

Defocus and Motion Blur Detection with Deep Contextual Features

Supplementary Material

Beomseok Kim¹, Hyeongseok Son¹, Seong-Jin Park¹,
Sunghyun Cho², and Seungyong Lee¹

¹POSTECH

²DGIST

Contents

- More comparisons with a state-of-the-art method in blur detection on CUHK test set
 - Huang et al., “Multiscale blur detection by learning discriminative deep features”, Neurocomputing, 2018.
- Challenging examples with mixed blur
 - Objects outside the depth-of-field are motion-blurred
- Examples of moving object segmentation
- More results with real blurred photographs

More comparisons of blur detection results on CUHK test set

input



ground-truth



Huang et al.



ours



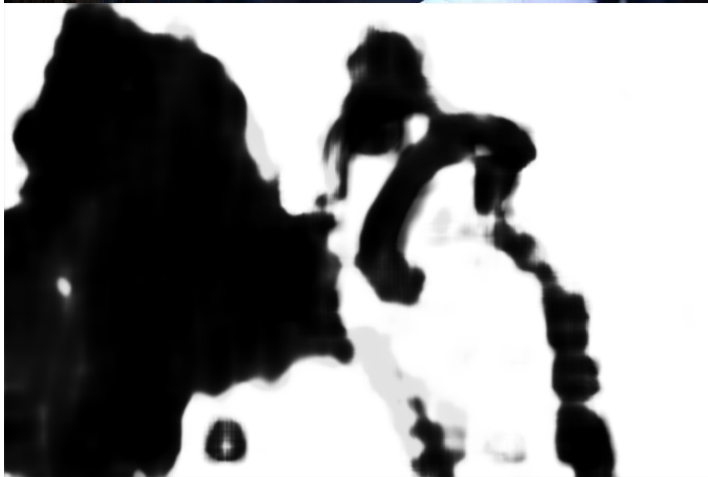
input



ground-truth



Huang et al.



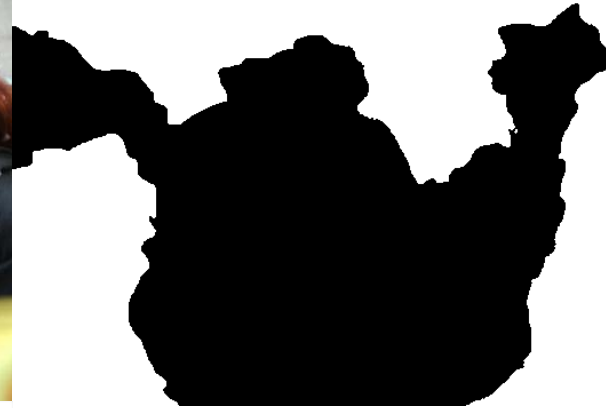
ours



input



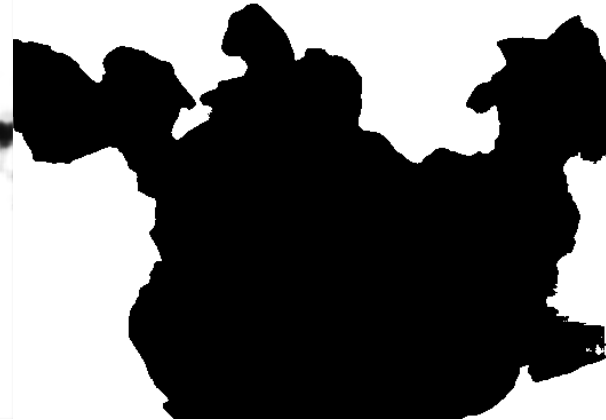
ground-truth



Huang et al.



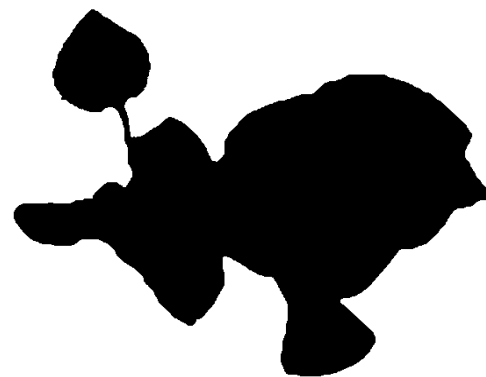
ours



input



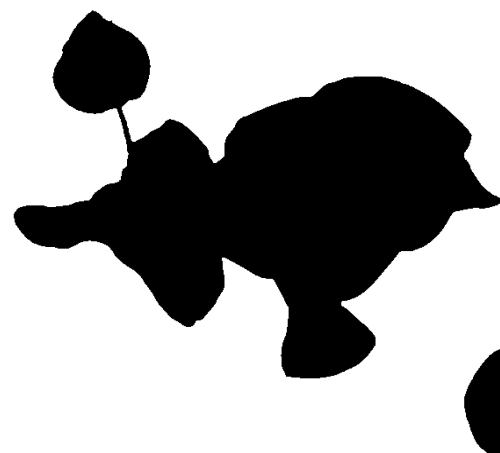
ground-truth



Huang et al.



ours



input



ground-truth

Huang et al.



ours

input



ground-truth



Huang et al.



ours



input



ground-truth



Huang et al.



ours



input



ground-truth



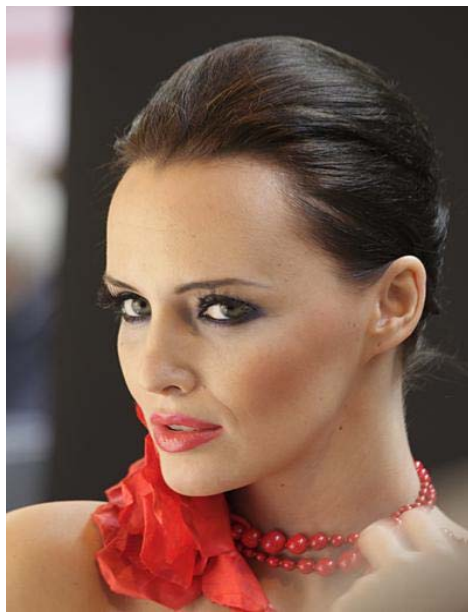
Huang et al.



ours



input



ground-truth



Huang et al.



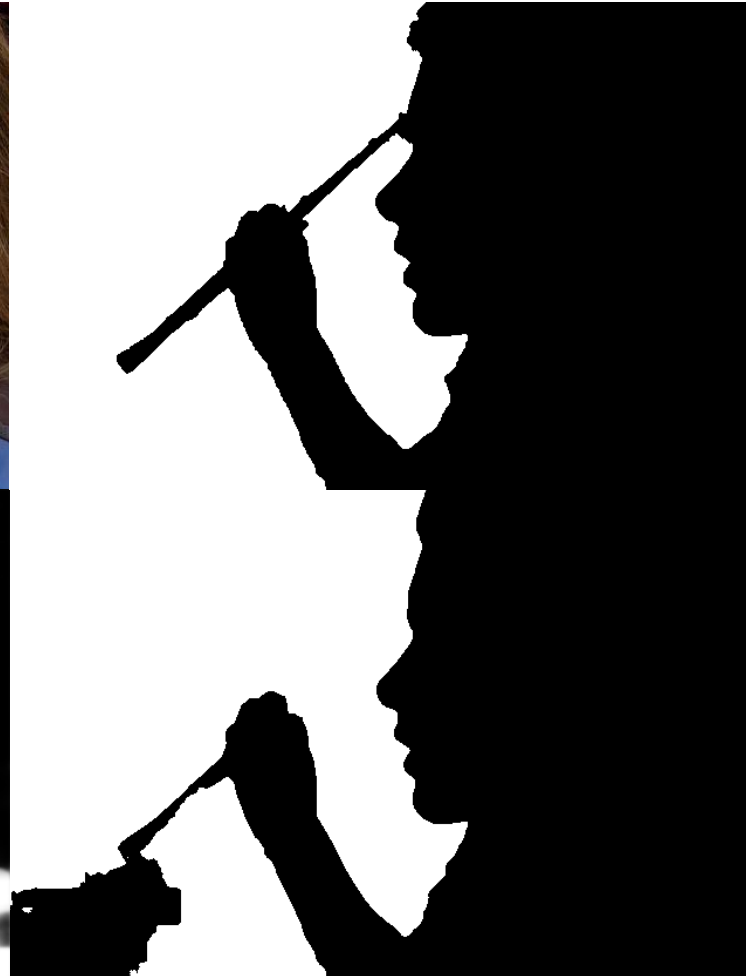
ours



input



ground-truth



Huang et al.



ours



input



ground-truth



Huang et al.



ours



input



ground-truth



Huang et al.



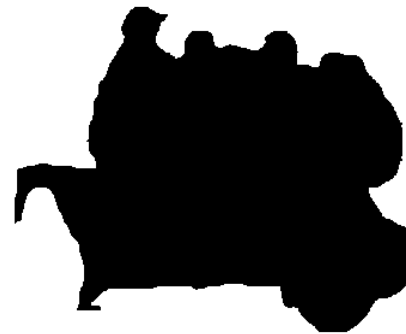
ours



input



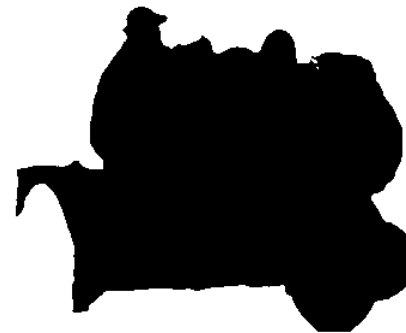
ground-truth



Huang et al.



ours



input



ground-truth



Huang et al.

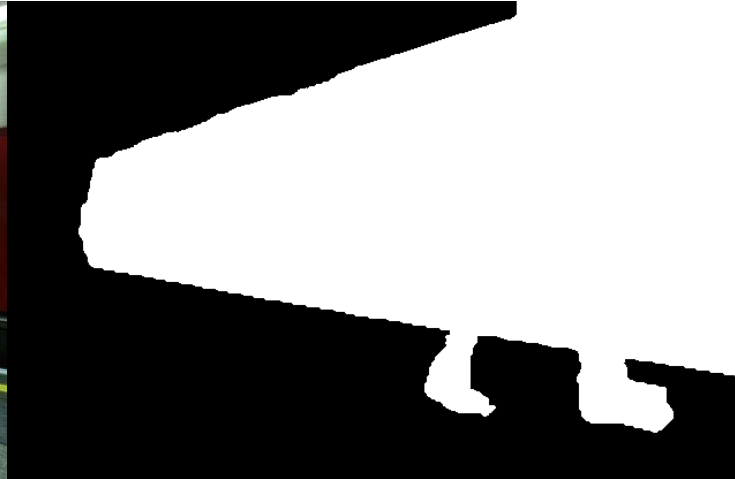


ours

input



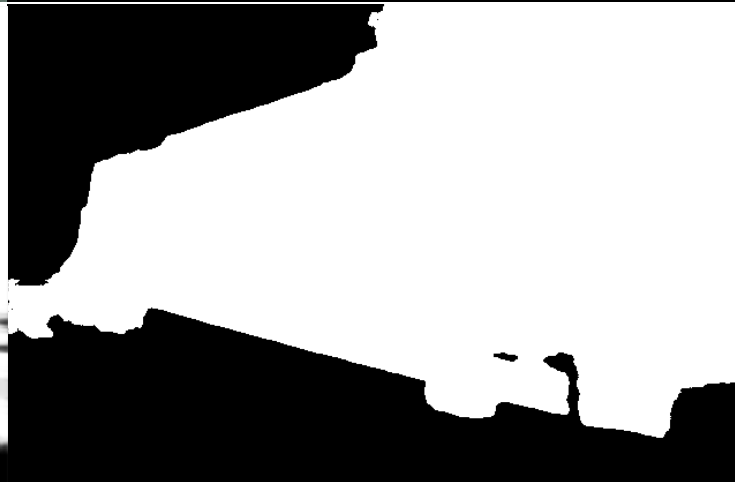
ground-truth



Huang et al.



ours



input



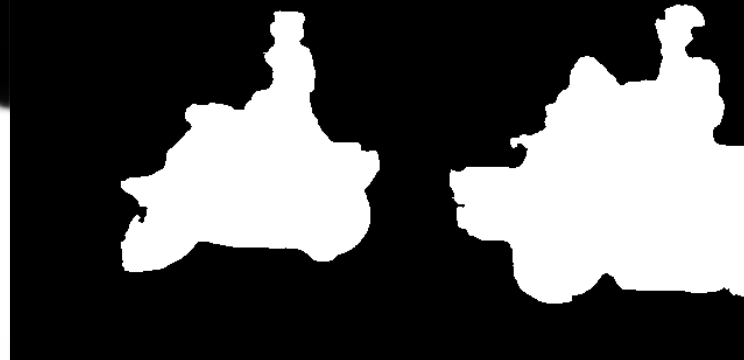
ground-truth



Huang et al.



ours



input



ground-truth



Huang et al.



ours



input



ground-truth



Huang et al.



ours



input



ground-truth



Huang et al.



ours



input



ground-truth



Huang et al.



ours



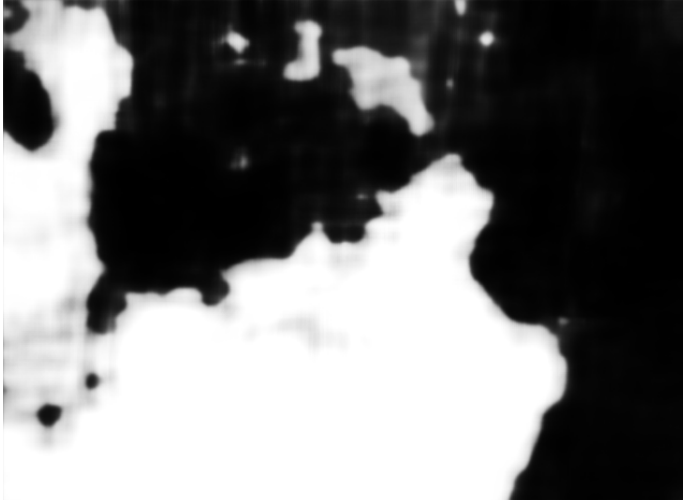
input



ground-truth



Huang et al.



ours



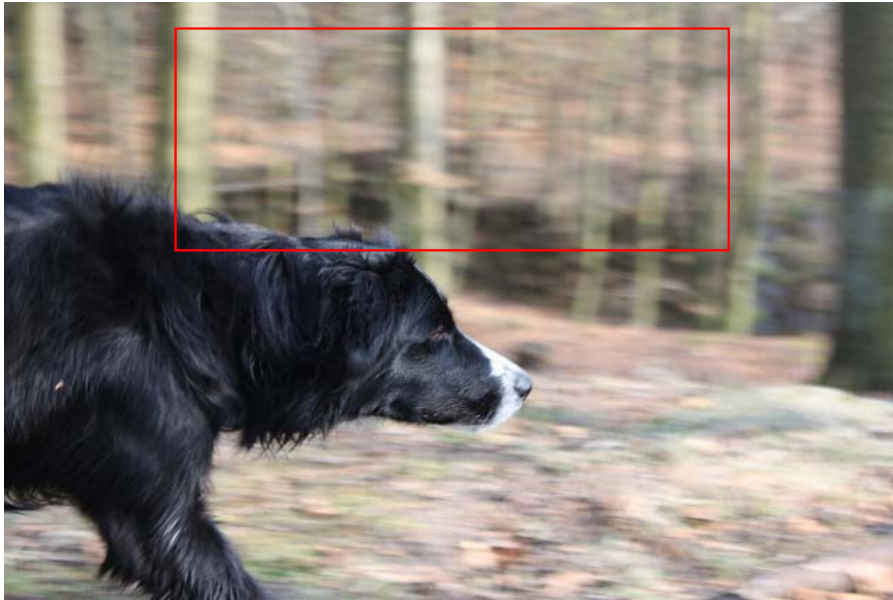
Challenging examples with mixed blur
(Objects outside the depth-of-field are motion-blurred)
(blue: motion blur, red: defocus blur, black: no-blur)

Our method returns the dominant blur type at each pixel in this case.



input

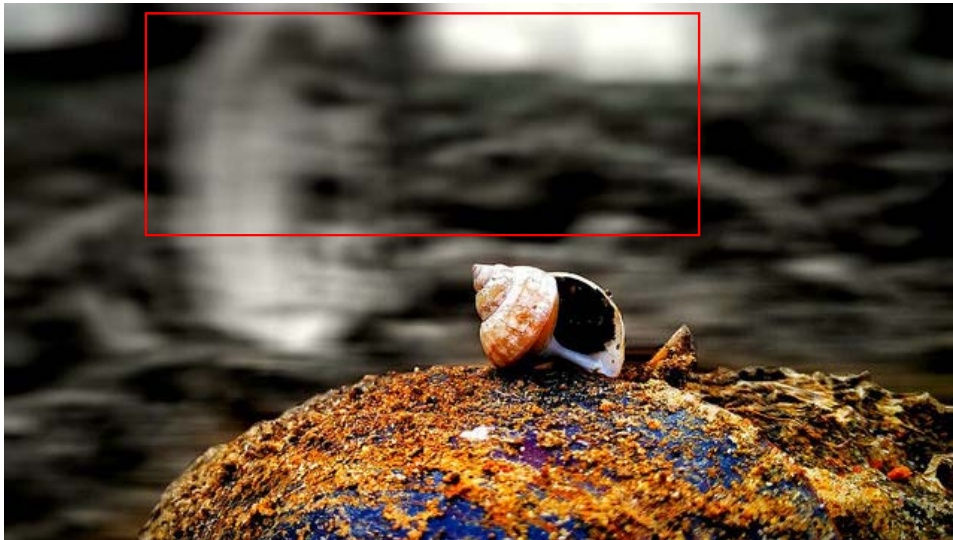
output



input



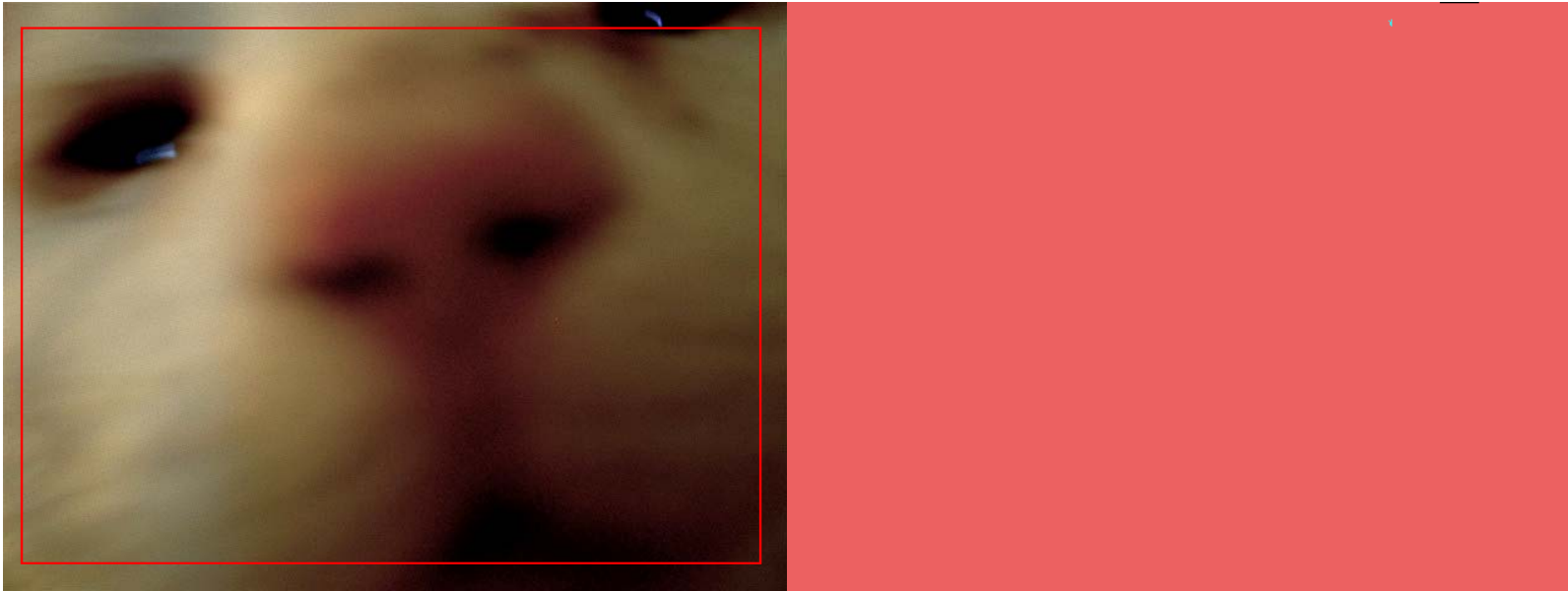
output



input



output



input

output



input



output

Examples of moving object segmentation with real photographs

(blue: motion blur, red: defocus blur, black: no-blur)



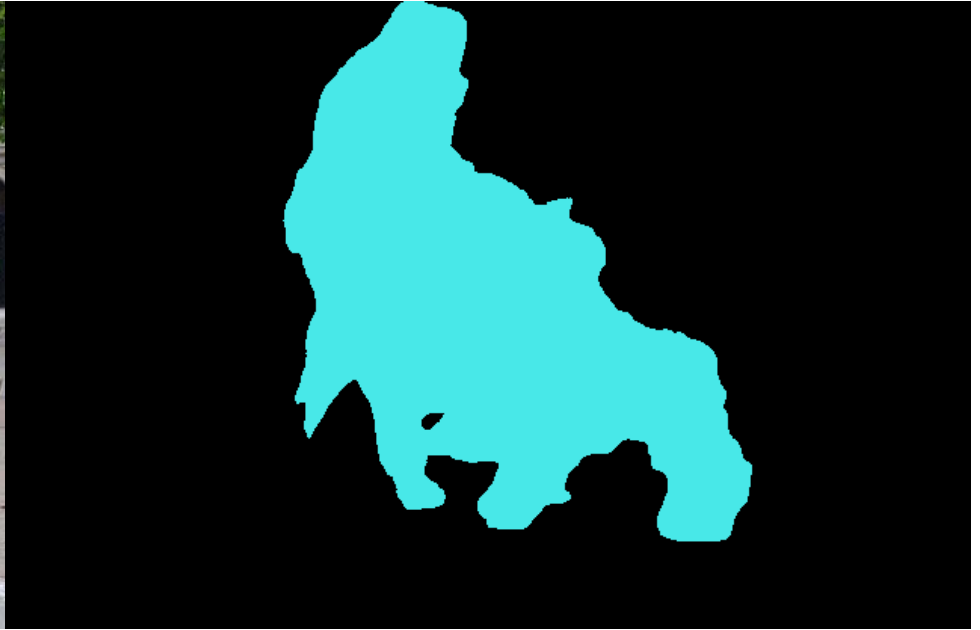
input



output



input



output



input



output



input



output



input



output



input



output



input



output



input

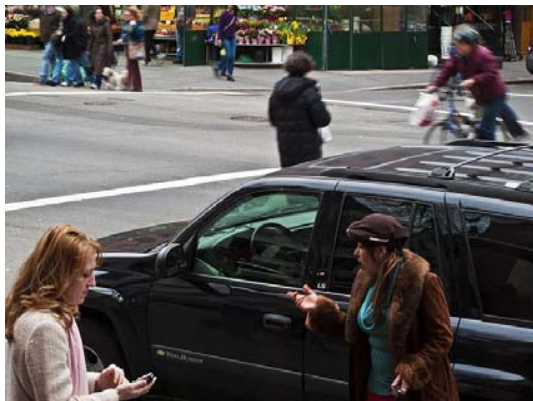


output

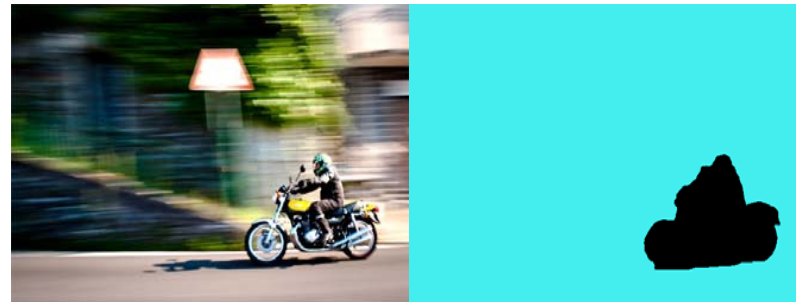
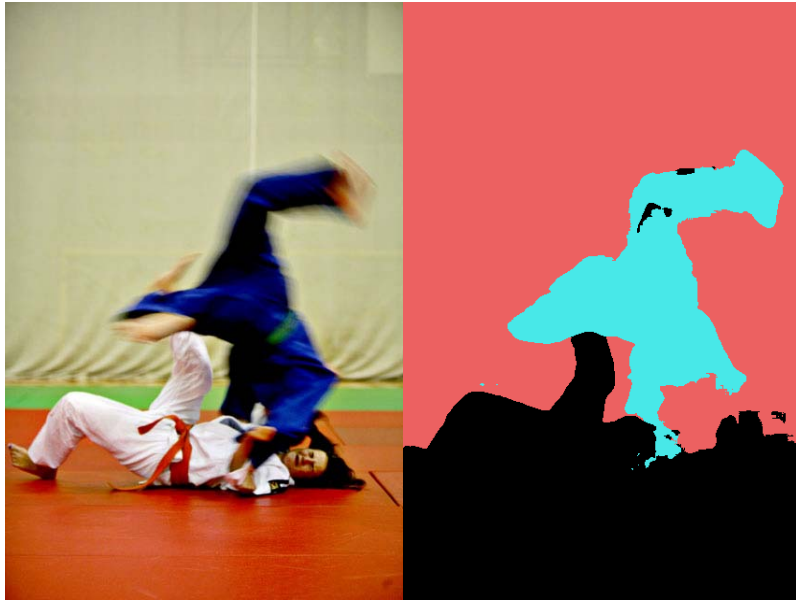
More examples with real blurred photographs
(blue: motion blur, red: defocus blur, black: no-blur)











Thank you.

<http://cg.postech.ac.kr>

<http://vclab.dgist.ac.kr>