

## Project: CleanTech: Transforming Waste Management with Transfer Learning

**Document Type:** Model Performance Test

**Team ID:** LTVIP2025TMID45663

---

### Model Performance Testing

#### 1. Metrics

- **Classification Model:**
  - **Test Accuracy Score:** 0.7436
  - **Test Loss:** 0.5594
  - **Confusion Matrix:** Based on the provided image, the confusion matrix shows the following results:
    - **True Positives:** The model correctly classified 18 instances of Recyclable waste and 12 instances of Non-Recyclable waste.
    - **False Positives:** The model incorrectly classified 5 instances as Recyclable (when they were actually Non-Recyclable) and 5 instances as Non-Recyclable (when they were actually Recyclable).
    - The total number of test samples appears to be 40.
  - **Classification Report:** Not provided in documents, but the accuracy and loss metrics are now available.

#### 2. Tune the Model

- **Hyperparameter Tuning:** The documents mention that the model was trained on Google Colab using transfer learning (VGG16), but specific hyperparameter details were not provided.
- **Validation Method:** The provided plots show the model's training and validation accuracy/loss over a number of epochs, confirming the model's performance was evaluated during development.

### 3. Screenshots

- The provided images show the **Confusion Matrix** and the **Training vs. Validation Accuracy/Loss** plots, which visually represent the model's performance and training history.



