Problem Statement

Overview:

You are provided with three files:

1. **P&ID Image**: A diagram image.
2. **Predicted JSON**: A JSON file containing text extracted from the image using a data science module.
3. **Ground Truth JSON**: A JSON file containing manually curated text from the P&ID.

Problem Statement One:

Objective: Create a metrics module that will take the predicted JSON and ground truth JSON as input and generate metrics for the text detection and recognition accuracy of the data science module.

Requirements:

1. Develop a working solution to calculate and report the metrics.
2. Check the code into a GitHub repository.
3. Implement a FastAPI application that accepts the input through an API.
4. Deploy the application to an open-source platform.
5. Develop a user interface (UI) that accepts the inputs and displays the results.
6. Adhere to industry coding and architectural standards.
7. Write comprehensive test cases.
8. Provide well-documented processes and code.

Time Expected to Complete: Two days

Problem Statement Two:

Objective: Improve the accuracy of the text detection or recognition of the OCR extraction metrics by at least 10%.

Requirements:

1. Develop a solution to enhance the OCR extraction metrics.
2. Ensure the improvement is measurable and achieves at least a 10% increase in accuracy.

Time Expected to Complete: Three days

Note: If at any point you are unsure how to complete a task or feel overwhelmed, you may skip the respective tasks. However, this must be clearly communicated during the submission.