Final Project Screenshots

**Step 1 - Data Collection:**

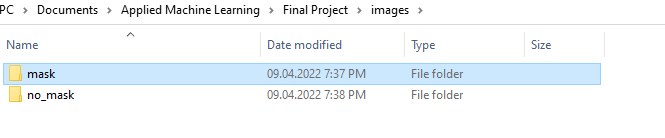
Install OpenCV



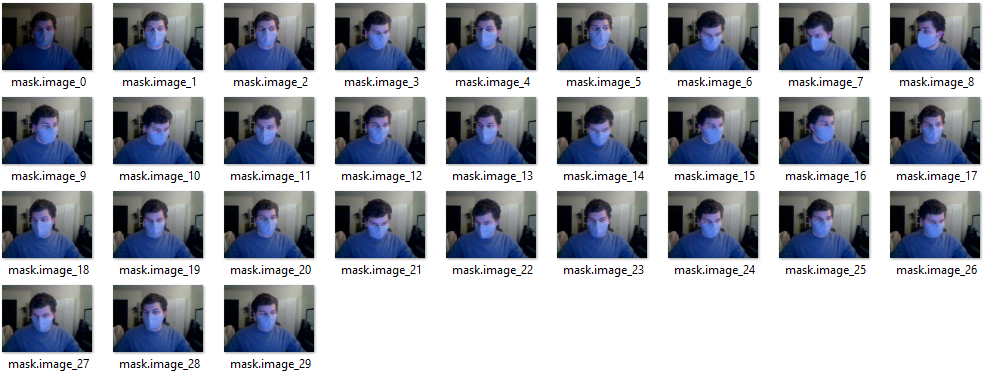
Run the data collection jupyter notebook



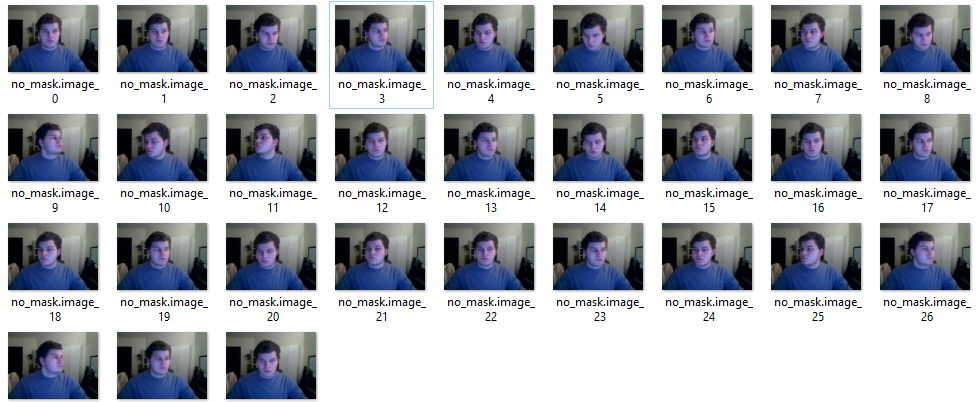
images folder has two folders in it, mask and no\_mask



Contents of mask folder

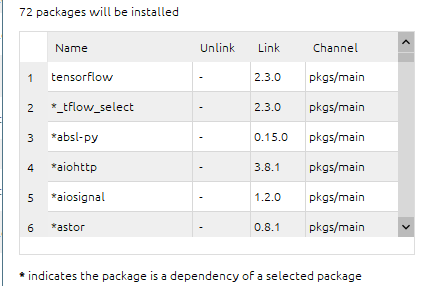


Contents of no\_mask folder



**Step 2 - Labelling**

Install tensorflow

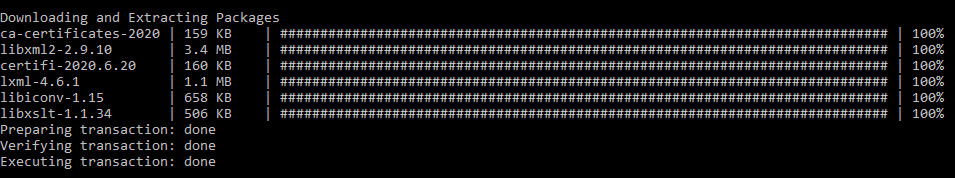


Install pyqt 5

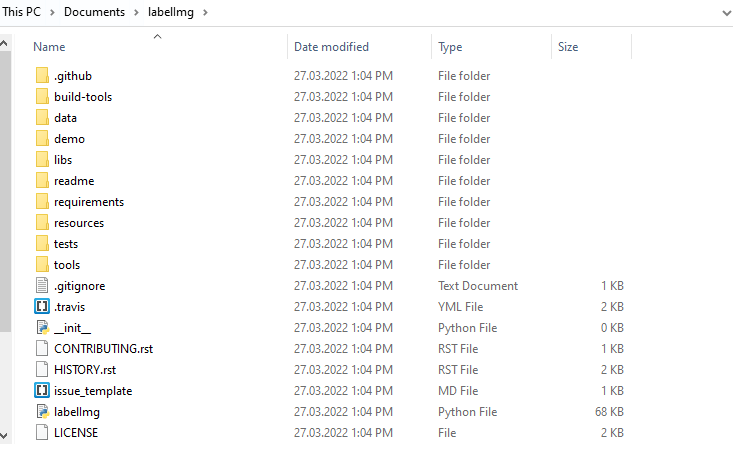


Install lxml

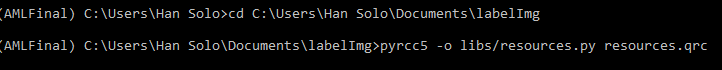




Download labelImg files from GitHub and place in Documents folder



Move to the labelImg directory, and create the resources.py file

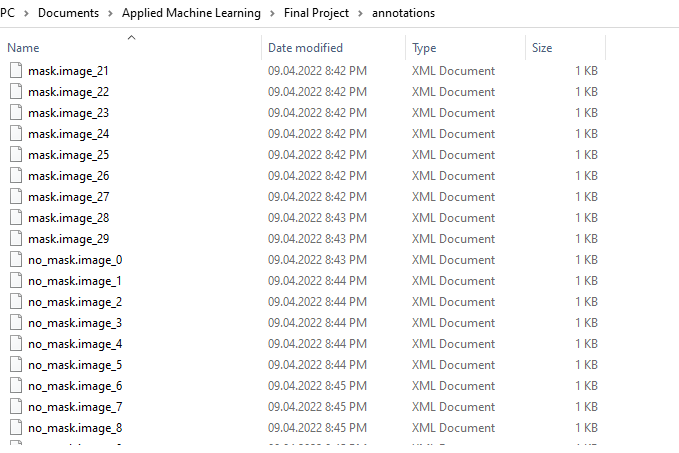


Run labelImg.py, and label the data

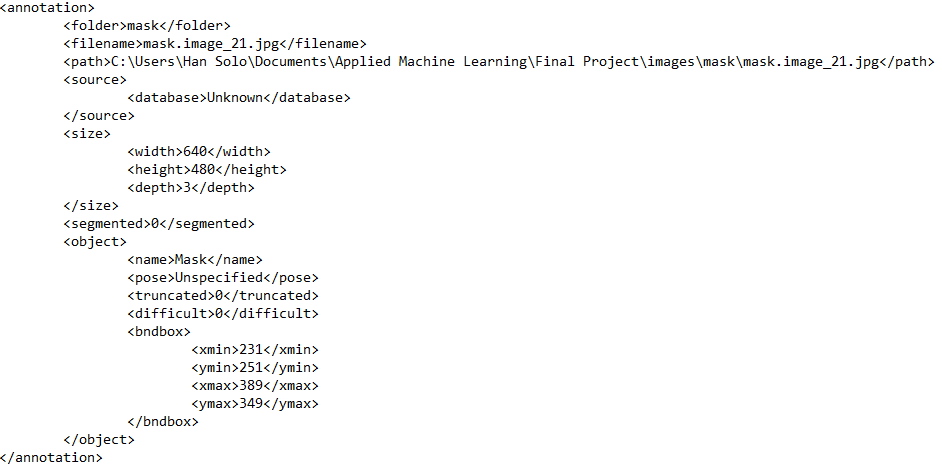




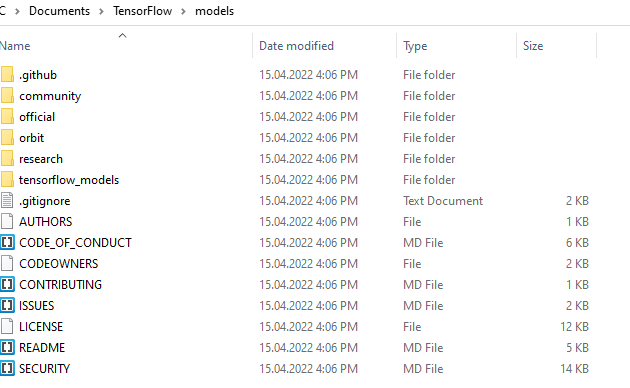
Contents of annotations (where the labellings are saved) folder



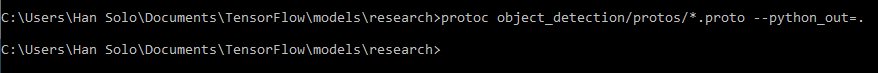
Example of labelling file



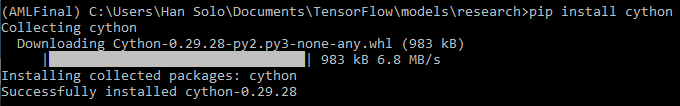
**Step 3 - Using TensorFlow Object Detection API:**

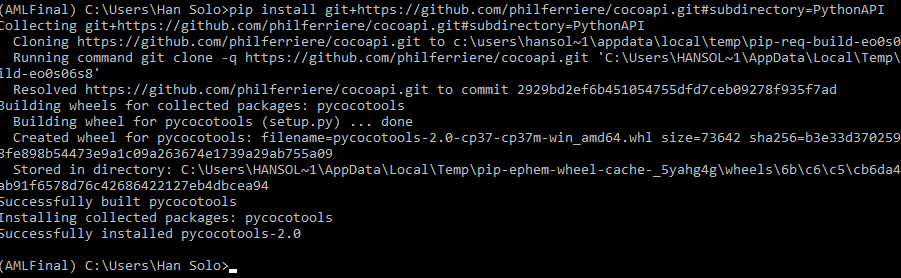
Copying files from TensorFlow Model Garden******

Running protoc command in research folder

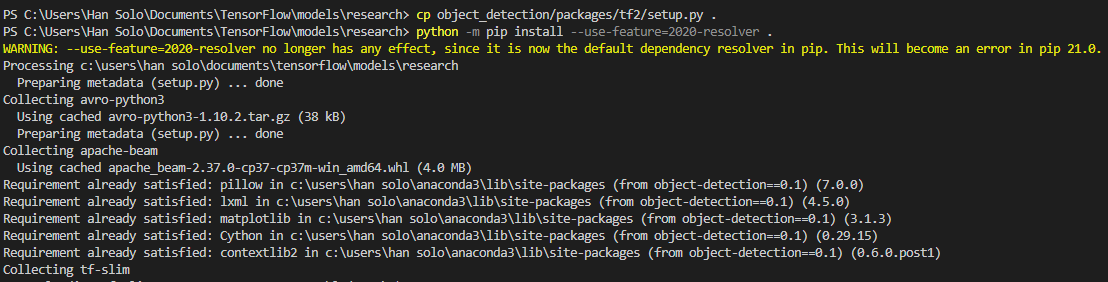


Installing COCO API

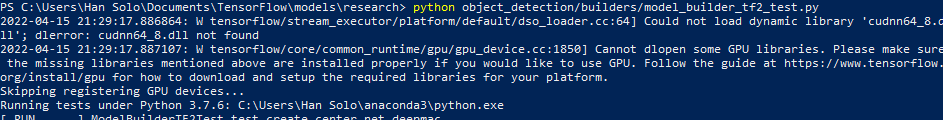


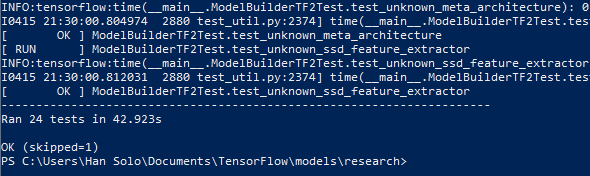
****

Installing Object Detection API

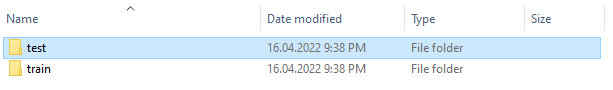
****

Testing Object Detection

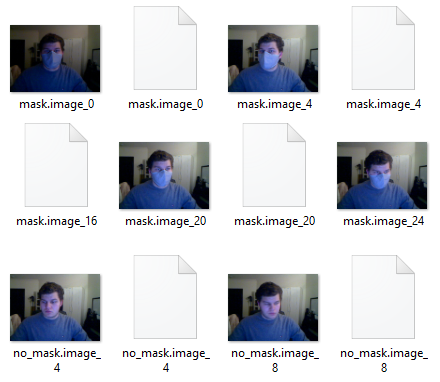
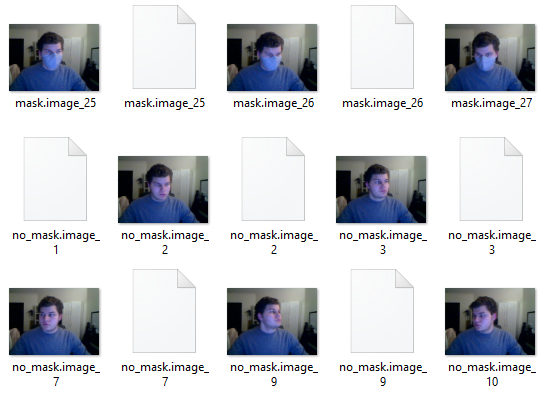




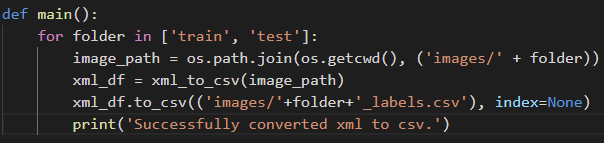
Split data into train and test sets by taking every 4 samples from mask and no\_mask



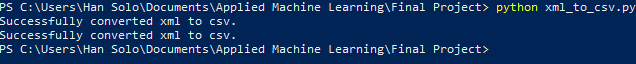
Train set Test set

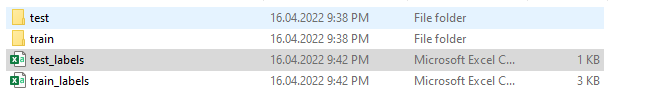


Make change to main function in xml\_to\_csv as needed

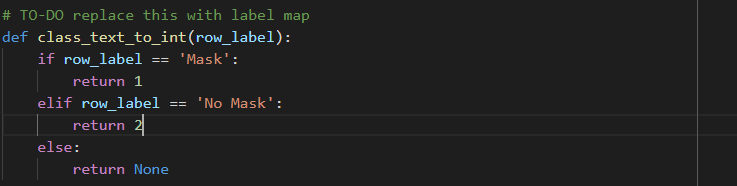


Run xml\_to\_csv file

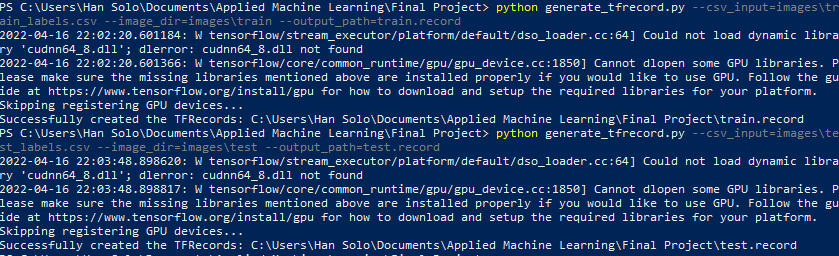




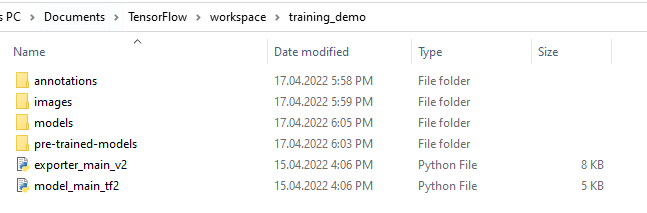
Make changes to class\_text\_to\_int function in generate\_tfrecord as needed



Run generate\_tfrecord on both train and test labels files



Sort folders for training

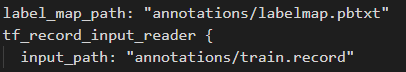


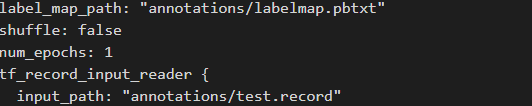
Made changes to config file



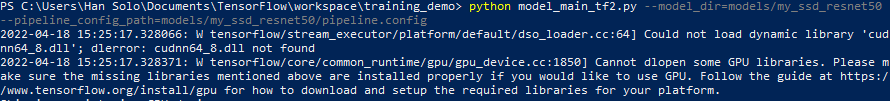




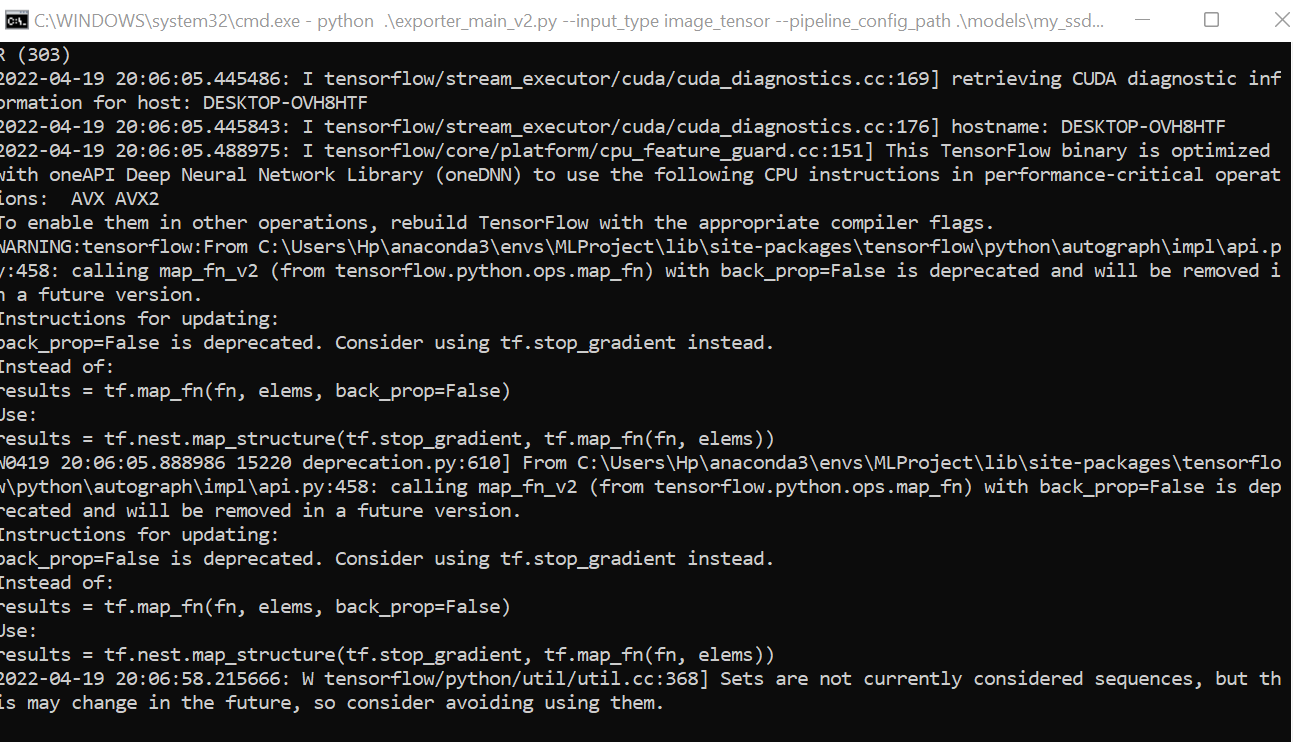


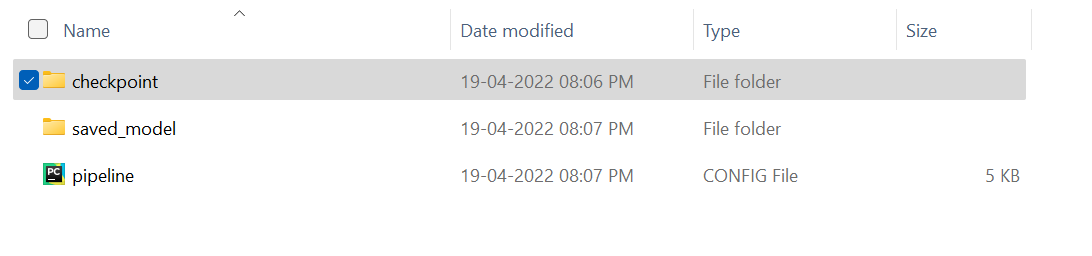


Training the model

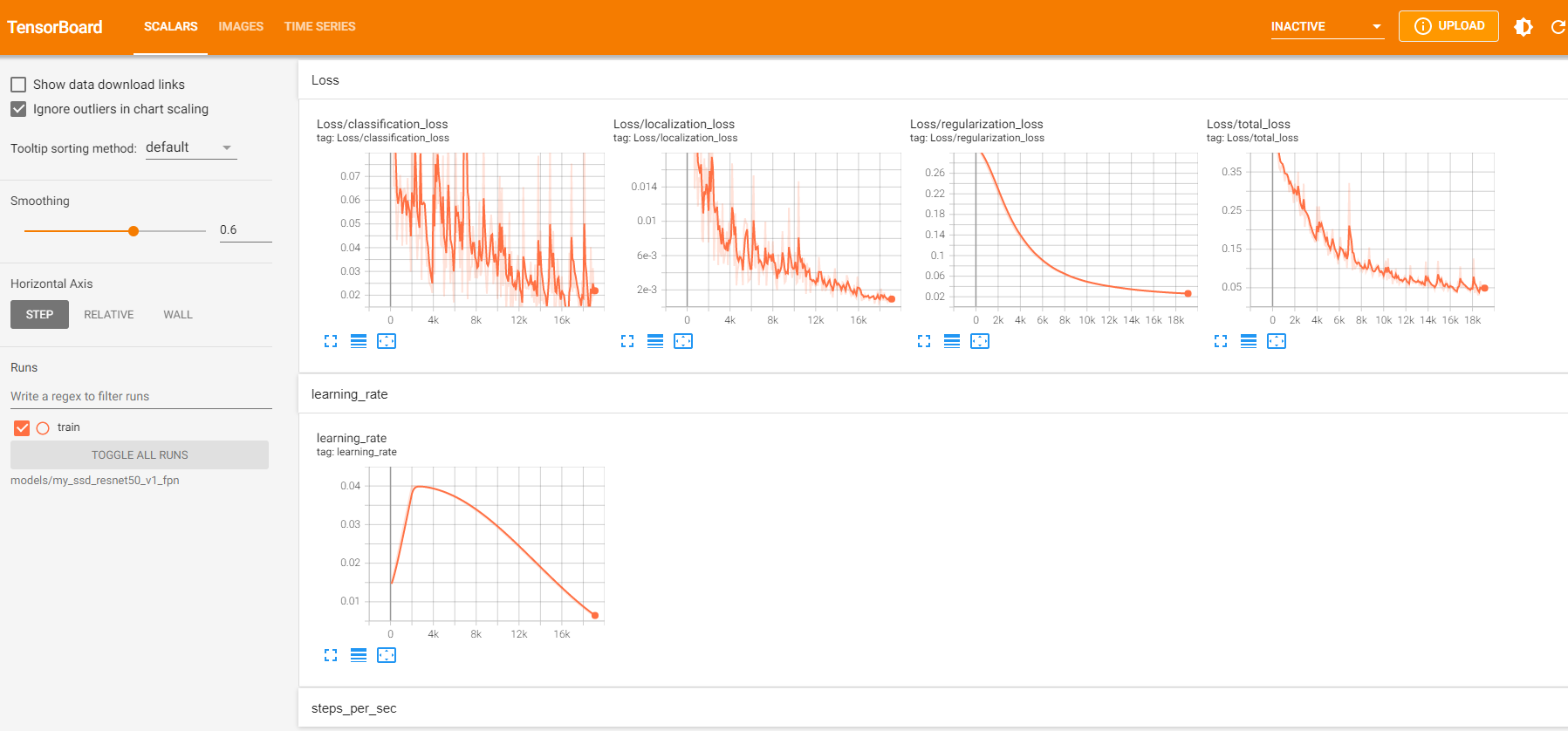


Exporting the model





Tensorboard



Real-time prediction

