deployment	Localhost (CPU/GPU)
Versioning	Git & GitHub

Key Features

Prompt-Based Tasks

Each task uses a custom system prompt to guide the AI model:

- **Q&A:** "You are a helpful assistant. Answer factually: [query]"
- **Summary:** "Summarize this text in brief: [text]"
- **Creative Writing:** "Write a short [story/poem] on: [topic]"

Web Interface

- Simple UI with task selector
- AJAX request handling for faster interaction
- Conversation history stored in session
- Feedback form (helpful: yes/no + comments)

Local AI Model

- No OpenAI API used
- Fully local execution via PyTorch
- Works offline on both CPU and GPU

Feedback Logging

- All responses and user ratings stored in feedback_data.json
- Session-level history tracking available via /history

Documentation

- README.md: Overview and setup instructions
- Project_Summary.docx: Technical overview
- SrustiMind_Presentation.pptx: Visual presentation
- Testing_Report.docx: Summary of manual test cases

No automated response time or accuracy stats — results evaluated manually.

Educational Impact

This project is a great learning platform for:

- Students exploring AI model deployment
- Beginners in Flask API and UI design
- Prompt engineers testing response tuning

Srusti's Key Learnings

"Building SrustiMind helped me turn AI theory into something tangible. I learned about prompt design, Flask routing, and running transformer models locally without spending anything. I'm proud of this being my first real AI project."

Future Roadmap

- Add speech-to-text voice input
- Multi-language support
- Feedback-based fine-tuning (LoRA)
- RAG-based document Q&A module

GitHub Repository

github.com/Srusti-26/SrustiMind

Built with ❤️ using open-source tools by Srusti (2025)