## **Deep Learning Course Project- Gesture Recognition**

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| MODEL | EXPERIMENT | RESULT | DECISION + EXPLANATION | PARAMETERS |
| Conv3D | **Sample** | **OOM Error** | **Batch size reduced and also reduced the number of neurons in Dense layer** | **1,736,389** |
| **1** | **Training Accuracy : 0.97**  **Validation Accuracy : 0.72** | **Model seems to be Overfitting**  **So let us add some Dropout Layers** | **1,117,061** |
| **2** | **Training Accuracy : 0.85 Validation Accuracy : 0.76** | **We added Dropout layers, filter size : (2,2,2), image size : 100 x 100, Overfitting reduced, but validation accuracy is low. We will try to reduce the parameters further.** | **696,645** |
| **3** | **Training Accuracy : 0.82 Validation Accuracy : 0.73** | **We again tried to reduce the number of parameters, Accuracy remains low. Let’s switch to CNN+LSTM.** | **504,709** |
| CNN+LSTM | **4** | **Training Accuracy : 0.93 Validation Accuracy : 0.85** | **CNN - LSTM model - we get a best validation accuracy of 85%.** | **1,657,445** |

## **Finally, we can go ahead with Model 4 : CNN + LSTM**

## Reason:

## - Training Accuracy : 93%, Validation Accuracy : 85%

## - Number of Parameters (1,657,445)

## - Learning rate gradually decreacing after 16 Epoch

## Note : The weight for this model is saved in final\_model.h5 file attached with the zip file.