The experiments done with different architectures during the case study to understand which one gives the best accuracy are as follows:

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| **# Experiment** | **Model** | **Result** | **Decision + Explanation** |
| **1** | **Conv3D** | **Imread, imresize not identifiable.** | **Thee current version of scipy.misc does not have imread and imresize, these functions were deprecated since scipy version 1.2.0. So, we have used imageio and cv2 to read and resize the images.** |
| **2** | **Conv3D** | **With batch size =64, resources out of bound.** | **All the GPU resources were utilized when we used the larger batch sizes, hence we kept the batch size between 10 to 40.** |
| **3** | **Conv3D** | **Accuracy=** **0.8084** | **Conv3D model with no dropout layers and last layer as softmax.**  **batch size =10, and num\_epochs=30** |
| **4.** | **Conv3D** | **Accuracy= 0.7496** | **Conv3D model with no dropout layers and last layer as softmax.**  **With batch size =15, and num\_epochs=30** |
| **5.** | **Conv3D** | **accuracy: 0.7091** | **Conv3D model with dropout layers and last layer as softmax. Used the SGD as optimizer.** |
| **6.** | **Conv3D** | **accuracy: 0.5279** | **Change image resolution to (100,100) and number of images in a video to 20.**  **Accuracy has decreased from the model in which we used image resolution as (84,84)** |
| **7.** | **Conv3D** | **accuracy: 0.8281** | **Change image resolution to (120,120) and number of images in a video to 16.**  **Better than the earlier model.**  **Since, Conv3D is not giving very high accuracy, we will look at LSTM model.** |
| **8.** | **Conv2d + LSTM** | **accuracy: 0.9442** | **Basic conv2D model with LSTM gives better accuracy. The image resolution is (120,120). Have not experimented with image resolution here.** |
| **9.** |  |  |  |
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