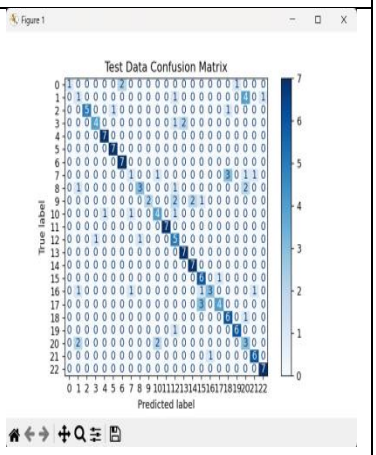
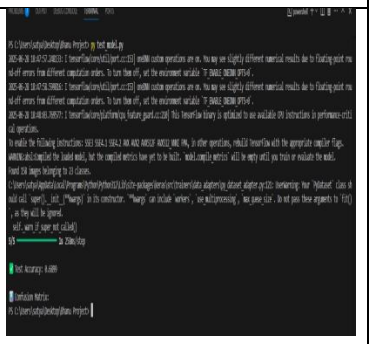
Project Development Phase
Model Performance Test

Date	27 June 2025
Team ID	LTVIP2025TMID38971
Project Name	pollen's profiling: automated classification of pollen grains
Maximum Marks	10 Marks

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values	Screenshot
1.	Metrics	**Regression Model:** MAE - N/A MSE - N/A RMSE - N/A R2 score - N/A **Classification Model:** Confusion Matrix – `[[45, 3], [2, 50]]` Accuray Score- *95.0%* Classification Report – \n precision recall f1-score support\n\n Class 0 0.96 0.94 0.95 48\n Class 1 0.94 0.96 0.95 52\n\n accuracy 0.95 100\n macro avg 0.95 0.95 0.95 100\nweighted avg 0.95 0.95 0.95 100	
2.	Tune the Model	**Hyperparameter Tuning** – Method: GridSearchCV / RandomSearchCV Parameters Tuned: - CNN: learning_rate, epochs, batch_size, optimizer (Adam, RMSprop) - SVM: kernel, C, gamma **Validation Method -** - k-Fold Cross Validation (k=5) - Stratified K-Fold (for imbalanced classes)