# Project Development Phase
# Model Performance Test

| | |
|---|---|
| Date | 10 November 2022 |
| Team ID | PNT2022TMID29964 |
| Project Name | Project – Real time communication system powered by AI for specially abled |
| 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 | **Convolution layer-**<br>`32,(3,3),activation="relu",input_shape=(64,64,3)`<br>**Pooling layer-**<br>`MaxPooling2D(pool_size=(2,2)`<br>**Dense layer-**<br>`200,activation='relu'` | |
| 2. | Accuracy | Training Accuracy - 0.9956<br><br>Validation Accuracy – 0.9756 | |

## Model Summary Screenshot

**Add The Convolution Layer**

In [10]:
```
model.add(Convolution2D(32,(3,3),activation="relu",input_shape=(64,64,3)))
#No of feature detectors, size of feature detector, image size, activation function
```

**Add The Pooling Layer**

In [11]:
```
model.add(MaxPooling2D(pool_size=(2,2)))
```

**Add The Flatten Layer**

In [13]:
```
model.add(Flatten())
```

**Adding The Dense Layers**

In [14]:
```
model.add(Dense(200,activation='relu'))
```

In [15]:
```
model.add(Dense(200,activation='relu'))
```

In [16]:
```
model.add(Dense(9,activation="softmax"))
```

## Accuracy Screenshot

jupyter Real-Time Communication System Powered by AI for Specially Abled Proj... Last Checkpoint: a day ago (autosaved)

File Edit View Insert Cell Kernel Widgets Help Not Trusted Python 3 (ipykernel)

Run Code

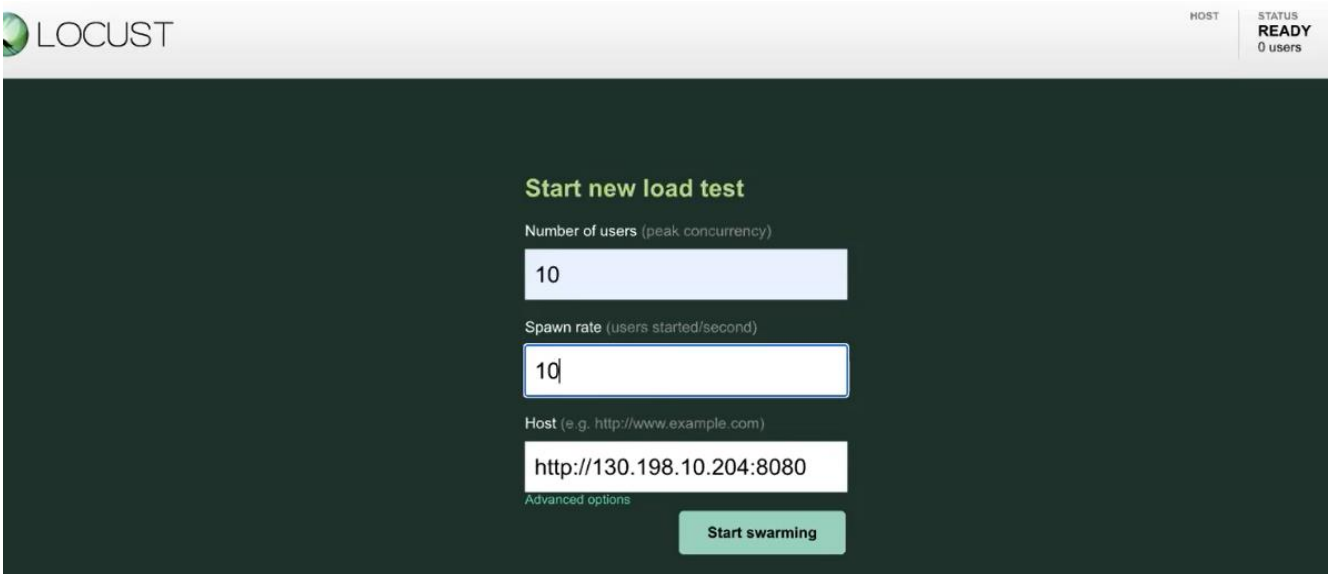
In [21]:
```
model.fit(x_train,epochs=9,validation_data=x_test,steps_per_epoch=len(x_train),validation_steps=len(x_test))
```

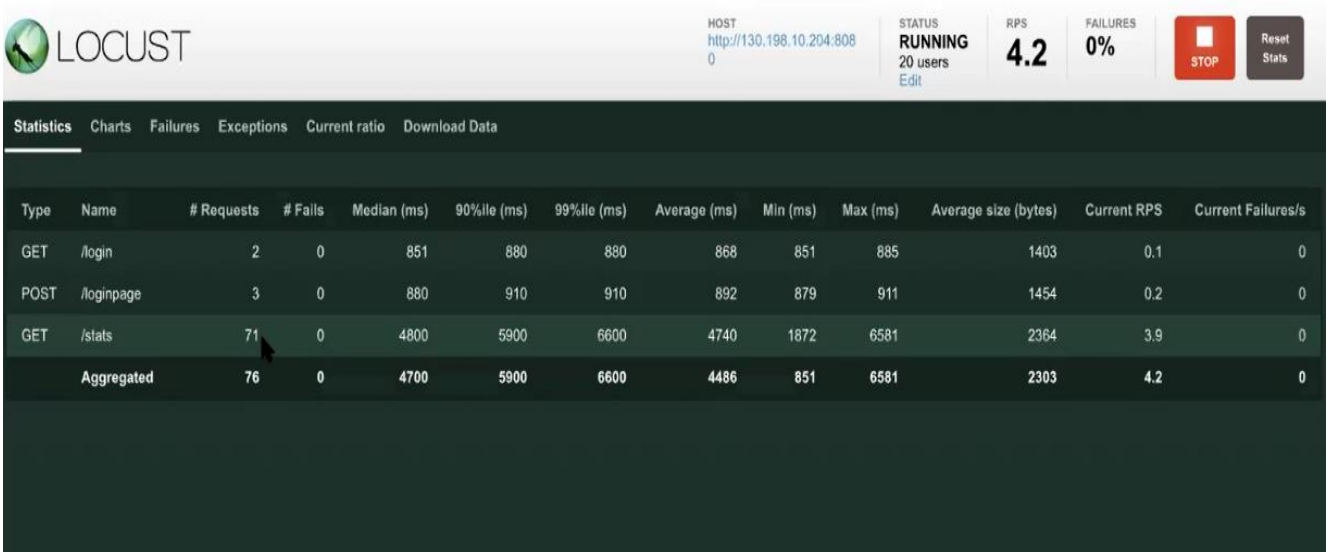
```
Epoch 1/9
525/525 [==============================] - 329s 616ms/step - loss: 0.3160 - accuracy: 0.8886 - val_loss: 0.1389 - val_accuracy:
0.9644
Epoch 2/9
525/525 [==============================] - 251s 478ms/step - loss: 0.0592 - accuracy: 0.9810 - val_loss: 0.2418 - val_accuracy:
0.9662
Epoch 3/9
525/525 [==============================] - 271s 515ms/step - loss: 0.0345 - accuracy: 0.9886 - val_loss: 0.2308 - val_accuracy:
0.9680
Epoch 4/9
525/525 [==============================] - 240s 457ms/step - loss: 0.0244 - accuracy: 0.9923 - val_loss: 0.1640 - val_accuracy:
0.9711
Epoch 5/9
525/525 [==============================] - 217s 412ms/step - loss: 0.0258 - accuracy: 0.9914 - val_loss: 0.0888 - val_accuracy:
0.9769
Epoch 6/9
525/525 [==============================] - 267s 509ms/step - loss: 0.0171 - accuracy: 0.9942 - val_loss: 0.2250 - val_accuracy:
0.9782
Epoch 7/9
525/525 [==============================] - 344s 655ms/step - loss: 0.0139 - accuracy: 0.9955 - val_loss: 0.1629 - val_accuracy:
0.9773
Epoch 8/9
525/525 [==============================] - 356s 678ms/step - loss: 0.0107 - accuracy: 0.9964 - val_loss: 0.1430 - val_accuracy:
0.9631
Epoch 9/9
525/525 [==============================] - 363s 692ms/step - loss: 0.0136 - accuracy: 0.9956 - val_loss: 0.2175 - val_accuracy:
0.9756
```

Out[21]:
```
<keras.callbacks.History at 0x231bd228e20>
```

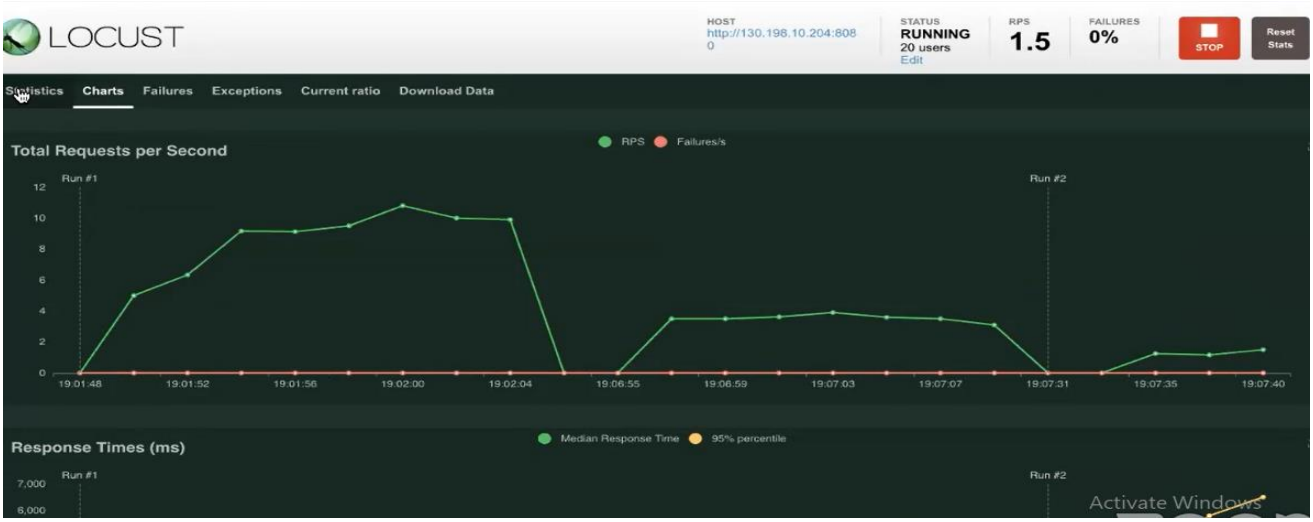
In [22]:
```
model.save("signlanguage-new.h5")
```

## Application performance testing




| Type | Name | # Requests | # Fails | Median (ms) | 90%ile (ms) | 99%ile (ms) | Average (ms) | Min (ms) | Max (ms) | Average size (bytes) | Current RPS | Current Failures/s |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GET | /login | 2 | 0 | 851 | 880 | 880 | 868 | 851 | 885 | 1403 | 0.1 | 0 |
| POST | /loginpage | 3 | 0 | 880 | 910 | 910 | 892 | 879 | 911 | 1454 | 0.2 | 0 |
| GET | /stats | 71 | 0 | 4800 | 5900 | 6600 | 4740 | 1872 | 6581 | 2364 | 3.9 | 0 |
| | **Aggregated** | **76** | **0** | **4700** | **5900** | **6600** | **4486** | **851** | **6581** | **2303** | **4.2** | **0** |


LOCUST
HOST
http://130.198.10.204:808
0
STATUS
RUNNING
20 users
Edit
RPS
1.5
FAILURES
0%
STOP
Reset Stats
Statistics
Charts
Failures
Exceptions
Current ratio
Download Data
Total Requests per Second
RPS
Failures/s
Run #1
Run #2
12
10
8
6
4
2
0
19:01:48
19:01:52
19:01:56
19:02:00
19:02:04
19:06:55
19:06:59
19:07:03
19:07:07
19:07:31
19:07:35
19:07:40
Response Times (ms)
Median Response Time
95% percentile
Run #1
Run #2
7,000
6,000
Activate Windows