

Project Development Phase
Model Performance Test

Date	10 November 2022
Team ID	PNT2022TMID35901
Project Name	Natural Disasters Intensity Analysis And Classification Using Artificial Intelligence
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.	Model Summary	-	<pre> Model: "sequential" Layer (type) Output Shape Param # ===== conv2d (Conv2D) (None, 297, 297, 32) 896 max_pooling2d (MaxPooling2D) (None, 148, 148, 32) 0 conv2d_1 (Conv2D) (None, 146, 146, 64) 18496 max_pooling2d_1 (MaxPooling2D) (None, 73, 73, 64) 0 dropout (Dropout) (None, 73, 73, 64) 0 conv2d_2 (Conv2D) (None, 71, 71, 32) 18464 max_pooling2d_2 (MaxPooling2D) (None, 35, 35, 32) 0 dropout_1 (Dropout) (None, 35, 35, 32) 0 flatten (Flatten) (None, 39200) 0 dense (Dense) (None, 256) 10035456 dropout_2 (Dropout) (None, 256) 0 dense_1 (Dense) (None, 4) 1028 ===== Total params: 10,074,340 Trainable params: 10,074,340 Non-trainable params: 0 </pre>
2.	Accuracy	Training Accuracy - 90.73% Validation Accuracy - 88.01% Model Accuracy - 88.81 %	<pre> Epoch 20/20 310/310 [=====] - 381s 1s/step - loss: 0.2490 - accuracy: 0.9073 - val_loss: 0.4113 - val_accuracy: 0.8801 </pre>

3.	Confidence Score	Class Detected -	CNN Disaster Classification Model Accuracy on test set: 0.8881				
		Cyclone (0) :	precision	recall	f1-score	support	
		Confidence Score - 91%					
		Class Detected -	0	0.94	0.88	0.91	94
		Earthquake (1) :	1	0.86	0.88	0.87	136
		Confidence Score - 87%	2	0.82	0.90	0.85	108
		Class Detected -	3	0.97	0.89	0.93	109
		Flood (2) :					
		Confidence Score - 85%	accuracy			0.89	447
		Class Detected -	macro avg	0.90	0.89	0.89	447
		Wildfire (3) :	weighted avg	0.89	0.89	0.89	447
		Confidence Score - 93%					