

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.

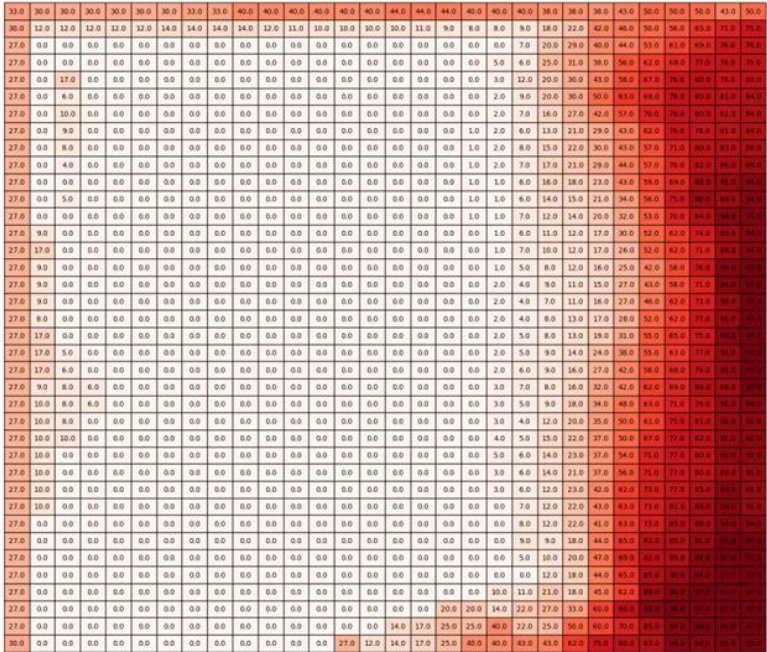
Week : 5 Date from: 8/4/2024 to 12/4/2024

Department/Section Attached: Assembly Metrology

Day	Tasks Record
Monday	<ul style="list-style-type: none"> Trained ModelV6 and ModelV7 to compare defects without a NoDie Defect Class. Created a new augmented data set without rotational augmentation. Testing did not prove to be effective, hence decided to pivot my thinking and work on splitting the image into several sub-images and test effectiveness in binary classification.
Tuesday	<ul style="list-style-type: none"> Split the project into two smaller classification codes. <ul style="list-style-type: none"> Binary Classification with Contamination Detection Model. Color Extraction Classification through darkness percentage calculation to produce a heat map. Created an image cropping function to focus the usable image and created a image splitting function to compare image at a smaller scale If Successful, models can analyze the images and track patterns within the samples.
Wednesday	<ul style="list-style-type: none"> Hari Raya Holiday No work done
Thursday	<ul style="list-style-type: none"> Worked on integrating all functions into a single code with editable variables to adjust threshold for cropping, x and y values for splitting into rows and columns, adjustable sensitivity of the calculation. Using the most common color value as a benchmark, darker pixels and lighter pixels can be calculated and computed into a percentage of total pixels. Percentages will be measured and compiled with other images of the same row and column to create a row column matrix which will be used to present data visually using a heat map with red color hue – hence can be easily integrated into a dashboard Cropping function creates issues due to improper cropping, hence code would have to be adjusted accordingly
Friday	<ul style="list-style-type: none"> Created a good graphic representation of the data with possibility of increasing row and column count, hence pinpointing exact areas where its defected. Spent majority of the time adjusting values to suit requirement of the photo. Implemented functions without requiring saving into a central folder, reducing data used, increasing processing speed and uses less memory. Setting will need to be adjusted to different types of units and pictures.

Describe one task in more details with diagrams or photos attached.

Explain the importance/relevance of this task to the company.



This is a heat map created using the provided data samples. Darker areas signify an increased occurrence of defect at the are. Ignoring border values, we can see that most of the defects are coming for the righter region of the Die. Additionally, we can also see that their area where defect count is not as high, but technicians would be able to track the progress and rectify issues with machinery that could have caused the defect.

Data can be shown on a dashboard for engineering and technicians to view, hence reducing time spend manually inspecting each lot to detect for 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 :

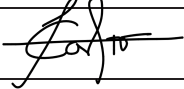
Satisfactory

Punctuality:

Satisfactory

* Satisfactory / Unsatisfactory

Remarks :

Name of Supervisor :	Click or drag text to Center text. Francis Castro	Signature :	
*Delete whichever is not applicable		Date :	