Experimented with two different architectures.

1. Conv3D
2. ConvLSTM

During experimentation, I tried modeling with different batch sizes, img\_idx, image sizes and tweaked the model with different learning rates and patience to reduce validation error. More time is required to further experiment with different architectures, increase the number of epochs to reduce overfitting.

1. Conv3D:

Chart, line chart

Description automatically generated

Results:

|  |  |
| --- | --- |
| Epochs | 15 |
| Training loss | 0.9088 |
| Categorical accuracy | 0.6458 |
| Validation loss | 2.7246 |
| Validation categorical accuracy | 0.1953 |
| Learning rate | 8.0000e-06 |
| Model parameters | 2,454,405 |

1. ConvLSTM – **Final Model**

Chart, line chart

Description automatically generated

Results:

|  |  |
| --- | --- |
| Epochs | 25 |
| Training loss | 0.2153 |
| Categorical accuracy | 0.9435 |
| Validation loss | 0.8564 |
| Validation categorical accuracy | 0.6875 |
| Learning rate | 0.0100 |
| Model parameters | 9,597,701 |