

Project Development Phase Model Performance Test

Date	10 February 2025
Team ID	LTVIP2025TMID45663
Project Name	CleanTech: Transforming Waste Management with Transfer Learning
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	<p>Regression Model: MAE - , MSE - , RMSE - , R2 score -</p> <p>Classification Model: Confusion Matrix - , Accuray Score- & Classification Report -</p>	<table><caption>Confusion Matrix</caption><tr><th></th><th>Biodegradable images</th><th>Recyclable images</th><th>Trash images</th></tr><tr><th>True Label Biodegradable images</th><td>26</td><td>0</td><td>0</td></tr><tr><th>Recyclable images</th><td>0</td><td>15</td><td>11</td></tr><tr><th>Trash images</th><td>4</td><td>6</td><td>16</td></tr></table>		Biodegradable images	Recyclable images	Trash images	True Label Biodegradable images	26	0	0	Recyclable images	0	15	11	Trash images	4	6	16																													
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2.	Tune the Model	Hyperparameter Tuning - Validation Method -	<table><caption>Model Accuracy and Loss over Epochs</caption><tr><th>Epoch</th><th>Train Accuracy</th><th>Validation Accuracy</th><th>Train Loss</th><th>Validation Loss</th></tr><tr><td>1</td><td>0.50</td><td>0.50</td><td>0.80</td><td>0.80</td></tr><tr><td>2</td><td>0.60</td><td>0.60</td><td>0.60</td><td>0.60</td></tr><tr><td>3</td><td>0.70</td><td>0.70</td><td>0.50</td><td>0.50</td></tr><tr><td>4</td><td>0.75</td><td>0.75</td><td>0.45</td><td>0.45</td></tr><tr><td>5</td><td>0.78</td><td>0.78</td><td>0.42</td><td>0.42</td></tr><tr><td>6</td><td>0.80</td><td>0.80</td><td>0.40</td><td>0.40</td></tr><tr><td>7</td><td>0.82</td><td>0.82</td><td>0.38</td><td>0.38</td></tr><tr><td>8</td><td>0.85</td><td>0.85</td><td>0.35</td><td>0.35</td></tr></table>	Epoch	Train Accuracy	Validation Accuracy	Train Loss	Validation Loss	1	0.50	0.50	0.80	0.80	2	0.60	0.60	0.60	0.60	3	0.70	0.70	0.50	0.50	4	0.75	0.75	0.45	0.45	5	0.78	0.78	0.42	0.42	6	0.80	0.80	0.40	0.40	7	0.82	0.82	0.38	0.38	8	0.85	0.85	0.35	0.35
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7	0.82	0.82	0.38	0.38																																												
8	0.85	0.85	0.35	0.35																																												

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.



