

Matlab Project #5 – Segmentation and Matting

Introduction

In this project we'll implement the simplified version of image Segmentation and Matting algorithm [1].

Note: before starting to work on this Project, it is recommended to answer questions in Lab 5, Part 3.

Questions

1. Describe the simplified version of image Segmentation and Matting algorithm [1] that was introduced in two lab meetings.
2. Implement this algorithm.
3. Provide the relevant Figures (Input image with Scribble Points, Foreground/Background Likelihood histograms, Histogram Back-Projection image for Foreground/Background, Discrete Weighted Geodesic Distance for Foreground/Background, Boundary ("Binary Segmentation"), Trimap, Alpha, and Segmented Foreground on New Background).

Submission

You have to submit the Project Report (with the code included in printed form) at 18/06/2013 at the lab (from 13:00 until 14:00) or on the Video Processing lesson (at the breaks between the lectures).

References

- [1] X. Bai and G. Sapiro, Geodesic matting: a Framework for fast interactive image and video segmentation and matting, *Int. J. Comput. Vis.*, 82(2), pp. 113-132, 2009.
- [2] Z. Botev, Kernel Density Estimator package. Available at:
<http://www.mathworks.com/matlabcentral/fileexchange/14034-kernel-density-estimator>