Supplementary Material for "Image splicing localization in motion blurred 3D scenes"

February 2, 2016

1 Introduction

In this supplementary material, we present results to show the applicability of our PSF grouping technique. We give additional comparing results on performance with [8] and [14] in Fig. 1. Fig. 2 shows the blur kernels at various locations and their vertical-length and horizontal lengths. The plots are approximately flat along the rows and columns, which is in accordance with our claim in the paper. All reference numbers are with respect to our main paper.

(a) Synthetic image   (b) Ground Truth

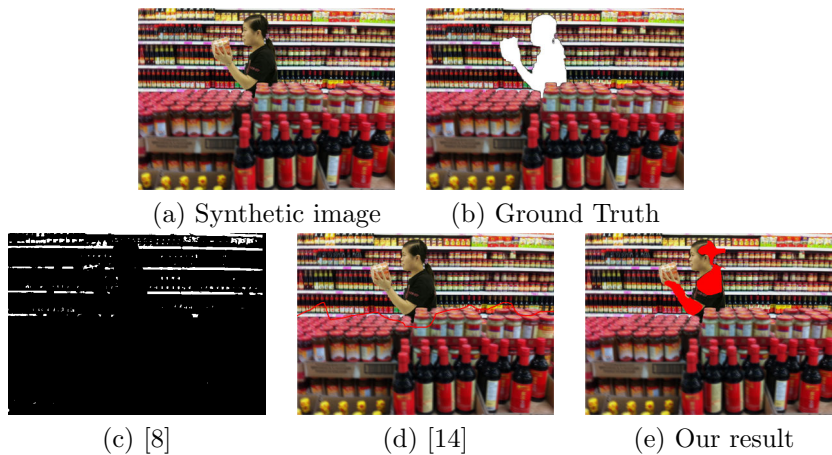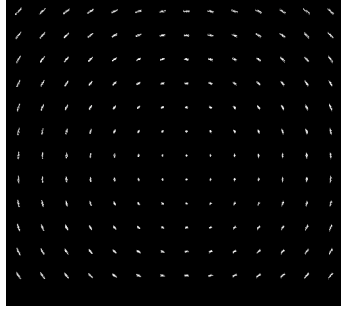(c) [8]   (d) [14]   (e) Our result

Figure 1: Comparison of results on synthetically blurred and spliced image of a 3D scene (a). The actual spliced region is displayed as white pixels in (b). Our method correctly generates a blob that covers the spliced region with acceptable accuracy (e). [8] (c) and [14] (d) are unable to handle spatially varying blur leading to false classification of the authentic regions at different depths as spliced.
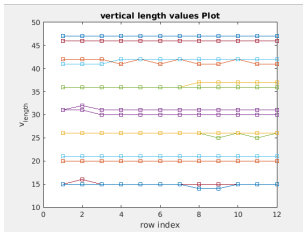
(a) PSFs obtained from a fronto-parallel scene

(b) vertical-length values

(c) horizontal-length values

(d) Vertical lengths vs rows,
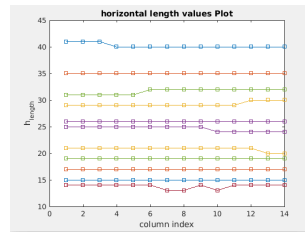
(e) Horizontal lengths vs columns.

Figure 2: PSFs considered at 168 uniformly distributed locations on a non-uniform blurred image of a fronto-parallel scene. Vertical-length and horizontal-length values corresponding to each PSF are plotted in (d) Vertical lengths with respect to rows and (e) horizontal lengths with respect to columns.

(a) (b) (c) (d) (e)

Figure 3: Intermediate results after each step on synthetic examples (a) Input spliced image (b) Result of PSF grouping (all white pixels belong to single depth layer) (c) Patch classification after comparing the blur kernels through correlation (d) Texture based segmentation of the input image using [22] (e) Final result showing localized spliced region in red