**Project Development Phase**

**Model Performance Test**

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| 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.

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| **S.No.** | **Parameter** | **Values** | **Screenshot** |
|  | 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 |  |
|  | 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) |  |