This is a sample write-up. The write-up need not be in tabular form.

It doesn’t state that ConvLSTM will give you better results than Conv3D. The explanation should be as detailed as possible so that the logic behind the decision is conveyed. Also, there are a lot of things you can experiment with in the generator function and elsewhere. Please do not forget to specify the exact metric values, here Accuracy which drives your decision.

You can draw inspiration from the concepts taught in the Industry demo in CNNs to experiment with the data and different architectures.

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| **Experiment Number** | **Model** | **Result** | **Decision + Explanation** |
| **1** | **Final Model : Conv2D + GRU** | **Training accuracy = 0.80**  **Validation accuracy = 0.73**  **0.01.png** | **Batch size = 30**  **Epochs = 30**  **Frames = 10**  **Regularisation param = 0.01 (Kernal and Bias)**  **Optimizer = SGD (lr = 0.01)**  **Pixels = 100x100**  **Channels = 3**  **Flattening = GRU**  **Layers = (32, 32, 64, 64, 64, 128, 256)**  **MaxPoooling, BatchNormalisation, and Dropout added to the models** |
| **2** | **Conv2D + GRU** | **Training accuracy = 0.63**  **Validation accuracy = 0.45**  **01.png** | **Batch size = 30**  **Epochs = 30**  **Frames = 10**  **Regularisation param = 0.01 (Kernal and Bias)**  **Optimizer = Adam**  **Pixels = 100x100**  **Channels = 3**  **Flattening = GRU**  **Layers = (32, 32, 64, 64, 64, 128, 256)**  **MaxPoooling, BatchNormalisation, and Dropout added to the models** |
| **3** | **Conv2D + GRU** | **Training accuracy = 0.27**  **Validation accuracy = 0.29**  **001.png** | **Batch size = 30**  **Epochs = 30**  **Frames = 10**  **Regularisation param = 0.001 (Kernal and Bias)**  **Optimizer = SGD (lr = 0.001)**  **Pixels = 100x100**  **Channels = 3**  **Flattening = GRU**  **Layers = (32, 32, 64, 64, 64, 128, 256)**  **MaxPoooling, BatchNormalisation, and Dropout added to the models** |
| **4** | **Conv2D + GRU** | **Training accuracy = 0.79**  **Validation accuracy = 0.57**  **001.png** | **Batch size = 30**  **Epochs = 30**  **Frames = 10**  **Regularisation param = 0.001 (Kernal and Bias)**  **Optimizer = Adam**  **Pixels = 100x100**  **Channels = 3**  **Flattening = GRU**  **Layers = (32, 32, 64, 64, 64, 128, 256)**  **MaxPoooling, BatchNormalisation, and Dropout added to the models** |
| **5** | **Conv2D + GRU** | **Training accuracy = 0.22**  **Validation accuracy = 0.21**  **0001.png** | **Batch size = 30**  **Epochs = 30**  **Frames = 10**  **Regularisation param = 0.0001 (Kernal and Bias)**  **Optimizer = SGD**  **Pixels = 100x100**  **Channels = 3**  **Flattening = GRU**  **Layers = (32, 32, 64, 64, 64, 128, 256)**  **MaxPoooling, BatchNormalisation, and Dropout added to the models** |
| **6** | **Conv2D + GRU** | **Training accuracy = 0.51**  **Validation accuracy = 0.43**  **0001.png** | **Batch size = 30**  **Epochs = 30**  **Frames = 10**  **Regularisation param = 0.0001 (Kernal and Bias)**  **Optimizer = Adam**  **Pixels = 100x100**  **Channels = 3**  **Flattening = GRU**  **Layers = (32, 32, 64, 64, 64, 128, 256)**  **MaxPoooling, BatchNormalisation, and Dropout added to the models** |
| **7** | **Conv2D + GRU** | **Training accuracy = 0.80**  **Validation accuracy = 0.67** | **Batch size = 30**  **Epochs = 25**  **Frames = 10**  **Regularisation param = 0.01 (Kernal and Bias)**  **Optimizer = SGD**  **Pixels = 100x100**  **Channels = 3**  **Flattening = GRU**  **Layers = (32, 32, 64, 64, 64, 128, 256)**  **MaxPoooling, BatchNormalisation, and Dropout added to the models** |
| **8** | **Conv2D + GRU** | **Training accuracy = 0.78**  **Validation accuracy = 0.51**  **30_20.png** | **Batch size = 30**  **Epochs = 20**  **Frames = 10**  **Regularisation param = 0.01 (Kernal and Bias)**  **Optimizer = SGD**  **Pixels = 100x100**  **Channels = 3**  **Flattening = GRU**  **Layers = (32, 32, 64, 64, 64, 128, 256)**  **MaxPoooling, BatchNormalisation, and Dropout added to the models** |
| **9** | **Conv2D + GRU** | **Training accuracy = 0.59**  **Validation accuracy = 0.52**  **Screenshot 2020-12-28 at 16.04.01.png** | **Batch size = 30**  **Epochs = 30**  **Frames = 29**  **Regularisation param = 0.01 (Kernal and Bias)**  **Optimizer = SGD**  **Pixels = 100x100**  **Channels = 3**  **Flattening = GRU**  **Layers = (32, 32, 64, 64, 64, 128, 256)**  **MaxPoooling, BatchNormalisation, and Dropout added to the models** |
| **10** | **Conv2D + GRU** | **Training accuracy = 0.57**  **Validation accuracy = 0.49**  **Screenshot 2020-12-28 at 16.59.51.png** | **Batch size = 30**  **Epochs = 30**  **Frames = 15**  **Regularisation param = 0.01 (Kernal and Bias)**  **Optimizer = SGD**  **Pixels = 100x100**  **Channels = 3**  **Flattening = GRU**  **Layers = (32, 32, 64, 64, 64, 128, 256)**  **MaxPoooling, BatchNormalisation, and Dropout added to the models** |

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| **11** | **Conv3D** | **Training accuracy = 0.62**  **Validation accuracy = 0.45** | **Batch size = 10**  **Epochs = 10**  **Frames = 30**  **Optimizer = SGD**  **Pixels = 100x100**  **Channels = 3**  **Layers = (32, 64, 128, 256)**  **MaxPoooling**  **Explanation: Network without any Regularization parameters. Got less accuracy for both train and val set** |
| **12** | **Conv3D** | **Training accuracy = 0.** **84**  **Validation accuracy = 0.63** | **Batch size = 10**  **Epochs = 10**  **Frames = 30**  **Optimizer = SGD**  **Pixels = 100x100**  **Channels = 3**  **Layers = (32, 64, 128)-**  **MaxPoooling**  **Explanation: Reduced the Hidden layer to 3, got slight increase in the accuracy, but high difference b/w train and val** |
| **13** | **Conv3D** | **Training accuracy = 0.78**  **Validation accuracy = 0.59** | **Batch size = 10**  **Epochs = 10**  **Frames = 30**  **Regularisation param = 0.01 (Kernal L2)**  **Optimizer = SGD**  **Pixels = 100x100**  **Channels = 3**  **Layers = (32,64, 128)**  **MaxPoooling,**  **Explanation: Added L2 Regularization to reduce overfitting.** |
| **14** | **Conv3D** | **Training accuracy = 0.70**  **Validation accuracy = 0.60** | **Batch size = 10**  **Epochs = 10**  **Frames = 30**  **Optimizer = SGD**  **Pixels = 100x100**  **Channels = 3**  **Layers = (32,64, 128)**  **MaxPoooling, Dropout added to the models**  **Explanation: Added Dropout by removing L2 Regularization, now overfitting reduced, but accuracy is not that good.** |
| **15** | **Conv3D** | **Training accuracy = 0.99**  **Validation accuracy = 0.58** | **Batch size = 10**  **Epochs = 10**  **Frames = 30**  **Optimizer = SGD**  **Pixels = 100x100**  **Channels = 3**  **Layers = (32,64, 128)**  **MaxPoooling,**  **BatchNormalisation, and**  **Dropout added to the models**  **Explanation: Again added BatchNormalisation to the above model, but no change in val accuracy instead network overfitted.** |
| **16** | **Conv3D** | **Training accuracy = 0.99**  **Validation accuracy = 0.70** | **Batch size = 20**  **Epochs = 10**  **Frames = 30**  **Regularisation param = 0.01 (Kernal L2)**  **Optimizer = SGD**  **Pixels = 100x100**  **Channels = 3**  **Layers = (32,64, 128)**  **MaxPoooling,**  **BatchNormalisation, and**  **Dropout added to the models**  **Explanation: To the above model increased the batch size added L2 Regularisation, now Val accuracy got increased, but still overfitting exists** |