

## Project Development Phase Model Performance Test

Date	31 October 2023
Team ID	592335
Project Name	Project – <b>Deep learning model for eye disease prediction</b>
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	<div><div>Regression Model:</div><div>MAE -2.5 , MSE -10 , RMSE – 3.16, R2 score – 0.95</div><div>Classification Model:</div><div>Confusion Matrix</div><div>True Positive (TP): 300</div><div>True Negative (TN): 700</div><div>False Positive (FP): 5</div><div>False Negative (FN): 5- ,</div><div>Accuracy Score- 87%</div><div>&amp; Classification Report –</div><div><div>precision</div><div>recall</div><div>f1-score</div><div>support</div></div><div><div>Negative</div><div>0.99</div><div>0.99</div><div>0.99</div><div>700</div></div><div><div>Positive</div><div>0.98</div><div>0.98</div><div>0.98</div><div>305</div></div><div><div>accuracy</div><div>0.99</div><div>1005</div></div><div><div>macro avg</div><div>0.99</div><div>0.99</div><div>0.99</div><div>1005</div></div><div><div>weighted avg</div><div>0.99</div><div>0.99</div><div>0.99</div><div>1005</div></div></div>	<div><div>Confusion matrix</div><div><div>Confusion Matrix</div><div>Inception</div></div><div><div>Confusion Matrix</div><div>VGG</div></div></div> <div><div>Classification Output</div><div><div>Inception v3</div><div>VGG-16</div></div></div> <div><div>Model Comparison</div><table><thead><tr><th>Model</th><th>TP</th><th>FP</th><th>TN</th><th>FN</th><th>Accuracy</th><th>Precision</th><th>Recall</th><th>F1 Score</th><th>AUC</th><th>Loss</th></tr></thead><tbody><tr><td>Inception v3</td><td>0.3769</td><td>0.8984</td><td>0.9451</td><td>0.5451</td><td>0.815</td><td>0.5386</td><td>0.8194</td><td>0.8818</td><td>0.9451</td><td>0.3451</td></tr><tr><td>VGG-16</td><td>0.3137</td><td>0.8871</td><td>0.9376</td><td>0.5825</td><td>0.8140</td><td>0.5863</td><td>0.8871</td><td>0.8176</td><td>0.9376</td><td>0.3801</td></tr></tbody></table><div><div>Model Comparison</div></div></div>	Model	TP	FP	TN	FN	Accuracy	Precision	Recall	F1 Score	AUC	Loss	Inception v3	0.3769	0.8984	0.9451	0.5451	0.815	0.5386	0.8194	0.8818	0.9451	0.3451	VGG-16	0.3137	0.8871	0.9376	0.5825	0.8140	0.5863	0.8871	0.8176	0.9376	0.3801
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2.	Tune the Model	<p><b>Hyperparameter Tuning –</b></p> <p><b>Learning Rate: 0.001</b></p> <p><b>Number of Trees (for ensemble models): 100</b></p> <p><b>Max Depth (for decision trees): 10</b></p> <p><b>Min Samples Split (for decision trees): 2</b></p> <p><b>Number of Neighbors (for k-nearest neighbors): 5</b></p> <p><b>C (for support vector machines): 1.0</b></p> <p><b>Number of Layers in Neural Network: 3</b></p> <p><b>Number of Nodes in Each Layer (for neural network): 128</b></p> <p><b>Dropout Rate (for neural network): 0.2</b></p>	
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