Project Development Phase
Model Performance Test

Date	18 November 2022
Team ID	PNT2022TMID53121
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	A Convolution Neural Network model with 2 hidden layers that recognize the alphabet from a given ISL image input	PFB Figure 1
2.	Accuracy	Training Accuracy – 99.43% Validation Accuracy – 97.64%	PFB Figure 2

```python
cnn_model = Sequential() # Sequential Model

cnn_model.add(Conv2D(128, (3,3), activation='relu', input_shape=(128,128,1))) # Convolution Layer
cnn_model.add(MaxPooling2D(pool_size=(2,2))) # Pooling Layer

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cnn_model.add(Flatten()) # Flatten Layer
cnn_model.add(Dense(128, activation='relu')) # Hidden Layer
cnn_model.add(Dense(128, activation='relu')) # Hidden Layer
cnn_model.add(Dense(9, activation='softmax')) # Hidden Layer
```

Python

Figure 1 : CNN Model

```
Epoch 1/3
158/158 [==============================] - 1964s 12s/step - loss: 0.2861 - accuracy: 0.9060 - val_loss: 0.2118 -
val_accuracy: 0.9644
Epoch 2/3
158/158 [==============================] - 1434s 9s/step - loss: 0.0269 - accuracy: 0.9912 - val_loss: 0.3211 -
val_accuracy: 0.9609
Epoch 3/3
158/158 [==============================] - 1474s 9s/step - loss: 0.0176 - accuracy: 0.9943 - val_loss: 0.3470 -
val_accuracy: 0.9764
```

Figure 2 : Model Accuracy