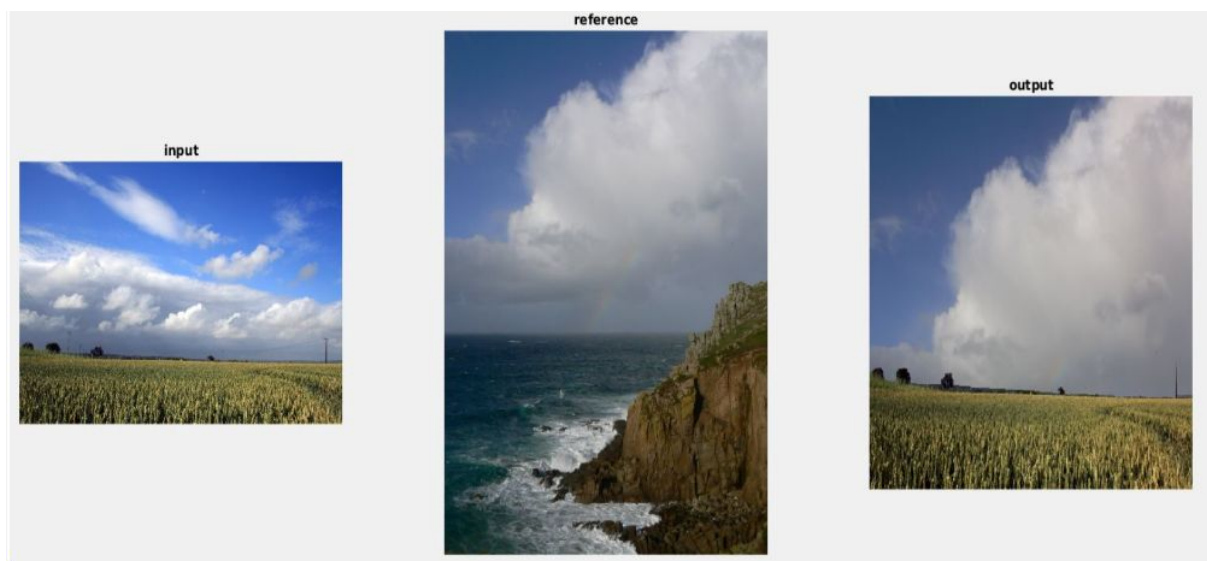The problem description

-- Sky Replacement

Methods

-- Sky segmentation for input image
-- Retrieve skies from the dataset (the dataset contains a few typical sky styles. E.g. Dawn, Sunny, Dusk , Cloudy, Clear)
-- Sky replacement
-- Creating realistic transfer according to the new skies
   (implementing color contrast transfer on part of the new image except the sky)
-- Evaluate the result in each step using different methods

Possible results

References

http://vllab.ucmerced.edu/ytsai/SIGGRAPH16/siggraph16_sky_edit.pdf
https://www.mathworks.com/help/images/image-segmentation.html
https://github.com/SaumyaRawat/Semantic-Aware-Colour-Transfer/blob/master/Report.pdf