Blood Test Analysis

-Wingify Task-

Description:

The Blood Test Analysis application utilizes the CrewAI framework to automate the analysis of blood test reports. The application processes a sample blood test report, searches for relevant health articles online, and provides tailored health recommendations to the user via email.

Prerequisites

- Create a Gemini API key.
- Ensure your Google account is 2-step verified and create an application password.
- Install the required libraries:
    - flask
    - crewai
    - pdfminer.six
    - requests
    - beautifulsoup4
    - cryptography
    - pyOpenSSL

Approach to Complete the Task

- **Research and Planning:** I watched the provided tutorials and prepared an outline for the implementation steps.
- **Implementation:**
    - Developed the main functionality within app.py, defining various agents to handle different tasks:
    - PDF Analysis Agent: Extracts and interprets data from blood test reports using Google's Gemini language model.
    - Web Search Agent: Searches for health-related articles based on the analysis.
    - Email Delivery Agent: Sends personalized health recommendations and articles to the user through gmail.
- **Testing:** Ensured all agents functioned as expected and integrated seamlessly.

Code Overview

app.py: Contains the main application logic, including:

- Setting up the Flask app.
- Defining the POST API endpoint to accept blood test reports and user emails.
- Implementing the logic for PDF analysis, web searches, and email delivery.

index.html: Provides the front-end interface for users to upload their blood test reports and input their email addresses. The content includes forms for user input and displays the results after processing.

File Structure

```
main_directory/
│
├── app.py
└── templates/
    └── index.html
```

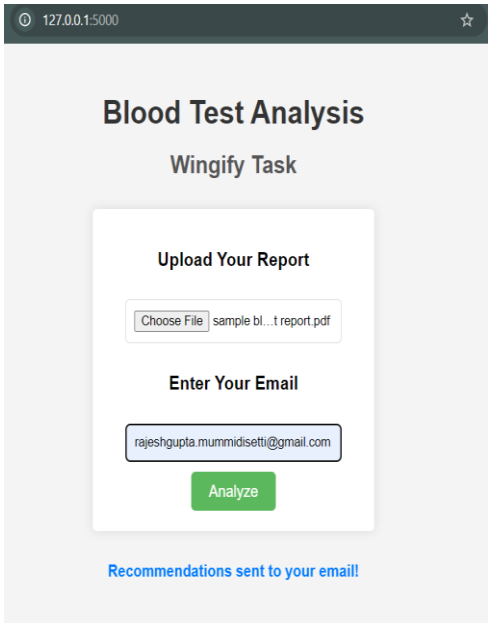
How to Run

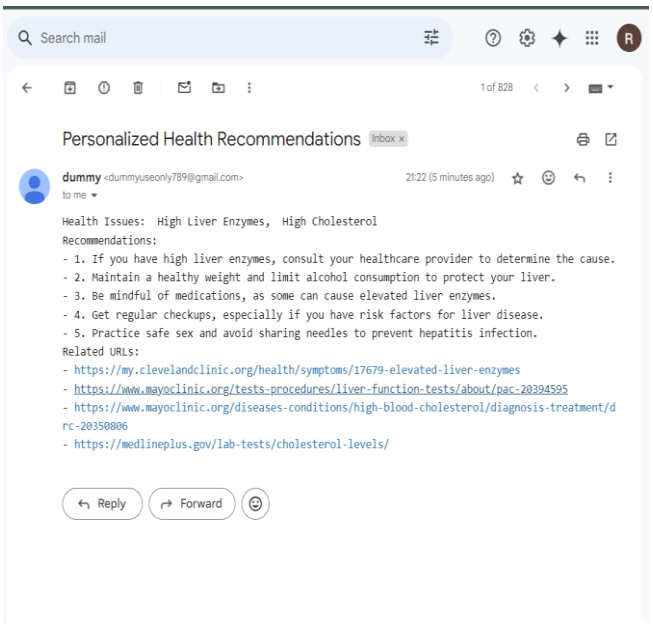
- Clone the repository or download the files.
- Install the required libraries as specified in the prerequisites.
- Modify the API, sender email, and application password in the app.py file before executing.
- Run the application in the terminal or command prompt using:

  python app.py
- After running in Anaconda Prompt, access the app by opening a web browser with url

  http://127.0.0.1:5000

Outputs





Codes: https://github.com/Rajeshmummidisetti/WingifyTask

Submitted by
Laxmi Rajesh Gupta Mummidisetti