# **Model Performance Test**

**Date**: 27 June 2025  
**Team ID**: LTVIP2025TMID45523  
**Project Name**: Enchanted Wings: Marvels of Butterfly Species  
**Maximum Marks**: Not Specified

## **Model Performance Testing**

Enchanted Wings leverages transfer learning to classify 6499 images across 75 butterfly species, supporting biodiversity monitoring, ecological research, and citizen science. This template evaluates the Power BI integration for visualizing classification results, species distributions, and user contributions, ensuring effective data presentation and analysis.

### **Model Performance Table**

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| **S.NO** | **Parameter** | **Screenshot / Values** |
| 1. | Data Rendered | Dataset: 6499 butterfly images with labels (75 species), split into training (4549), validation (975), and test (975) sets. Additional metadata: geolocation, timestamp. Rendered in Power BI as tables and maps. |
| 2. | Data Preprocessing | Cleaned dataset by removing corrupted images and standardizing formats (.jpg, .png). Normalized pixel values for model input. Aggregated metadata for species distribution analysis. |
| 3. | Utilization of Data Filters | Applied filters: species name, confidence score (>0.8), geolocation (by region), timestamp (by date). Enabled interactive slicing in dashboards. |
| 4. | DAX Queries Used | 1. TotalImages = COUNTROWS(ButterflyData): Counts total images.  2. AccuracyRate = AVERAGE(ButterflyData[ConfidenceScore]): Calculates average classification confidence.  3. SpeciesCount = DISTINCTCOUNT(ButterflyData[Species]): Counts unique species. |
| 5. | Dashboard Design | No of Visualizations / Graphs: 4 (Bar chart: species distribution; Map: geolocation data; Pie chart: classification accuracy; Table: top species by frequency). |
| 6. | Report Design | No of Visualizations / Graphs: 3 (Line chart: classification accuracy over time; Heatmap: species density by region; Card: total images processed). |