# 🤖 Arabic Legal Chatbot – Egyptian Personal Status Law 🇪🇬

## Overview

An AI-powered Arabic legal assistant built using LangChain, OpenAI, Sentence Transformers, and Streamlit.   
This chatbot provides intelligent and context-aware answers to questions about Egyptian Personal Status Law (قانون الأحوال الشخصية) — including marriage, divorce, custody, and related topics.  
It integrates local legal data, FAQ datasets, and AI reasoning to answer Arabic legal questions, maintaining conversational memory for smooth dialogue.

## Features

✅ Conversational chatbot in Arabic  
✅ Uses LangChain with memory for context retention  
✅ Integrates SentenceTransformer for semantic similarity search  
✅ Combines local data, FAQ-based search, and Google Search fallback  
✅ Enhanced response refinement using OpenAI GPT models  
✅ Simple and interactive Streamlit user interface

## Tech Stack

- LangChain – for conversational agents and memory  
- OpenAI GPT-3.5 – for natural Arabic responses  
- Sentence Transformers – for semantic embeddings  
- Scikit-learn – for cosine similarity  
- Pandas – for data handling  
- Streamlit – for chatbot interface  
- Google Search API – for web fallback  
- dotenv – for API key management

## Installation

1. Clone the repository  
2. Create a virtual environment  
3. Install dependencies  
4. Add `.env` file with your OpenAI API key  
5. Add datasets (مواد القانون.json and personal\_status.xlsx)

## Project Structure

arabic-legal-chatbot/  
├── مواد القانون.json  
├── personal\_status.xlsx  
├── app.py  
├── requirements.txt  
├── .env  
├── README.md

## How It Works

1. Loads law and FAQ datasets in Arabic.  
2. Uses SentenceTransformer to compute text embeddings.  
3. Searches FAQs → Laws → Google → LLM response (in order).  
4. Uses LangChain memory to maintain conversational context.  
5. Displays answers in Arabic via Streamlit UI.

## Usage

Run the app with Streamlit and open http://localhost:8501.  
Ask Arabic questions such as “ما هي شروط الطلاق؟” and get detailed, legally grounded answers.

## Example Questions

- ما هي شروط الزواج في القانون المصري؟  
- من له الحق في حضانة الطفل بعد الطلاق؟  
- ما هي إجراءات رفع دعوى طلاق؟

## Future Improvements

- Add Arabic voice input/output (TTS & STT)  
- Extend to other Egyptian legal domains  
- Integrate Retrieval-Augmented Generation (RAG) with FAISS or Pinecone  
- Add document summarization and advanced reasoning

## License

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