

SECTION C

Weekly Journal

Instruction to Student:

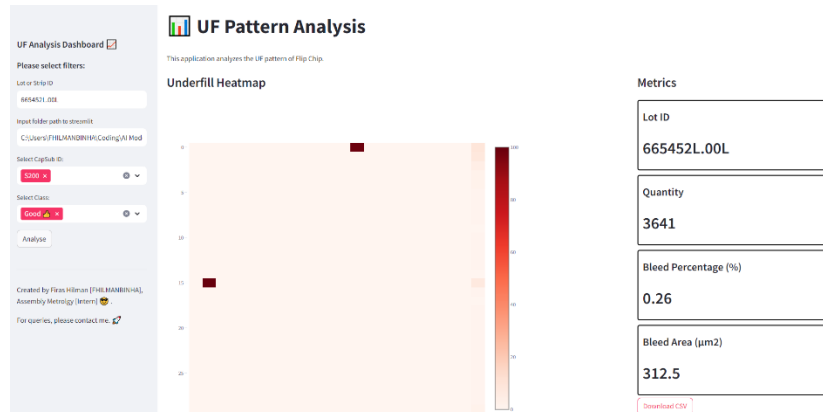
1. On a daily basis, record the specific task that you carried out for that day.
2. At the end of every week, describe one task in more details with diagrams or photos attached.

Week : 6 Date from: 15/4/2024 to 19/4/2024

Department/Section Attached: Assembly Metrology

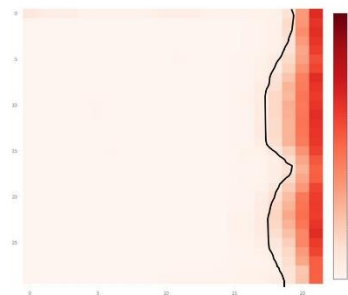
Day	Tasks Record
Monday	<ul style="list-style-type: none"> Completed Heat Map Code for defect analysis with high accuracy in patterns. Specific settings needed for different images. Tried creating a binary classification model for contamination but did not have promising results with high loss and low accuracy. The border of the images is detected as defects consistently, a method to exclude the exceptions are required. Information collected needs to be saved into a table and downloaded
Tuesday	<ul style="list-style-type: none"> Detection settings was tested using trial and error. With settings to adjust resolution and size of detection square Integration to an external dashboard or application required. Visual Representation for easier viewing needed Calculation of other metrics would be appreciated for better analysis
Wednesday	<ul style="list-style-type: none"> Exported python script from a ipynb jupyter notebook to a py python file for usage with other codes. Manipulated the code to accept universal settings. Integrated with streamlit dashboard with basic setting for user Adding widgets and buttons to create a simple and easier UX.
Thursday	<ul style="list-style-type: none"> Created the first version of the Streamlit dashboard with python backend processing All python functions working as expected with no issues More functions are to be added to provide additional metrics. Simplifying the code required to reduce processing time All data is added into a table, but a method is required to be downloadable by user
Friday	<ul style="list-style-type: none"> Completed the first version of the Streamlit Dashboard. All Metrics and data exported into a .csv file for further processing if required. More graphics should be added such as line graphs and charts. More processing power needed for larger data sets and over time. More filters would be essential in ensuring accurate data and larger representations of data

Describe one task in more details with diagrams or photos attached.
Explain the importance/relevance of this task to the company.



I created a dashboard using streamlit to allows users to conduct their own defect analysis on the lot. Currently the provided metrics are a heatmap of the outline of underfill, the quantity in the lot, percentage area of underfill and the actual area. These metrics allow users to view patterns of the underfill of the lot, looking out for changes and abnormalities in the outline of the underfill as well as increases in underfill area.

Underfill Heatmap



For example, we can see an obvious outline of the underfill showing two peaks. From this outline, users can understand the underfill outline for this lot, and know that the defects have a specific pattern to it, hence can adjust the settings of the machinery to reduce defects. This would also help in predictive analysis, where users can notice a potential pattern, despite low percentage can prevent future defects.

Assessment on Student

Grading Scheme :

A (Excellent)	-	Consistently exhibit qualities beyond expectation and norms.
B+ (Very Good)	-	Exhibit qualities above expectation and the norms.
B (Good)	-	Exhibit qualities which are considered necessary to produce good quality work.
C+ (Good Credit)	-	Exhibit good qualities which are the norm.
C (Credit)	-	Exhibit acceptable qualities which are the norm.
D (Pass)	-	Exhibit qualities which varies between the norm and unacceptable standard.
F (Fail)	-	Exhibit qualities which are not acceptable and are hindrances to operations.

Conduct:	Average	Attendance: Average	* Regular / Average / Poor
Performance :	Satisfactory	Punctuality: Satisfactory	* Satisfactory / Unsatisfactory
Remarks :			

Name of Supervisor :	<div>Click or tap here to enter text.</div> Francis Castro	Signature :	
*Delete whichever is not applicable		Date :	