Sowseeds AI Assistant: A Voice-Enabled Christian Faith-Based Virtual Assistant

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# Abstract

This research presents the design and implementation of the Sowseeds AI Assistant, a voice-enabled, interactive digital assistant tailored to support Christian faith-based engagement. Developed using Python and Streamlit, the assistant integrates natural language processing (NLP), text-to-speech (TTS), and a custom local large language model (LLM) through Ollama. It delivers conversational guidance, support, and information in a spiritually enriching environment. The system is optimized for usability, accessibility, and personalization, allowing users to select voice settings and adjust speech speed. This project bridges faith and technology, empowering the next generation with AI tools aligned with Christian values.

# 1. Introduction

With the rapid adoption of artificial intelligence in both secular and faith-driven sectors, intelligent virtual assistants (IVAs) have become pivotal in reshaping user experiences. However, most IVAs such as Siri, Alexa, or Google Assistant [1] are secular and do not serve specific spiritual or ethical communities.

The Sowseeds AI Assistant was created to address this gap. It is a Christian-themed, voice-interactive chatbot that supports users in their spiritual journey by offering faith-based guidance, devotionals, and assistance using natural language interfaces.

# 2. Objectives

- Develop a Christian-oriented voice AI assistant.  
- Use text-to-speech (TTS) and voice customization for accessibility.  
- Provide a Streamlit-based, real-time user interface.  
- Deliver spiritually aligned conversational AI output using a local LLM.  
- Explore future expansion using Firebase for user data management.

# 3. System Architecture

3.1 Frontend (UI Layer)  
The frontend is developed with Streamlit, a Python-based open-source library designed for building and sharing data web apps [2].

3.2 Voice Interaction  
The application uses pyttsx3 for TTS conversion [3] and speech\_recognition for audio-to-text (future).

3.3 Backend Processing  
The assistant connects to a local LLM instance using Ollama, which supports models like LLaMA and Mistral [5].

3.4 Navigation and Features  
Modules include Chat Assistant, About Section, Help and Contact, routed through a sidebar.

# 4. Key Features

- 🎤 Voice Output via pyttsx3  
- ⚙️ Speech Speed Control (100–300 wpm)  
- 📖 Faith-based Language Modeling using Ollama  
- 🎨 Dark Theme UI for readability  
- 🔁 Modular Chat System through llm\_helper.py

# 5. Use Cases

1. Spiritual Companion: Devotionals, prayers, and biblical encouragement.  
2. Faith Counseling: Guidance in everyday decisions.  
3. Educational Aid: Scripture-based conversations for children and learners.  
4. Church Outreach Tool: Helping churches provide automated support.

# 6. Technical Setup and Execution

Project Structure Overview:  
Sowseeds.AI Bot/  
├── ollama\_chatbot.py # Main application entry point  
├── helpers/llm\_helper.py # Handles chat/stream processing  
├── config.py # UI config and constants  
├── firebase/ # Firebase integration (optional)  
├── requirements.txt # Required Python packages

How to Run the App:  
1. Clone the Repo  
 git clone https://github.com/user/Sowseeds.AI-Bot.git  
 cd Sowseeds.AI-Bot

2. Create Virtual Environment  
 python -m venv venv  
 venv\Scripts\activate # (Windows)

3. Install Dependencies  
 pip install -r requirements.txt

4. Run App  
 streamlit run ollama\_chatbot.py

Navigate to http://localhost:8501 to begin interacting with the assistant.

# 7. Evaluation

The app runs efficiently in local environments and provides interactive feedback through both visual text and speech. Early user testing shows:  
- Good engagement with the voice functionality.  
- Positive response to spiritual relevance.  
- Suggestions for mobile support and voice input in future versions.

# 8. Future Work

- ✨ Speech-to-Text Integration  
- 📱 Mobile App (Flutter/React Native)  
- 🌐 Multilingual Faith Support  
- 🔒 Secure Authentication via Firebase

# 9. Conclusion

The Sowseeds AI Assistant reflects the convergence of AI and faith. It creates a space for spiritual growth through technology while empowering individuals to interact with Christian teachings through conversational agents. Developed by Kella Eric, the assistant is a prototype for future AI systems that ethically serve targeted faith-based communities.

# 10. References

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