

Image Completion with Intrinsic Reflectance Guidance

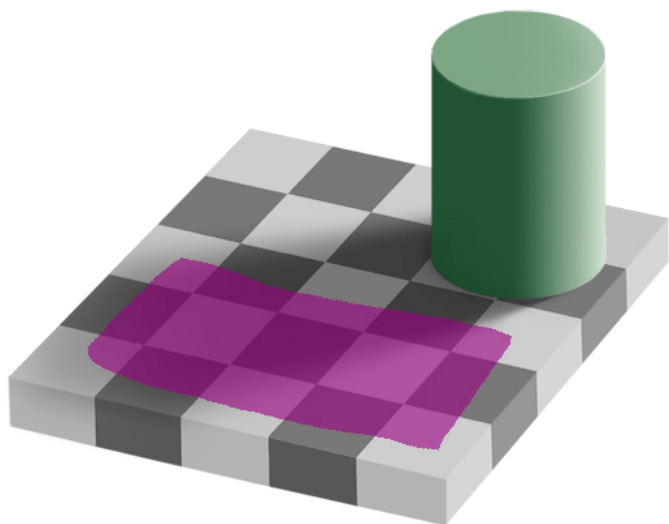
Supplementary materials

Soomin Kim Taeyoung Kim Min H. Kim Sung-Eui Yoon
Korea Advanced Institute of Science and Technology (KAIST)

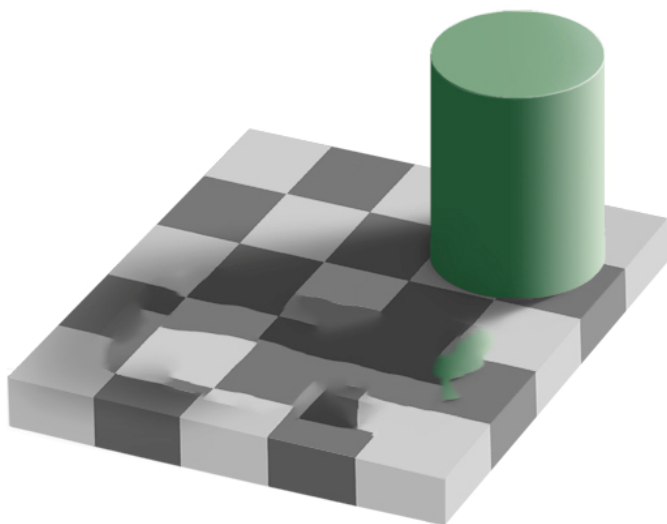
Comparisons

(Scenes with illumination variation)

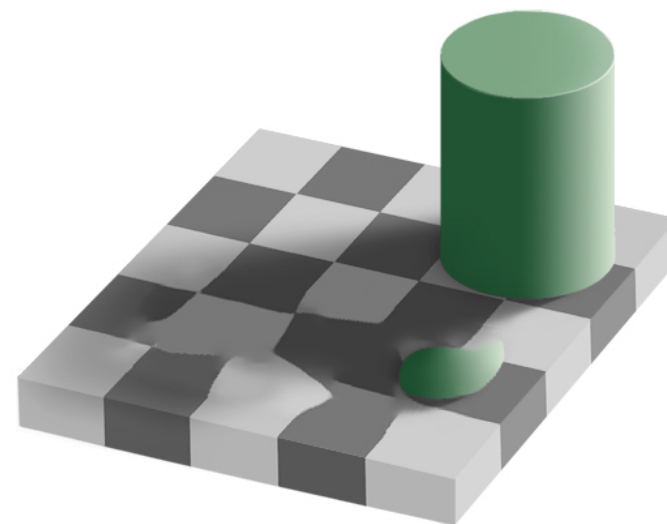
For our results: patch size 7 x 7, initial parameters: $\alpha = 0.05, \beta = 0.65, \gamma = 0.3$



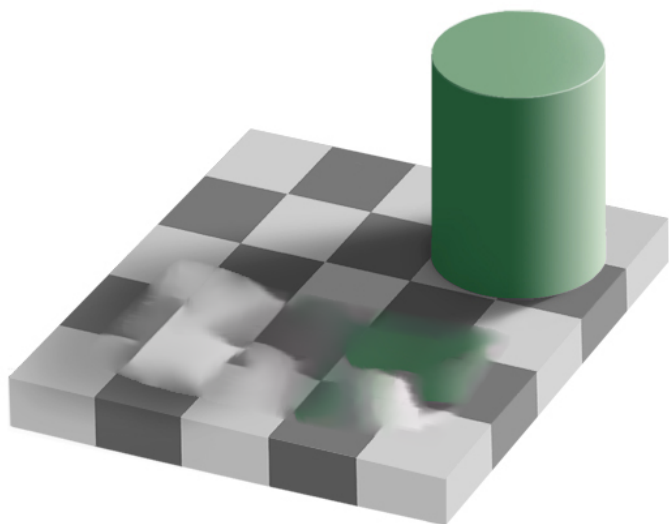
Input with mask



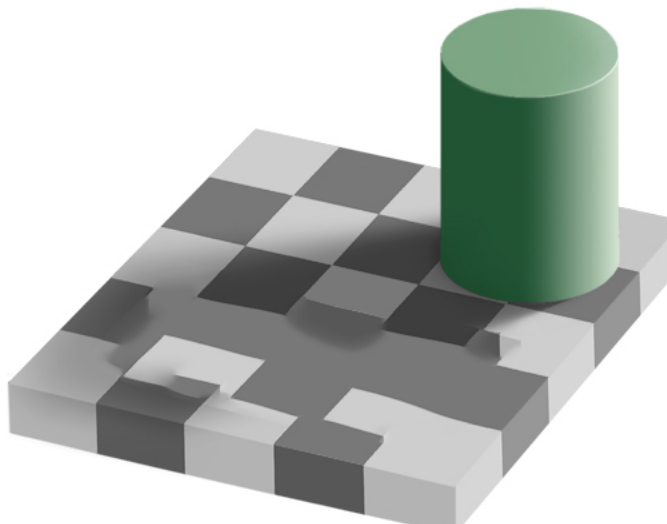
Photoshop



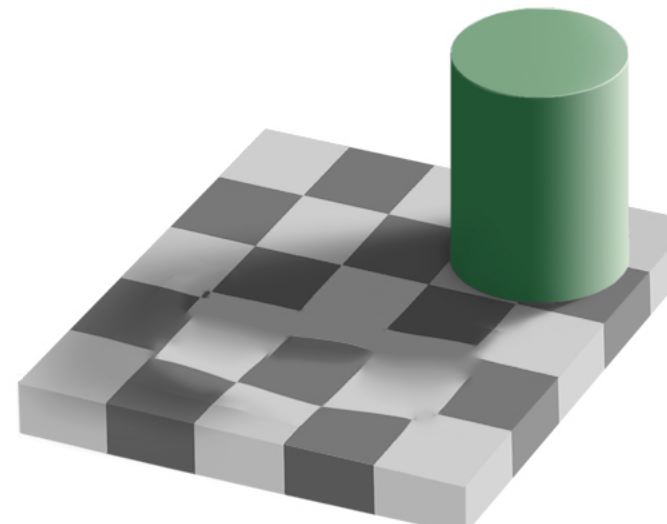
Darabi et al. 2012



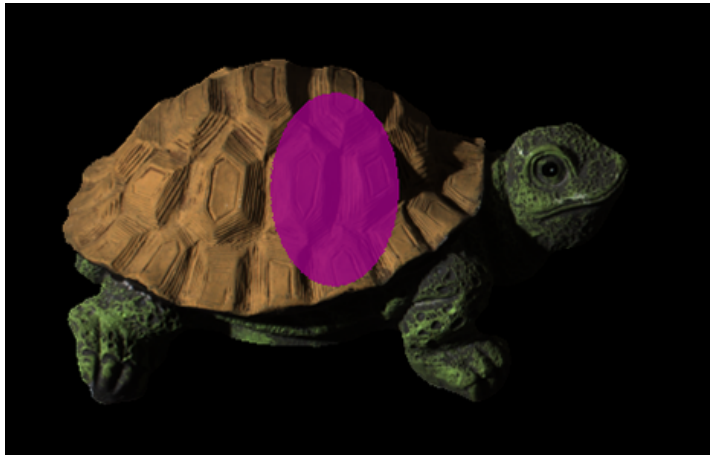
Huang et al. 2014



Lee et al. 2016



Ours
Image credit: Edward H. Adelson



Input with mask



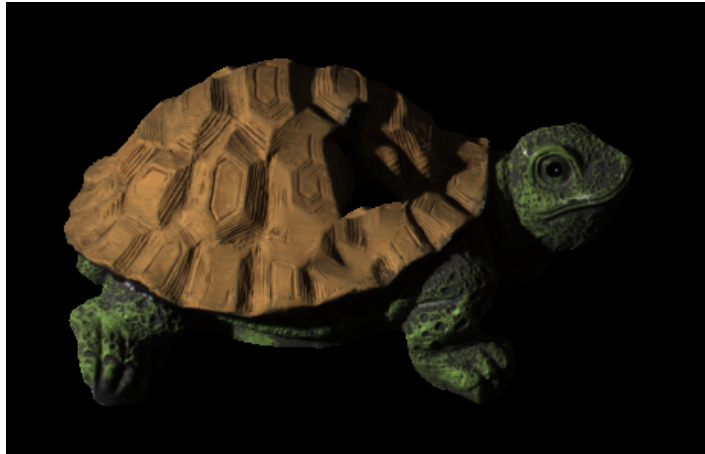
Photoshop



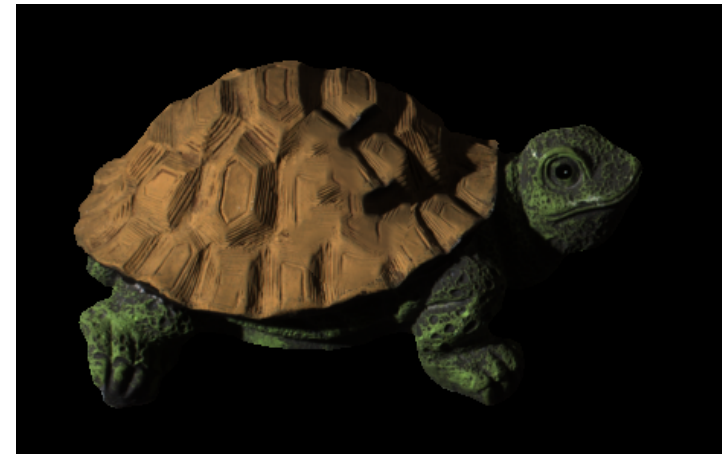
Darabi et al. 2012



Huang et al. 2014



Lee et al. 2016



Ours

Image credit: Grosse et al. (ICCV 2009)



Input with mask



Photoshop



Darabi et al. 2012



Huang et al. 2014



Lee et al. 2016

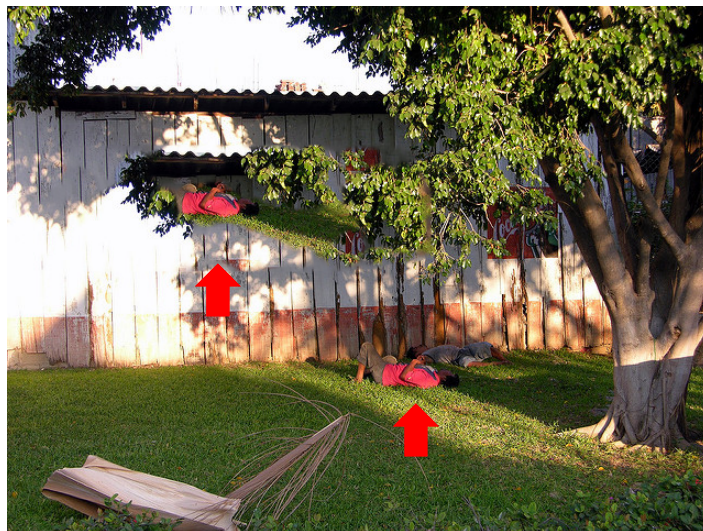


Ours

Image credit: Flickr user Sally



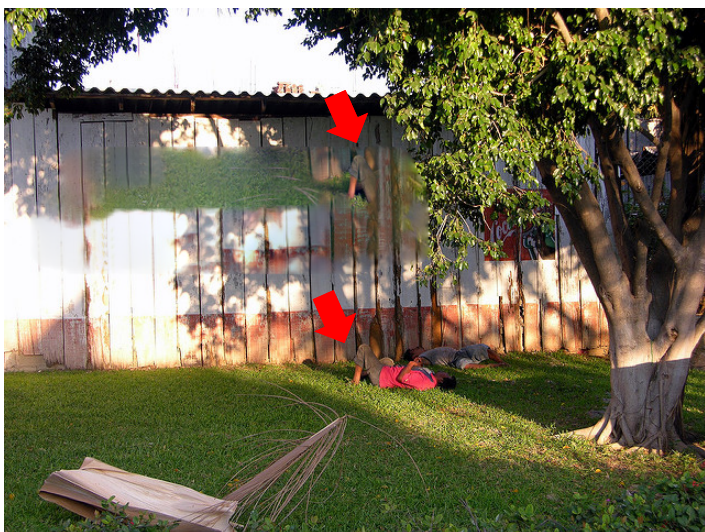
Input with mask



Photoshop



Darabi et al. 2012



Huang et al. 2014



Lee et al. 2016

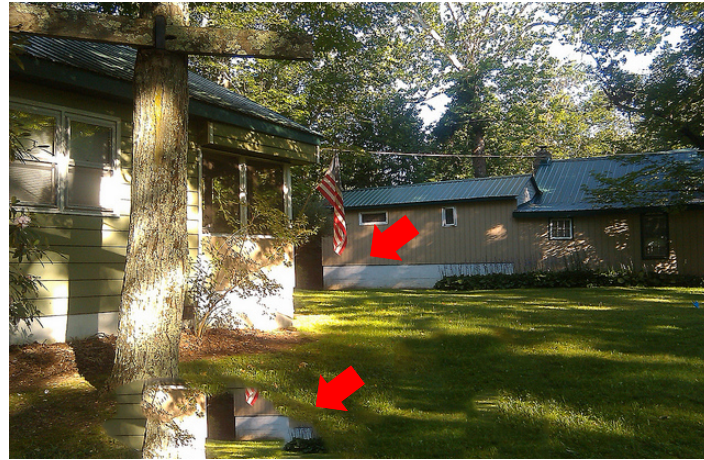


Ours

Image credit: Flickr user Gypsy and The Fool



Input with mask



Photoshop



Darabi et al. 2012



Huang et al. 2014



Lee et al. 2016



Ours

Image credit: Flickr user Steve Sherlock



Input with mask



Photoshop



Darabi et al. 2012



Huang et al. 2014



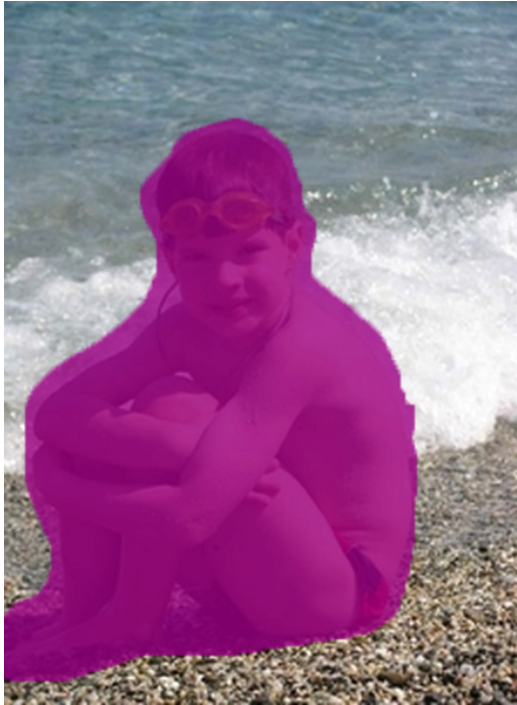
Lee et al. 2016



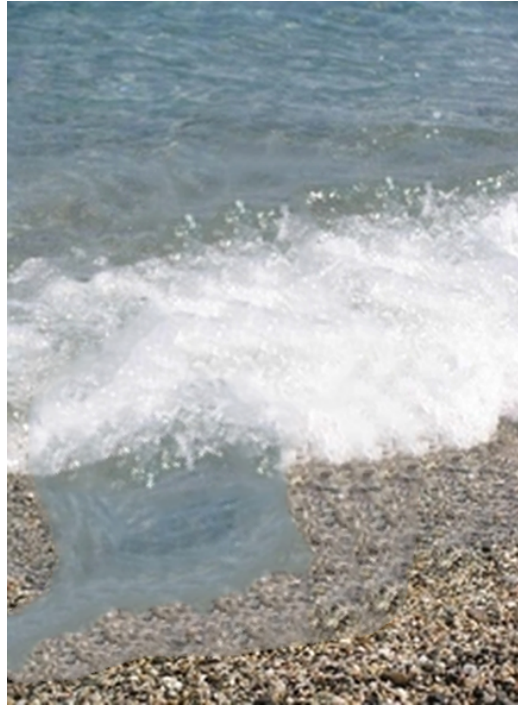
Ours
Image credit: Flickr user Jenni Konrad

Comparisons (Commonly tested images)

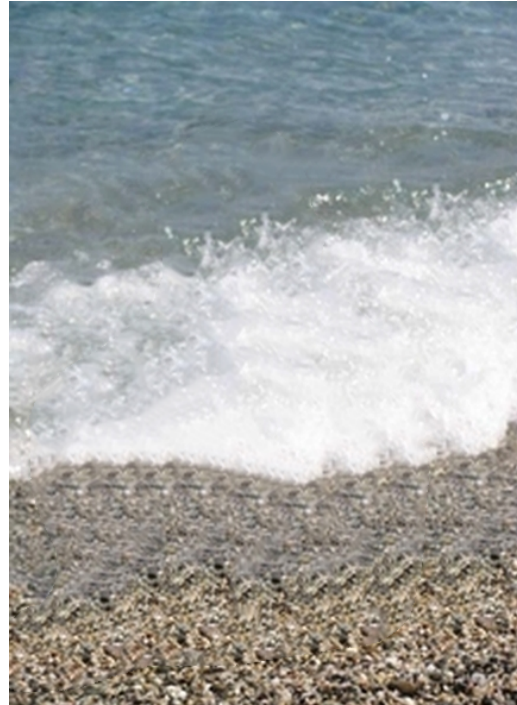
For our results: patch size 7×7 , $\alpha = 0.05$, $\beta = 0.65$, $\gamma = 0.3$



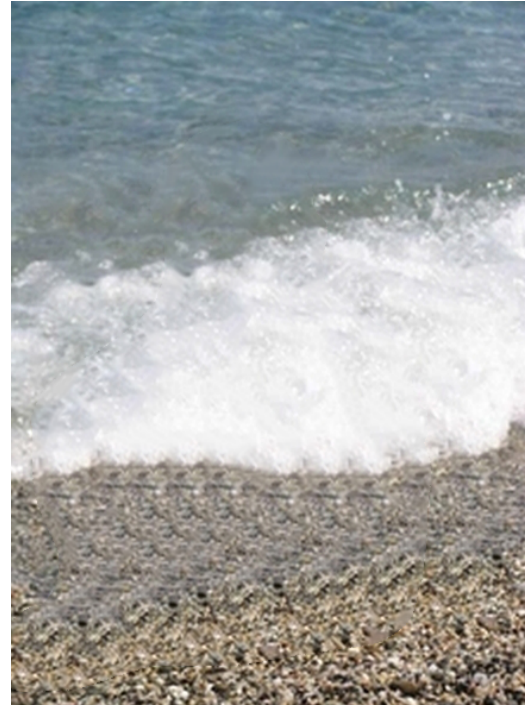
Input with mask



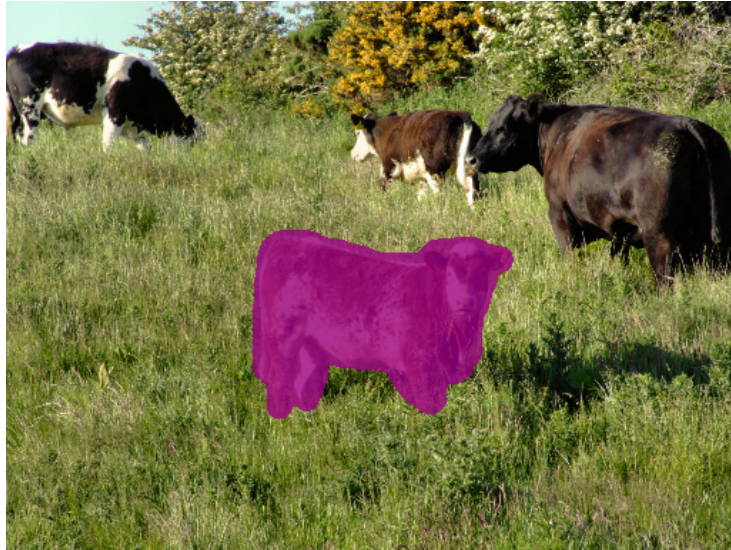
Darabi et al. 2012



Lee et al. 2016



Ours



Input with mask



Darabi et al. 2012



Lee et al. 2016



Ours



Input with mask



Darabi et al. 2012



Lee et al. 2016



Ours



Input with mask



Darabi et al. 2012



Lee et al. 2016



Ours



Input with mask



Darabi et al. 2012



Lee et al. 2016



Ours



Input with mask



Darabi et al. 2012



Lee et al. 2016



Ours



Input with mask



Darabi et al. 2012



Lee et al. 2016



Ours



Input with mask



Darabi et al. 2012



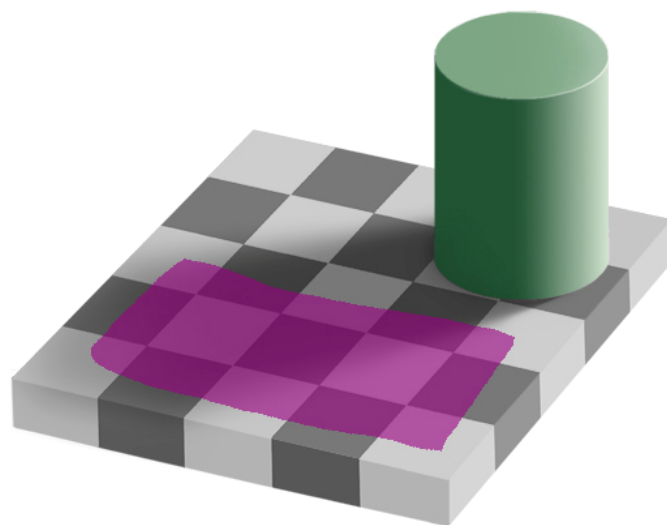
Lee et al. 2016



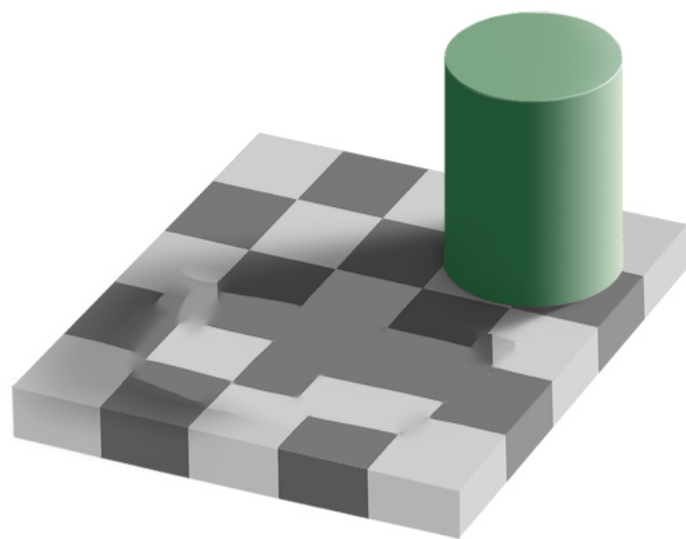
Ours

Internal Evaluation

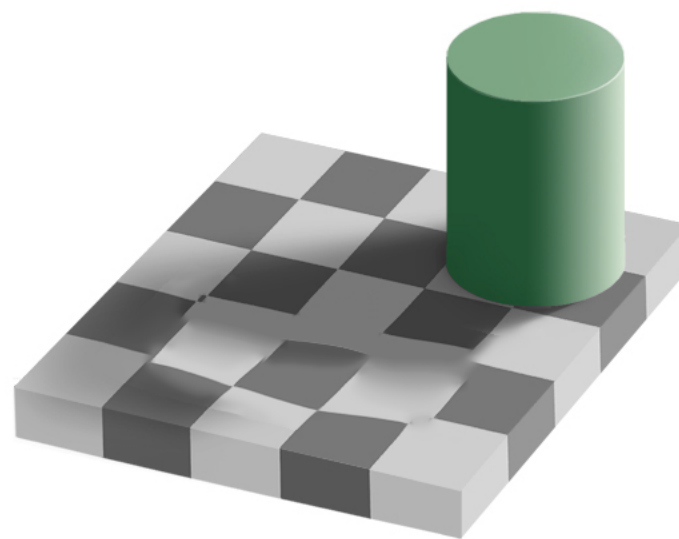
Reflectance vs. Chrominance



Input with mask



Ours with Chrominance



Ours with Reflectance (Our Choice)



Input with mask



Ours with Chrominance



Ours with Reflectance (Our Choice)

Internal Evaluation

Fixed reflectance weight for each level

vs.

Adaptive reflectance weight for each level



Input with mask





Fixed Reflectance Weight for each level





Adaptive reflectance weight for each level



Previous method

- Lee et al. *Laplacian Patch-Based Image Synthesis, CVPR2016*
(Author's code: <https://github.com/minhkim/laplacianinpainting>)
- Photoshop (Content-Aware-Fill)
- Huang et al. *Image Completion using Planar Structure Guidance, SIGGRAPH 2014*
(Author's code: https://sites.google.com/site/jbhuang0604/publications/struct_completion)
- Darabi et al. *Image Melding: Combining Inconsistent Images using Patch-based Synthesis, SIGGRAPH 2012*
(Author's code: <http://www.ece.ucsb.edu/~psen/melding>)