

CSCI-731, Advanced Computer Vision

HW02

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The program VideoSegmentation.py takes path to the video or directory with multiple video from the user and creates a foreground mosaic from it.

To create the foreground mosaic, we first need the background model which will be the first image of the foreground mosaic. It can be obtained by using MOG2 Background Subtractor provided by Opencv. First the brightest frame of every six frames are calculated. Then the program applies the MOG algorithm to those first 500 brightest frames to give a background model. The following are the background models for respective videos:



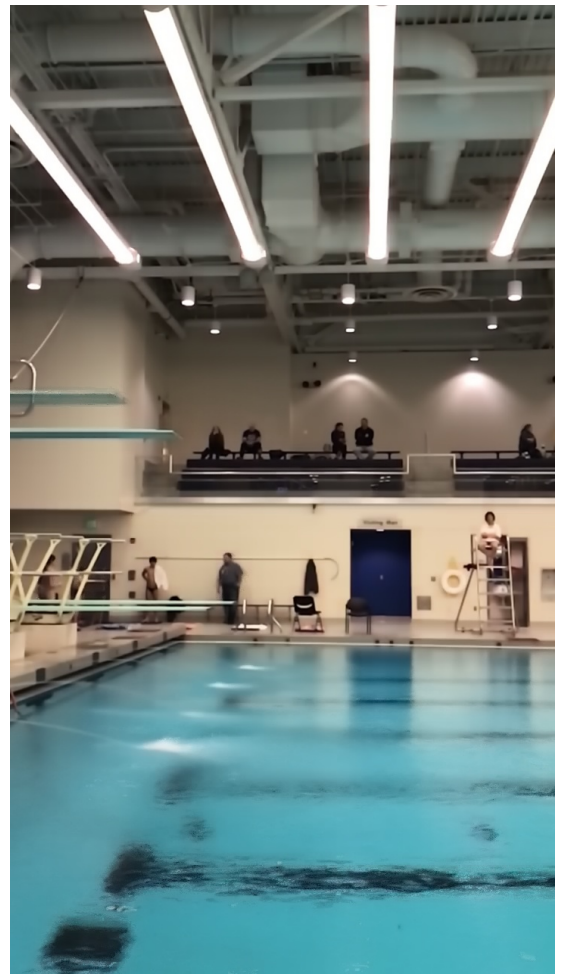
IMG_1792__2175.m4v



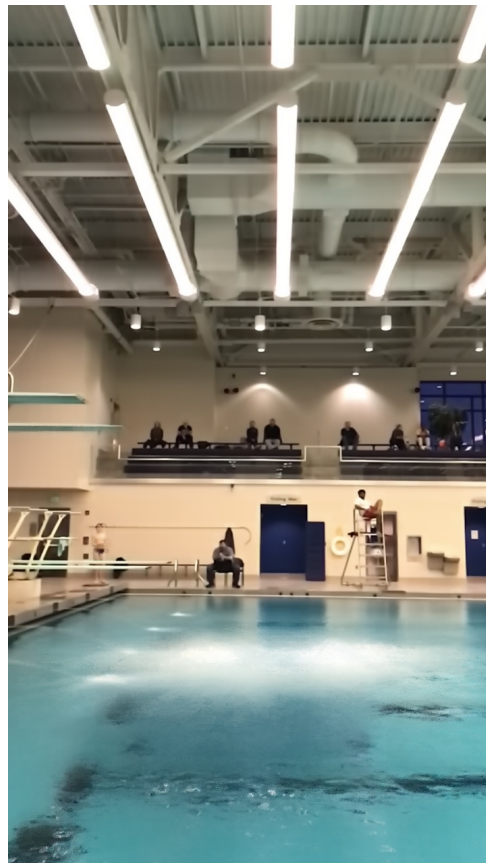
IMG_1794__2175.m4v



IMG_1800_2175.m4v



IMG_1804_2175.m4v



IMG_1783_2175.m4v

Then the foreground object(diver) is extracted from the brightest frames in every six frames to add it to the background model to get the foreground mosaic. It is done by applying MOG2 background subtraction to get the mask. The mask is preprocessed to get only the diver as foreground object using dilation and erosion. Extra processing is performed to remove big changes caused by water splash, etc.