Instruction of Experiment

Team 17

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

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.