Project Write Up

Ganeral workflow

- Set Number of Images per Video : 30
- Set Batch Size : 10
- Set Epoch to 10

- Generator Code
    - o Resized the image to given requirement
    - o Normalized the image to get the output in range -1 to 1
    - o Handled the left over data, after creating batch.

- Model Creation Logic
    - o Created a 4 Layered Conv3D Model with kernel size (3,3,3) and MaxPooling3D size (2,2,2)
    - o Flattened the output
    - o Uses Dense Layer to have fully connected network
    - o Used Drop Out to avoid over fitting.
    - o Used Softmax to get output of 5, the 5 possible gesture to be recognized..

Experiment Number	Image Size	Model	Optimizer	Parameters	Loss / Accuracy
1	250 x 250	Conv3D	Adam	Total params: 14,968,613 Trainable params: 14,968,373 Non-trainable params: 240	Loss : 13.6 Accuracy: 0.16
2	200 x 200	Conv3D	Adam	Total params: 4,808,829 Trainable params: 4,808,589 Non-trainable params: 240	Loss : 1 Accuracy : 0.55

3	200 x 200	Conv3D	SGD	Total params: 4,808,829 Trainable params: 4,808,589 Non-trainable params: 240	Loss : 13.5 Accuracy : 0.16
4	200 x 200	Conv3D	CNN -RNN	Total params: 7,979,697 Trainable params: 7,978,705 Non-trainable params: 992	Loss : 1.8 Accuracy : 0.45
5	200 x 200	Conv3D	Adam Delta	Total params: 4,808,829 Trainable params: 4,808,589 Non-trainable params: 240	Loss : 1 Accuracy : 0.6
6	200 x 200	Conv3D	Transfer Learning	Total params: 6,830,021 Trainable params: 6,806,085 Non-trainable params: 23,936	Loss : 1 Accuracy : 0.5