The Superior University Lahore

Project Title: Islamic Scholar Chatbot

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Abstract

The Islamic Scholar Chatbot is an AI-powered educational tool designed to assist users by answering Islamic-related questions based on authentic sources like the Quran and Hadith. This project demonstrates the integration of AI and web technologies to promote accessible Islamic learning. It provides quick, genuine, and user-friendly responses.

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1. Introduction

The Islamic Scholar Chatbot is an AI-powered web application that provides authentic Islamic knowledge based on the Quran and Hadith. This project combines artificial intelligence with web development to create an educational tool to answer questions about Islam with proper references.

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2. Objectives

- To create an AI system that provides accurate Islamic knowledge.
- To develop a user-friendly interface for Islamic education.
- To implement natural language processing for question answering.
- To include proper Islamic references (Quran and Hadith) in responses.
- To learn practical applications of AI and web development.

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3. Features

- Answers questions about Islam with authentic references.
- Beautiful Islamic-themed user interface.
- Fast response time using advanced AI.
- Works on both computers and mobile devices.
- Displays processing time for each answer.
- Typing indicator while generating responses.

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4. Technologies Used

Backend:

- Python (Programming Language)
- Flask (Web Framework)
- LangChain (AI Framework)
- Groq API (For LLaMA3 AI model)
- dotenv (Environment Variables)

Frontend:

- HTML5
- CSS3
- JavaScript
- Font Awesome (Icons)
- Google Fonts (Amiri for Arabic text)

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5. System Requirements

Hardware Requirements:

- Processor: Intel i3 or equivalent
- RAM: 4GB minimum
- Storage: 500MB free space

Software Requirements:

- Operating System: Windows/Linux/Mac
- Python 3.8 or higher
- Web Browser (Chrome/Firefox/Edge)

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6. Implementation

Files Structure:

Below is the folder structure:

islamic_chatbot/

```
├── app.py
├── templates/
│   └── index.html
├── static/
│   └── background.jpg
├──. env
└── requirements.txt
```

Key Code Components:

1. Flask application setup
2. Groq AI integration
3. Prompt engineering for Islamic responses
4. Frontend interface design
5. JavaScript for interactive features

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7. Working

1. User opens the web application.
2. Types a question about Islam.
3. Question is sent to the backend.
4. AI processes the question and generates a response.
5. Response is formatted with authentic references.
6. Answer is displayed to the user.

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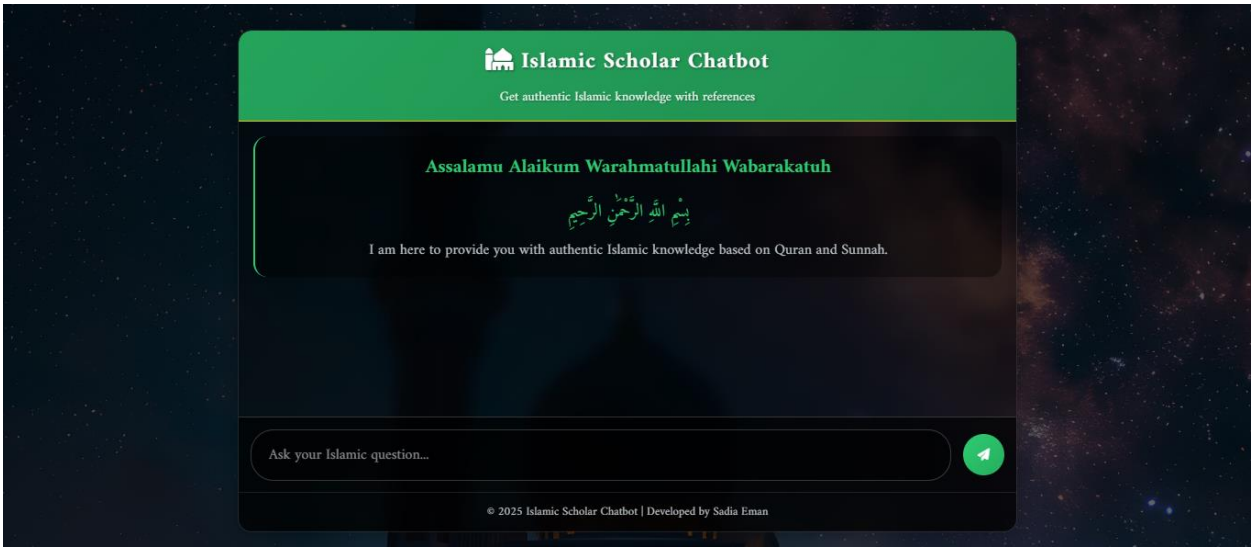
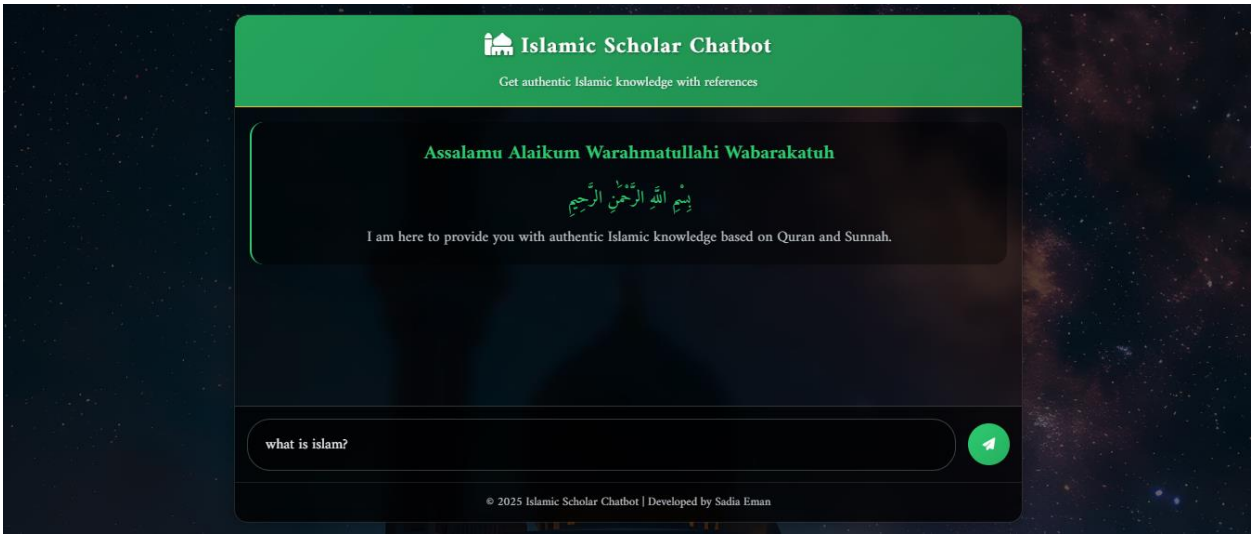
8. Screenshots

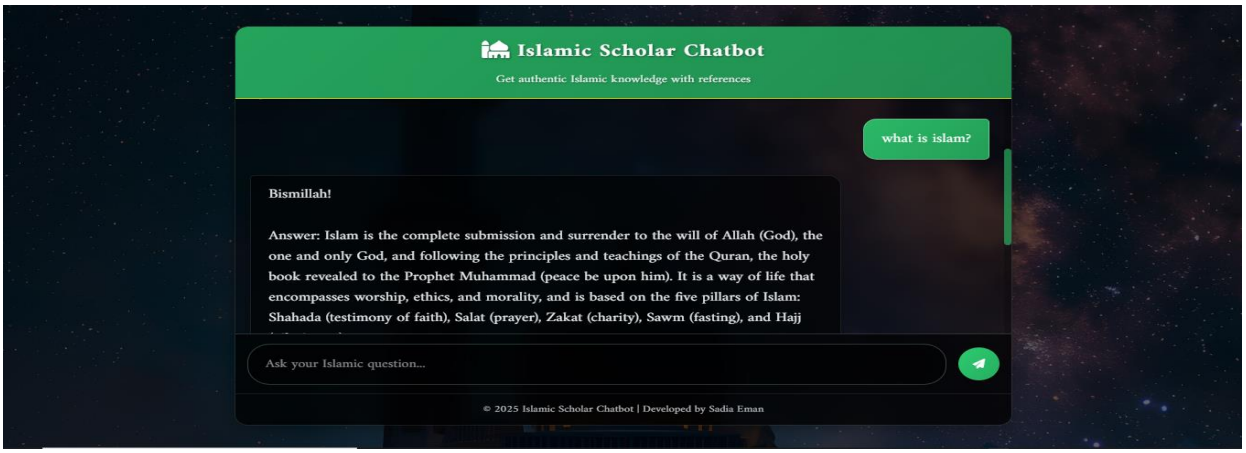
Welcome Screen

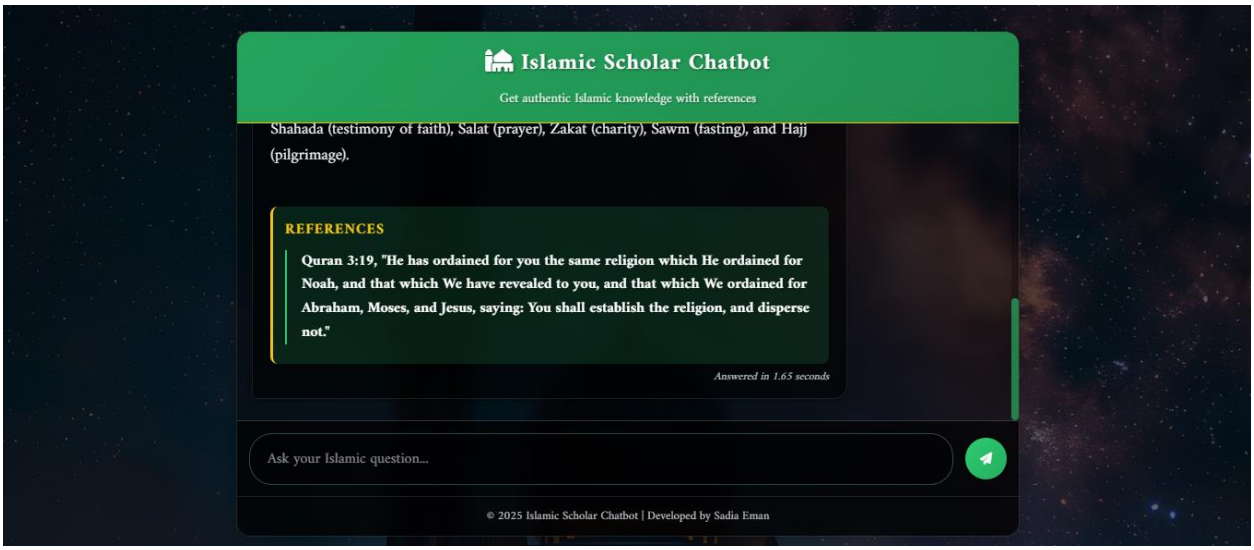


User Typing a Question



AI Response with References





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9. Advantages

- Provides instant access to Islamic knowledge.
- Helps students and users learn about Islam.
- Includes authentic Quranic and Hadith references.
- User-friendly and beautiful interface.
- Available 24/7.
- Free and easy to use.

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10. Limitations

- Requires an active internet connection.
- Limited by the knowledge of the AI model.
- May not handle very deep theological debates.
- Currently supports only English language.
- No voice input feature yet.

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11. Future Enhancements

- Add Arabic language support.
- Include audio recitations of Quranic verses.
- Add user authentication for saved questions.
- Create a "favorites" feature for saving answers.
- Expand database with more Islamic educational resources.

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12. Conclusion

This Islamic Scholar Chatbot project successfully demonstrates the application of AI in religious education. By combining web development with artificial intelligence, I have created a tool that can help people learn about Islam with authentic references. This project has helped me understand practical implementations of AI, web development, and how technology can be used for beneficial educational purposes.

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13. References

- Flask Documentation
- LangChain Documentation
- Groq API Documentation
- HTML/CSS/JavaScript Tutorials (W3Schools, MDN)
- Islamic Online Resources (e.g., Quran.com, Sunnah.com)

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14. How to Run the Project

Step 1: Install Requirements

Open terminal/command prompt and run:

pip install -r requirements.txt

Step 2: Set Environment Variables

Create a .env file in your project directory with the following content:

GROQ_API_KEY=your_actual_groq_api_key_here

Step 3: Run the Application

Run the Flask app:

python app.py

Step 4: Access in Browser

Open your browser and visit:

http://localhost:5000

Additional Files

Sample requirements.txt

Flask
python-dotenv
langchain
groq
requests

Sample .env Template

GROQ_API_KEY=your_groq_api_key_here

(Replace your_groq_api_key_here with your real API key.)
