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| **Experiment Number** | **Model** | **Result** | **Decision + Explanation** |
| **1** | **Conv3D** | **Resource Exhausted Error** | Used a batch size almost half of training data.  Considered to experiment with different batch sizes to reduce the batch size. |
| **2** | **Conv3D** | **Training Accuracy: 0.81, Validation Accuracy: 0.46** | Used only Dropouts in the model. No Batch Normalization was used.  Batch Size – 51, Total Epochs – 20,  Trainable Parameters – 25889509  No improvement in validation accuracy |
| **3** | **Conv3D** | **Training Accuracy: 0.86, Validation Accuracy: 0.81** | Reduced Filter Size from a (3,3,3) sized filter to (2,2,2) filter. Trainable Parameters are seen to be decreased considerably to 1762613.  This model shows improvement of validation accuracy. Still we try to minimise the overfitting further. |
| **4** | **Conv3D** | **Training Accuracy: 0.79, Validation Accuracy: 0.29** | Added Dropout at Convolutional layers with Batch Normalisation. The validation accuracy is poor as can be seen from the results. |
| **5** | **Conv3D** | **Training Accuracy: 0.87, Validation Accuracy: 0.73** | Reduced the number of layers in the model. Trainable Parameters : 695653. Overfitting is present. |
| **6** | **Conv3D** | **Training Accuracy: 0.81, Validation Accuracy: 0.46** | Used SGD Optimiser. No improvement in validation accuracy. Overfitting exists |
| **7** | **Conv3D** | **Training Accuracy: 0.99, Validation Accuracy: 0.72** | Used Adabelt Optimiser. Overfitting exists |
| **8** | **ConvLSTM** | **Training Accuracy: 0.88, Validation Accuracy: 0.78** | Batch Size - 51 , Epochs – 30, Trainable Parameters - 1657445 |
| **9** | **ConvLSTM** | **Training Accuracy: 0.80.4, Validation Accuracy: 0.74** | Batch Size - 64 & Epochs – 50, Used SGD Optimiser,  Trainable Parameters -  50,06,373 |
| **10** | **ConvLSTM** | **Training Accuracy: 0.88, Validation Accuracy: 0.75** | Experimented with image size by reducing further to 100 & increasing number of epochs to 30, keeping batch size 20, Trainable Parameters - 1656453 |
| **11** | **ConvLSTM** | **Training Accuracy: 0.93, Validation Accuracy: 0.76** | Reduced Image size to 60, keeping batch size as 20. Trainable Parameters - 6710117 |
| **FINAL MODEL** | **Conv3D** | **Training Accuracy: 0.8153, Validation Accuracy: 0.80** | Increased the number of layers. This model provides the best accuracy. The validation loss seems to be decreasing gradually for every epoch. Also the difference between validation accuracy and training accuracy is seen to be minimal, thus we can conclude no overfitting exists.  Trainable Parameters : 2,554,549  Batch Size : 20  Image Size : 120,  Epochs : 20 |