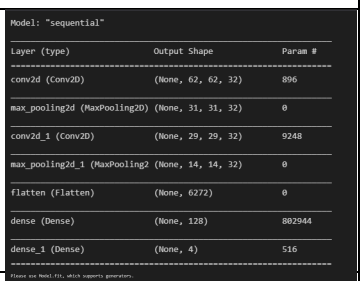
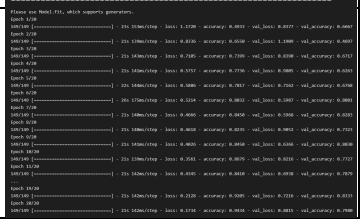
Project Development Phase
Model Performance Test

Date	10 November 2022
Team ID	PNT2022TMID28596
Project Name	Natural Disaster 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	Total params: 813,604 Trainable params: 813,604 Non-trainable params: 0	
2.	Accuracy	Training Accuracy – 94.3% Validation Accuracy -83.33%	

Model Summary:

```
Model: "sequential"
_________________________________________________________________
Layer (type)                 Output Shape              Param #
=================================================================
conv2d (Conv2D)              (None, 62, 62, 32)        896
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max_pooling2d (MaxPooling2D) (None, 31, 31, 32)        0
_________________________________________________________________
conv2d_1 (Conv2D)            (None, 29, 29, 32)        9248
_________________________________________________________________
max_pooling2d_1 (MaxPooling2 (None, 14, 14, 32)        0
_________________________________________________________________
flatten (Flatten)            (None, 6272)              0
_________________________________________________________________
dense (Dense)                (None, 128)               802944
_________________________________________________________________
dense_1 (Dense)              (None, 4)                 516
=================================================================
```

Accuracy:

```
Please use Model.fit, which supports generators.
Epoch 1/20
149/149 [==============================] - 23s 153ms/step - loss: 1.1720 - accuracy: 0.4933 - val_loss: 0.8377 - val_accuracy: 0.6667
Epoch 2/20
149/149 [==============================] - 21s 139ms/step - loss: 0.8336 - accuracy: 0.6550 - val_loss: 1.1909 - val_accuracy: 0.4697
Epoch 3/20
149/149 [==============================] - 21s 143ms/step - loss: 0.7105 - accuracy: 0.7399 - val_loss: 0.8390 - val_accuracy: 0.6717
Epoch 4/20
149/149 [==============================] - 21s 141ms/step - loss: 0.5757 - accuracy: 0.7736 - val_loss: 0.9805 - val_accuracy: 0.6263
Epoch 5/20
149/149 [==============================] - 22s 144ms/step - loss: 0.5806 - accuracy: 0.7817 - val_loss: 0.7162 - val_accuracy: 0.6768
Epoch 6/20
149/149 [==============================] - 26s 175ms/step - loss: 0.5214 - accuracy: 0.8032 - val_loss: 0.5987 - val_accuracy: 0.8081
Epoch 7/20
149/149 [==============================] - 21s 140ms/step - loss: 0.4666 - accuracy: 0.8450 - val_loss: 0.5968 - val_accuracy: 0.8283
Epoch 8/20
149/149 [==============================] - 21s 140ms/step - loss: 0.4618 - accuracy: 0.8235 - val_loss: 0.9052 - val_accuracy: 0.7323
Epoch 9/20
149/149 [==============================] - 21s 141ms/step - loss: 0.4026 - accuracy: 0.8450 - val_loss: 0.6366 - val_accuracy: 0.8030
Epoch 10/20
149/149 [==============================] - 21s 139ms/step - loss: 0.3561 - accuracy: 0.8679 - val_loss: 0.8216 - val_accuracy: 0.7727
Epoch 11/20
149/149 [==============================] - 21s 142ms/step - loss: 0.4345 - accuracy: 0.8410 - val_loss: 0.6938 - val_accuracy: 0.7879
...
Epoch 19/20
149/149 [==============================] - 21s 142ms/step - loss: 0.2128 - accuracy: 0.9205 - val_loss: 0.7216 - val_accuracy: 0.8333
Epoch 20/20
149/149 [==============================] - 21s 142ms/step - loss: 0.1734 - accuracy: 0.9434 - val_loss: 0.8815 - val_accuracy: 0.7980
```