

Project Performance Phase

Model Performance Test

Date	6 November 2023
Team ID	Team-593012
Project Name	Alzheimer Disease Prediction

Model Performance Testing:

[illegible]

2.	Accuracy	<div>Training Accuracy - 90.75</div> <div>Validation Accuracy – 90.63</div>	<div><div><div>Epoch 1/20</div><div>256/256 [=====] - 41s 91ms/step - loss: 1.4895 - accuracy: 0.7276 - precision: 0.4157 - recall: 0.2211 - auc: 0.6274 - val_loss: 1.0269 - val_accuracy: 0.7915 - val_precision: 0.8917 - val_recall: 0.1890 - val_auc: 0.8284</div><div>Epoch 2/20</div><div>256/256 [=====] - 21s 82ms/step - loss: 1.0417 - accuracy: 0.7921 - precision: 0.6591 - recall: 0.3491 - auc: 0.8001 - val_loss: 0.7444 - val_accuracy: 0.8373 - val_precision: 0.8395 - val_recall: 0.4316 - val_auc: 0.9021</div><div>Epoch 3/20</div><div>256/256 [=====] - 21s 84ms/step - loss: 0.8685 - accuracy: 0.8172 - precision: 0.7404 - recall: 0.4141 - auc: 0.8600 - val_loss: 0.6704 - val_accuracy: 0.8473 - val_precision: 0.8227 - val_recall: 0.4961 - val_auc: 0.9144</div><div>Epoch 4/20</div><div>256/256 [=====] - 21s 82ms/step - loss: 0.7836 - accuracy: 0.8324 - precision: 0.7766 - recall: 0.4625 - auc: 0.8864 - val_loss: 0.6488 - val_accuracy: 0.8519 - val_precision: 0.8090 - val_recall: 0.5337 - val_auc: 0.9206</div><div>Epoch 5/20</div><div>256/256 [=====] - 21s 82ms/step - loss: 0.7592 - accuracy: 0.8382 - precision: 0.7813 - recall: 0.4901 - auc: 0.8950 - val_loss: 0.6200 - val_accuracy: 0.8588 - val_precision: 0.8105 - val_recall: 0.5679 - val_auc: 0.9261</div><div>Epoch 6/20</div><div>256/256 [=====] - 21s 82ms/step - loss: 0.7262 - accuracy: 0.8442 - precision: 0.7874 - recall: 0.5168 - auc: 0.9042 - val_loss: 0.5861 - val_accuracy: 0.8639 - val_precision: 0.8311 - val_recall: 0.5718 - val_auc: 0.9358</div><div>Epoch 7/20</div><div>256/256 [=====] - 20s 78ms/step - loss: 0.6785 - accuracy: 0.8528 - precision: 0.7913 - recall: 0.5587 - auc: 0.9157 - val_loss: 0.5777 - val_accuracy: 0.8662 - val_precision: 0.8229 - val_recall: 0.5923 - val_auc: 0.9364</div><div>Epoch 8/20</div><div>256/256 [=====] - 21s 82ms/step - loss: 0.6705 - accuracy: 0.8562 - precision: 0.7864 - recall: 0.5838 - auc: 0.9192 - val_loss: 0.5566 - val_accuracy: 0.8677 - val_precision: 0.7876 - val_recall: 0.6445 - val_auc: 0.9408</div><div>Epoch 9/20</div><div>256/256 [=====] - 20s 77ms/step - loss: 0.6453 - accuracy: 0.8623 - precision: 0.7892 - recall: 0.6129 - auc: 0.9249 - val_loss: 0.5346 - val_accuracy: 0.8806 - val_precision: 0.8204 - val_recall: 0.6689 - val_auc: 0.9472</div><div>Epoch 10/20</div><div>256/256 [=====] - 20s 77ms/step - loss: 0.6413 - accuracy: 0.8634 - precision: 0.7810 - recall: 0.6304 - auc: 0.9265 - val_loss: 0.5327 - val_accuracy: 0.8823 - val_precision: 0.8249 - val_recall: 0.6719 - val_auc: 0.9478</div><div>Epoch 11/20</div><div>256/256 [=====] - 20s 78ms/step - loss: 0.6170 - accuracy: 0.8720 - precision: 0.7970 - recall: 0.6550 - auc: 0.9326 - val_loss: 0.5373 - val_accuracy: 0.8789 - val_precision: 0.7946 - val_recall: 0.6953 - val_auc: 0.9462</div><div>Epoch 12/20</div><div>256/256 [=====] - 20s 77ms/step - loss: 0.5912 - accuracy: 0.8761 - precision: 0.7992 - recall: 0.6738 - auc: 0.9379 - val_loss: 0.5094 - val_accuracy: 0.8877 - val_precision: 0.8059 - val_recall: 0.7256 - val_auc: 0.9515</div><div>Epoch 13/20</div><div>256/256 [=====] - 20s 77ms/step - loss: 0.5822 - accuracy: 0.8795 - precision: 0.7976 - recall: 0.6943 - auc: 0.9398 - val_loss: 0.5083 - val_accuracy: 0.8896 - val_precision: 0.8136 - val_recall: 0.7163 - val_auc: 0.9536</div><div>Epoch 14/20</div><div>256/256 [=====] - 21s 82ms/step - loss: 0.5547 - accuracy: 0.8862 - precision: 0.8128 - recall: 0.7076 - auc: 0.9453 - val_loss: 0.4950 - val_accuracy: 0.8939 - val_precision: 0.8088 - val_recall: 0.7539 - val_auc: 0.9551</div><div>Epoch 15/20</div><div>256/256 [=====] - 20s 77ms/step - loss: 0.5547 - accuracy: 0.8867 - precision: 0.8077 - recall: 0.7178 - auc: 0.9457 - val_loss: 0.4612 - val_accuracy: 0.9019 - val_precision: 0.8309 - val_recall: 0.7627 - val_auc: 0.9608</div><div>Epoch 16/20</div><div>256/256 [=====] - 21s 82ms/step - loss: 0.5190 - accuracy: 0.8965 - precision: 0.8268 - recall: 0.7416 - auc: 0.9523 - val_loss: 0.4730 - val_accuracy: 0.8973 - val_precision: 0.8191 - val_recall: 0.7563 - val_auc: 0.9586</div><div>Epoch 17/20</div><div>256/256 [=====] - 20s 77ms/step - loss: 0.5137 - accuracy: 0.8978 - precision: 0.8259 - recall: 0.7493 - auc: 0.9533 - val_loss: 0.4607 - val_accuracy: 0.9016 - val_precision: 0.8335 - val_recall: 0.7578 - val_auc: 0.9610</div><div>Epoch 18/20</div><div>256/256 [=====] - 21s 82ms/step - loss: 0.4944 - accuracy: 0.9023 - precision: 0.8337 - recall: 0.7609 - auc: 0.9566 - val_loss: 0.4282 - val_accuracy: 0.9093 - val_precision: 0.8404 - val_recall: 0.7866 - val_auc: 0.9659</div><div>Epoch 19/20</div><div>256/256 [=====] - 20s 77ms/step - loss: 0.4791 - accuracy: 0.9055 - precision: 0.8383 - recall: 0.7706 - auc: 0.9596 - val_loss: 0.4393 - val_accuracy: 0.9037 - val_precision: 0.8260 - val_recall: 0.7788 - val_auc: 0.9642</div><div>Epoch 20/20</div><div>256/256 [=====] - 20s 78ms/step - loss: 0.4648 - accuracy: 0.9075 - precision: 0.8416 - recall: 0.7759 - auc: 0.9616 - val_loss: 0.4322 - val_accuracy: 0.9091 - val_precision: 0.8353 - val_recall: 0.7925 - val_auc: 0.9655</div></div><div>47 - accuracy: 0.8867 - precision: 0.8077 - recall: 0.7178 - auc: 0.9457 - val_loss: 0.4612 - val_accuracy: 0.9019 - v</div><div>90 - accuracy: 0.8965 - precision: 0.8268 - recall: 0.7416 - auc: 0.9523 - val_loss: 0.4730 - val_accuracy: 0.8973 - v</div><div>37 - accuracy: 0.8978 - precision: 0.8259 - recall: 0.7493 - auc: 0.9533 - val_loss: 0.4607 - val_accuracy: 0.9016 - v</div><div>44 - accuracy: 0.9023 - precision: 0.8337 - recall: 0.7609 - auc: 0.9566 - val_loss: 0.4282 - val_accuracy: 0.9093 - v</div><div>91 - accuracy: 0.9055 - precision: 0.8383 - recall: 0.7706 - auc: 0.9596 - val_loss: 0.4393 - val_accuracy: 0.9037 - v</div><div>48 - accuracy: 0.9075 - precision: 0.8416 - recall: 0.7759 - auc: 0.9616 - val_loss: 0.4322 - val_accuracy: 0.9091 - v</div><div><div># Evaluating the model on the data</div><div>test_scores = custom_xception_model.evaluate(test_data, test_labels)</div><div>print("Testing Accuracy: %.2f%%" % (test_scores[1] * 100))</div><div>80/80 [=====] - 5s 63ms/step - loss: 0.4436 - accuracy: 0.9063 - precision: 0.8354 - recall: 0.7789 - auc: 0.9642</div><div>Testing Accuracy: 90.63%</div></div></div>
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