

Public Policy Navigation Using AI

An AI-driven approach to simplify public policy
understanding

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Introduction Of The Project :



Policy Navigation is an AI-powered platform designed to transform complex public policy documents into accessible, interactive, and user-friendly information. By leveraging advanced technologies like Optical Character Recognition (OCR) and Natural Language Processing (NLP), the system enables users to effortlessly search, summarize, and ask questions about lengthy policy documents.

We need an intelligent system that makes policies **readable, searchable, and truly interactive.**

Project Vision & Solution



Bridge the Gap

Connect complex policy documents with public accessibility through intelligent technology



AI-Powered Platform

Leverage OCR and advanced NLP to extract, process, and understand policy content



Key Capabilities

- Intelligent summarization
- Context-aware Q&A
- User-friendly interface

Impact: Accelerate research timelines, empower informed citizens, and enable better decision-making across all levels of governance.



Milestone 1 :

Basic File Upload & Chat Interface

Step 1: Streamlit App Setup

- Created a clean Streamlit web application
- Added a multi-format file uploader (TXT, CSV, Excel)

Step 2: File Processing

- Implemented file type detection and content extraction
- Added text preview showing the first 5 lines for user verification

Step 3: Basic Chat Interface

- Integrated Streamlit chat input and display components
- Added session state management for maintaining conversation history

Tools Used: Streamlit, Python

Milestone 2 :

OCR Integration & JSON Export

Step 1: PDF Processing Setup

- Integrated pdfplumber for text-based PDF extraction
- Added pytesseract OCR for scanned/image-based PDFs

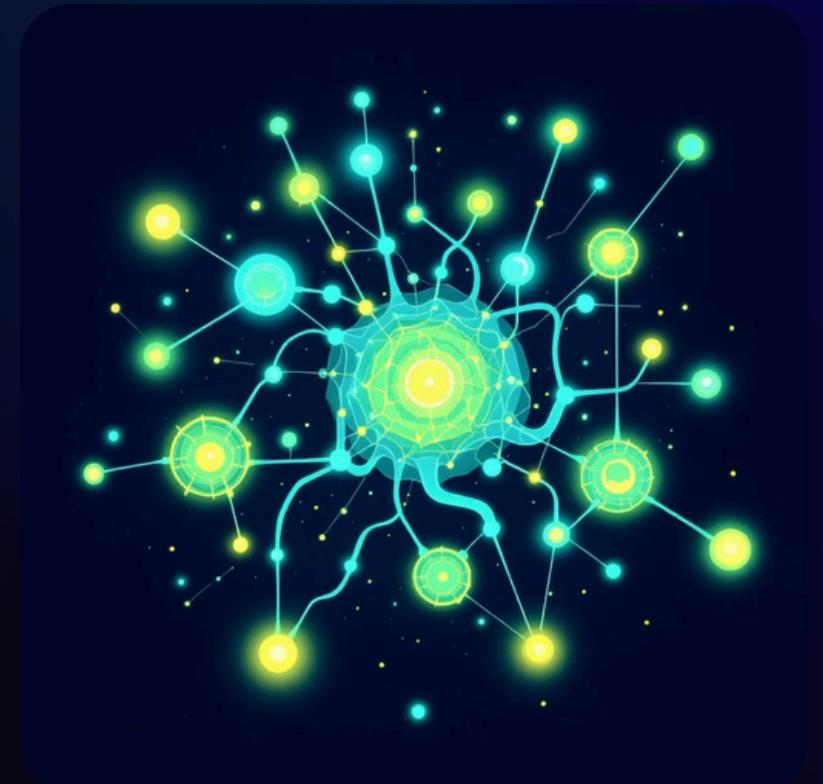
Step 2: Document Processing

- Implemented automatic PDF type detection (text vs. scanned)
- Processed and converted document images to machine-readable text

Step 3: Data Export & Storage

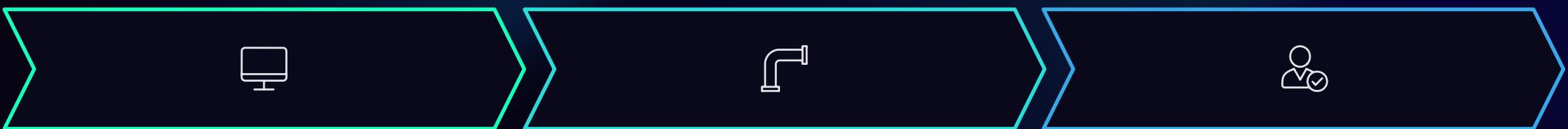
- Designed structured JSON format for extracted content
- Implemented JSON export functionality with metadata preservation

Tools Used: pdfplumber, pytesseract, pdf2image, JSON



Milestone 3 :

Intelligent Q&A with Testing



Document Processing & Chunking

Implemented text segmentation

into overlapping chunks

Tools : Ollama, Requests.

AI Model Integration

Setup Ollama with the Ollama 3.1 model

Configured streaming and blocking response modes

Response System

Implemented cosine similarity for content retrieval

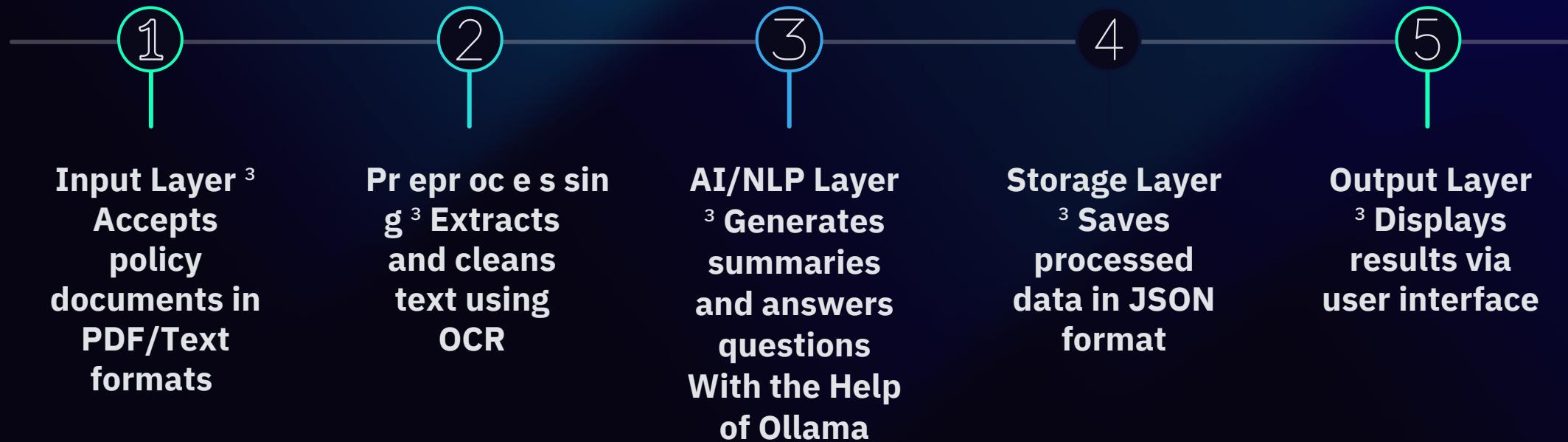
Added context-aware answer generation

Technology Stack

Component	Technologies
Frontend	Streamlit
Backend	Python
Document Processing	pdfplumber, pytesseract, pdf2image
NLP & AI	Ollama (Llama 3.1)
Data Handling	Pandas, JSON
Communication	Requests

Project Architecture

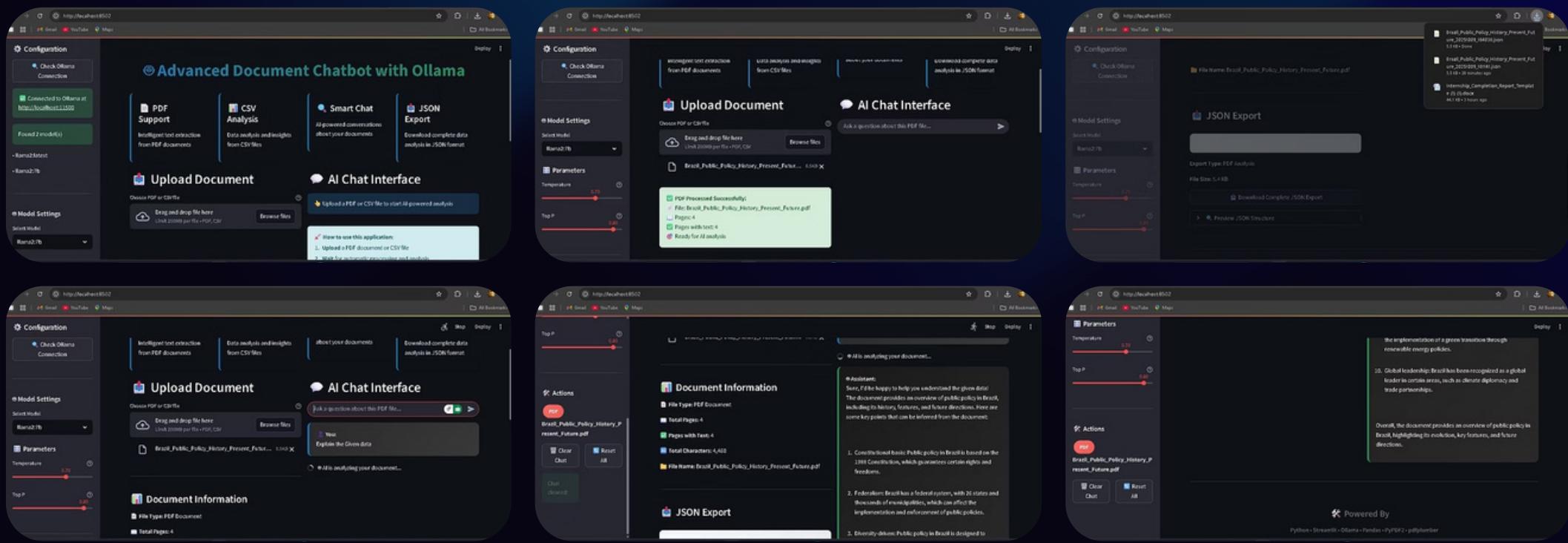
End-to-End Processing Pipeline



The Architecture ensures seamless data flow from document upload through AI processing to intelligent response delivery.

Output (Screenshots)

Interface demonstrations and real-world application



These screenshots demonstrate the platform's intuitive interface, from document upload through intelligent query processing to comprehensive answer generation.

Challenges Faced:

Challenge	Solution
Understanding AI in policy context	Mentor guidance + self-learning
Handling diverse document formats	Dual extraction approach
Virtual collaboration	Regular sync-ups and clear communication
Balancing academics with internship	Structured time management

Performance Metrics & Impact

95%+
OCR Accuracy

Precise text extraction from complex policy documents

70%
Length Reduction

Effective summarization while preserving key information

70%
Time Saved

Dramatically reduced research and analysis time

Outcomes

- **Accurate OCR Extraction** 3 95%+ accuracy in converting scanned docs to text
- **Effective Summarization** 3 Long policies reduced by ~70% while keeping meaning
- **Contextual Q&A** 3 Instant, relevant answers to user queries
- **Time Efficiency** 3 Reduced research/reading time by ~70%
- **User Engagement** 3 Citizens, researchers, and policymakers can interact easily
- **Scalable Framework** 3 Can be extended with Ollama or other LLMs for advanced Q&A

Conclusion & Vision

Our journey is about transforming how policies are created, understood, and engaged with. By harnessing the power of AI, we envision a future where governance is not just efficient, but also inherently interactive and accessible to all.



For Citizens

Easy access to complex policies, simplified explanations, and a clear understanding of rights and duties, fostering greater civic participation.



For Researchers

Streamlined access to vast policy datasets, faster analysis, and deeper insights for crafting evidence-based recommendations and studies.



For Policymakers

Data-driven decision-making, efficient policy drafting, improved communication with constituents, and enhanced accountability. This innovative approach paves the way for transparent, AI-driven governance, significantly boosting public participation, fostering accountability, and ultimately building stronger, more informed communities.



Thank you.

Together, we are transforming governance through AI innovation, paving the way for a more engaged and informed society.

Explore Our Project

[Visit GitHub Repository](#)

