Write-Up

The metric used in all the experiments is Categorical Accuracy and the loss.

|  |  |  |  |
| --- | --- | --- | --- |
| **Experiment Number** | **Model** | **Result** | **Decision + Explanation** |
| **1. Batch size: 32, epoc:2 without maxsoft having padding = 'same'** | **Conv3D** | **Throws Generator error** | **img\_idx in generator function used 10 images and the shape of the input passed was (30,100,100,3). This was fixed by setting img\_idx=30** |
| **2. Batch size: 32, epoc:2 without padding = 'same' to conv3D layer** | **Conv3D** | **Throws value error** | **Negative values in the tensor which was fixed by adding padding=’same’ to the conv3D layer** |
| **3. Batch size: 32, epoc:2 without padding = ‘same’ in conv3d layer** | **Conv3D** | **categorical accuracy: 0.2067, loss:2.6** | **add padding =’same’ to keep the parameters to next layer** |
| **4. Batch size: 32, epoc:2 with padding = ‘same’ in conv3d layer** | **Conv3D** | **categorical\_accuracy: 0.2051 - loss: 1.9303 - val\_categorical\_accuracy: 0.3200 - val\_loss: 1.8485 - learning\_rate: 0.001** | **Adding padding=’same’ reduced the parameters as well.** |
| **5. Batch size: 64, epoc:2** | **Conv3D** | **categorical\_accuracy: 0.1875 - loss: 1.8323 - val\_categorical\_accuracy: 0.2400 - val\_loss: 1.6429 - learning\_rate: 0.001** | **Increase the batch size did affect the model accuracy.** |
| **6. Batch size: 64, epoc:5** | **Conv3D** | **categorical\_accuracy: 0.2168 - loss: 1.6189 - val\_categorical\_accuracy: 0.2100 - val\_loss: 1.7752 - learning\_rate: 0.001** | **Increasing the epoc size affected positively as the accuracy of the model increased probably due to more training data.** |
| **7. Batch size: 32, epoc:2** | **Conv3D** | **categorical\_accuracy: 0.1759 - loss: 23.7709 - val\_categorical\_accuracy: 0.2200 - val\_loss: 1.6074 - learning\_rate: 0.01** | **Increasing the learning rate to 0.1 missed the loss minima.** |
| **lth** | **ConvLSTM** | **Throws error** | **Need to resolve it** |
| **Final Model: Batch size=64, Epoc=5** | **Con3D** |  | **Highest accuracy with lowest loss value** |