|  |  |  |  |
| --- | --- | --- | --- |
| EXPERIMENT NUMBER | MODEL | RESULT | DECISION + EXPLANATION |
| 1 | Conv3D | The model is having max accuracy Max. Training Accuracy 0.4279 Max. Validation Accuracy 0.4300 | This is the base model we built for this problem statement using with batch normalisation and dropouts. |
| 2 | Conv3D | Frames: 22, Batch size: 64, Epoch = 3  Max. Training Accuracy 0.6640 Max. Validation Accuracy 0.2343 Frames: 15, Batch size: 32, Epochs = 3  Max. Training Accuracy 0.6487 Max. Validation Accuracy 0.250 | (Batch size testing) Batch size is not helping much hence we will try out other options |
| 3 | Conv3D | Frames: 16, Batch size: 64, Epochs = 30  Max. Training Accuracy 0.6630 Max. Validation Accuracy 0.6250 | The accuracy is around 65. Lets try to increase the number of frames to see the effect. |
| 4 | Conv3D | Frames: 30, Batch size: 64, Epochs = 30  Max. Training Accuracy 0.8440 Max. Validation Accuracy 0.8750 | We are getting good accuracy for 30 frames.  (Try to reduce the epochs in next experiment) |
| 5 | Conv3D | Frames: 30, Batch size = 64, Epochs = 20  Max. Training Accuracy 0.8716  Max. Validation Accuracy 0.5 | Model is overfitting.  (Trying to see effect of reducing both epochs and frames in next experiment) |
| 6 | Conv3D | Frames = 20, Batch Size = 64, Epochs = 20  Max. Training Accuracy 0.8716 Max. Validation Accuracy 0.6250 | Training Accuracy improved but still it is overfitting.  (Model from 3rd experiment will good model) |
| **7** | **Conv2DLSTM** | **Frames = 20, Batch Size = 32, Epochs = 30**  **The model we picked for this problem has below metrics**  **Train categorical accuracy 0.9496**  **val\_loss: 0.2852 - val\_categorical\_accuracy: 0.8750**  **lr: 1.6000e-06** | **The validation accuracy is 0.81 which is good but there is slight overfitting.** |
| 8 | Conv2DLSTM (Transfer learning MobileNet + RNN) | (Transfer learning MobileNet + RNN)  Max. Training Accuracy 1  Max. Validation Accuracy 1 | There is a high possiblity of overfitting |