

# AI Fullstack Assignment

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Hey there!

## Your Mission:

We need you to set up a crew of agents using the CrewAI framework. This crew will:

1. **Take a sample blood test report.**
2. **Understand what's inside it.**
3. **Search the internet for articles that fit the person's needs.**
4. **Make health recommendations based on what they find.**
5. **Develop a secure POST API to share the analysis and recommendations with the user via email.**

This role requires a blend of AI knowledge, full-stack development skills, and a little understanding of web security.

Sounds cool, right?

## Task Breakdown:

1. **Framework:** We'll be using CrewAI.
  - **Documentation:** [CrewAI Documentation](#)
  - **Tutorials to Help You Out:**
    - [Tutorial 1](#)
    - [Tutorial 2](#)
2. **Framework Utilization:** Implement the CrewAI framework to process blood test reports.
3. **API Development:** Create a secure POST API endpoint that accepts a blood test report in PDF format and a user's email address.
4. **PDF Analysis:** Design an algorithm to interpret and analyze the PDF content using AI models.
5. **Web Search:** Automate the process of searching for health-related articles based on the report's analysis.
6. **Email Delivery:** Integrate email functionality to send personalized health recommendations and related articles to the user.
7. **Authentication:** Ensure the API endpoint is secured with appropriate authentication mechanisms to protect sensitive data.

## What We Expect:

1. **API Functionality:** A working API that securely handles incoming requests and outgoing emails.

2. **Data Analysis:** Accurate and meaningful analysis of blood test reports, with easy-to-understand summaries.
3. **Article Retrieval:** Efficient retrieval of articles that are relevant to the user's health profile.
4. **Health Recommendations:** Tailored health recommendations and resourceful article links provided to the user.
5. **Documentation:** A README file outlining:
  - a. Your approach and methodology.
  - b. Clear instructions for setting up and executing the code.

### Submission Details:

- **When:** Submit your work by Thursday at 10 PM.
- **How:** Please submit your code and include a brief README file explaining:
  - How you approached the task.
  - Easy steps to run the code.

### Some Tips:

- **Start Early:** It's always a good idea to get a head start, so you have plenty of time to get familiar with everything.
- **Use Tutorials:** The tutorials will guide you through setting up your CrewAI environment, so don't skip them!
- **Test Everything:** Make sure each part of your system works smoothly, from reading the blood test report to giving recommendations.

We're excited to see what you come up with. Good luck, and have fun coding!