Image Blending

Mayank Singhal (160050039)

Sanchit Jain (160050043)

Sai Charith Reddy (160050083)

Abstract

We are taking inspiration from this paper which is "GP-GAN: Towards Realistic High-Resolution Image Blending" which uses the concept of Gaussian Poisson Blending. This was published in 2017 and is hence a recent paper. We are planning to implement image blending using CNNs & GANs. We train our GAN by first initializing the weights at random and then updating it on the basis of the CNN which we use for realistic essence measurement.

Datasets

We will try to get this dataset from the authors but in case we aren't able to procure it, then we will create our own dataset using scenic images of different day times. (IIT Bombay is a suitable place for the same)

Final Deliverables

Given two images and a marker, we will be blending them together in a realistic way. We will be testing with many type of scenic images taken at different points of time and check if the blending is visible on the output image.

(Plan B given Later)

Mid-term Deliverables

By Mid term we will generate the CNN which determines the measure of realistic essence of an image. Later we will combine it with a GAN in the final phase.

Plan B

Depth Estimation and bokeh effect

Abstract: Given an image, we will first estimate depth of several points in the image using ideas from [this](#) paper (Learning Depth from Single Images with Deep Neural Network Embedding Focal Length Mar 2018). And then apply bokeh blur on the image according to depth to convert it into portrait image.

Datasets:

1. http://apolloscape.auto/scene.html
2. http://make3d.cs.cornell.edu/data.html

Deliverables: Given any image, convert it into portrait image (in an enhanced manner in which the subject is highlighted using Bokeh effect in background estimated using depth).