

Chat with PDF using Gemini

Demonstration Video – [Click here](#)

Project Overview

- A Streamlit app to interact with PDF documents.
 - Extracts text, images, and tables from PDFs.
 - Uses Google Generative AI for embeddings and question answering.
 - Provides detailed answers to user queries based on PDF content.
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Libraries Used

- Streamlit
 - PyMuPDF (fitz)
 - pdfplumber
 - PIL (Pillow)
 - langchain
 - Google Generative AI
 - FAISS
 - dotenv
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Environment Setup

- Load environment variables using `dotenv`.
 - Configure Google API with the API key from the environment variable.
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PDF Text Extraction

- Extracts text and images using PyMuPDF.
 - Extracts tables using pdfplumber.
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Text Chunking

- Splits the extracted text into manageable chunks using `RecursiveCharacterTextSplitter`.

Embeddings and Vector Store

- Creates embeddings using Google Generative AI.
 - Builds a FAISS vector store from text chunks.
 - Saves the vector store locally for future use.
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Conversational Chain

- Uses a prompt template to answer questions based on the provided context.
 - Loads a question-answering chain with Google Generative AI.
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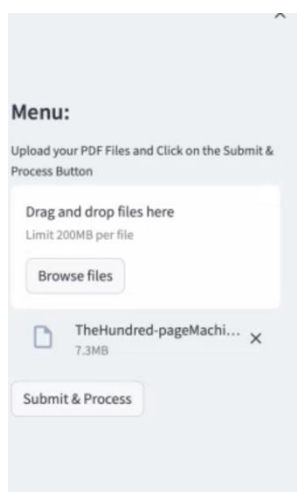
User Input and Similarity Search

User Input and Similarity Search:

- Loads the FAISS vector store.
 - Performs a similarity search based on the user's question.
 - Uses the conversational chain to generate detailed responses.
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Streamlit App

- Sets up the app configuration and layout.
- Provides a text input for user questions.
- Allows users to upload PDF files and process them.



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Ask a Question from the PDF Files

what is validation set?

Reply:

```
{
  "output_text" :
  "  Validation set is a subset of the dataset that is used to evaluate the
  performance of a machine learning model. It is used to fine-tune the model's
  hyperparameters and to assess its performance before it is deployed to
  production."
}
```

App Features

App Features:

- **User Interface:**
 - Header: "Chat with PDF using Gemini"
 - User input for questions.
 - **Sidebar Menu:**
 - File uploader for PDF files.
 - Submit & Process button to extract and process PDFs.
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How to Run

1. Install required libraries.
 2. Place `GOOGLE_API_KEY` in the `.env` file.
 3. Run the provided code using Streamlit: `streamlit run app.py`.
 4. Upload PDF files and ask questions.
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Conclusion

Conclusion:

- The app allows interactive querying of PDF documents.
 - Efficiently extracts and processes text, images, and tables.
 - Utilizes advanced AI models for accurate question answering.
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Thank You