

Computer Market Hub - AI Intern Assignment

Problem Statement:

Your task is to develop an application that automates the counting of sheet stacks in a manufacturing plant. Currently, this task is performed manually, which is time-consuming and prone to errors. The goal is to create a solution that can accurately count the number of sheets from images of stacks, like the ones provided.

You can view the sample images here: [📷 Images](#)

You can view a sample video here: [📺 Video](#)

Objectives:

1. **Develop a computer vision application** to count the number of sheets in a stack from provided images.
2. **Build a user-friendly interface** where users can upload images and get the sheet count as output.
3. Ensure that the solution is **efficient and accurate** with minimal latency.

Guidelines:

1. **Image Analysis:**
 - Implement image preprocessing techniques to enhance accuracy (e.g., edge detection, contrast adjustment).
 - Consider using deep learning models (e.g., Convolutional Neural Networks) or traditional image processing methods.
2. **Application Development:**
 - Develop a web application where users can upload images and receive the sheet count.
 - Ensure the application is intuitive and easy to use.
 - Optimize the application for performance to ensure quick responses.
3. **Evaluation Metrics:**
 - Accuracy of the sheet count.
 - Processing time per image.
 - User interface and user experience.

Submission Guidelines:

1. **GitHub Repository:**
 - Upload all your code to a GitHub repository.

- Provide a README file with detailed instructions on how to run your code. If we are unable to run your code, we will not be able to evaluate it. Ensure your instructions are clear and accurate.
- 2. **Documentation:**
 - Create a PDF document including:
 - **Overall Approach:** Describe your approach to solving the problem.
 - **Frameworks/Libraries/Tools:** List the frameworks, libraries, and tools used and their purposes.
 - **Challenges and Solutions:** Discuss the challenges you faced and how you overcame them.
 - **Future Scope:** Propose potential improvements and additional features for the application.
- 3. **Video Demonstration:**
 - Record a one-minute video demonstrating your application in action.
 - Show the process of uploading an image and obtaining the sheet count.
- 4. **Form Submission:**
 - After the deadline, fill out the provided form with your GitHub repository link and other requested details.
- 5. **Communication:**
 - For any questions, reach out to us at info@computermarkethub.com.

Evaluation Criteria:

1. **Technical Solution:**
 - Accuracy and efficiency of the counting model.
 - Quality of the code (readability, structure, documentation).
2. **User Interface:**
 - Usability and design of the web application.
 - User experience.
3. **Innovation:**
 - Novelty and creativity in approach and solution.
4. **Presentation:**
 - Clarity and comprehensiveness of the documentation.
 - Quality and clarity of the video demonstration.

Timeline:

- **Assignment Release Date:** Jul 28, 2024
- **Submission Deadline:** Aug 5, 2024

Please fill the below form once you complete the assignment:

<https://forms.gle/81fXhjYxQd7HgkMH8>

Good luck, and we look forward to your innovative solutions!