Instruction of Experiment

**Team 17**

Run the following Python programs sequentially order to reproduce the experiment:

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| **File Path / Name** | **Description** |
| Segmentation/data\_preprocessing.py | Preprocess the training data. Store images and masks of each frame in the training set into separate files, for the training of the semantic segmentation model. |
| Segmentation/unet\_model.ipynb | Train the UNet semantic segmentation model on preprocessed dataset, and save the checkpoint of trained model. |
| Segmentation/UNet\_generateMasks.ipynb | Load a UNet model from checkpoint, perform inference on test dataset, generate masks of first 11 frames of each video in test dataset. |
| VideoPrediction/main.py | Train a Conv-LSTM video prediction model on sematic segmentation data, and save the checkpoint of trained model. |
| VideoPrediction/generate\_answer.py | Load a Conv-LSTM model from checkpoint, perform inference on sematic mask data of test dataset. |

Note: In each file, you may need to change the file path of datasets and models according to your file location.