

# Gradient Domain-Fusion

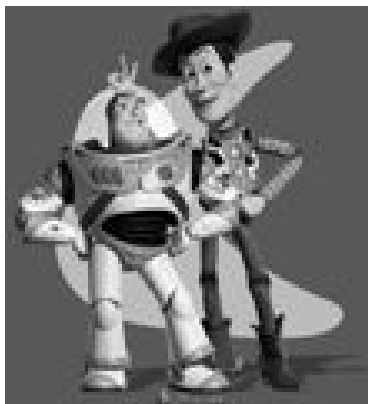
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CMPT-888

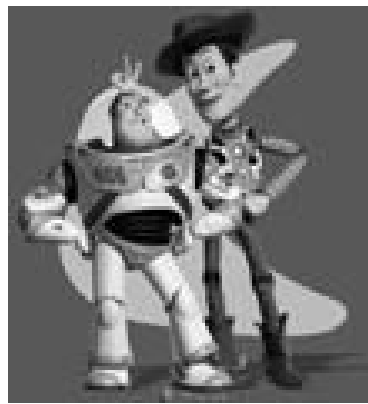
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## Toy Problem



Input Image



Rec Image

Error:  $7.0422e-14$

# Poisson Blending

## Description -

The principle for Poisson Blending is to minimize the gradient differences between the source image and the target image.

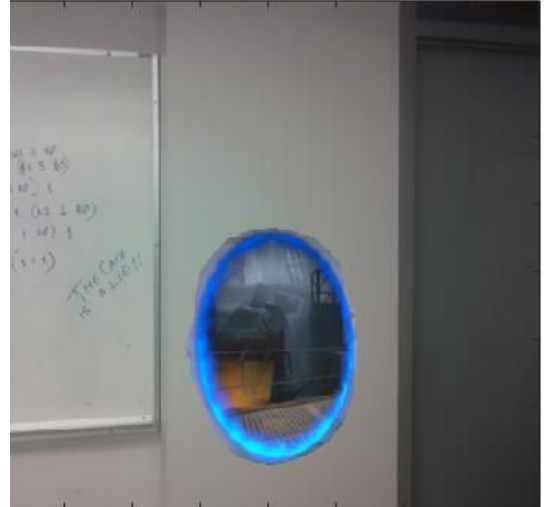
To do this we pose the gradient differences as a least squares problem and solve for the values which minimizes this difference.

# Poisson Blending

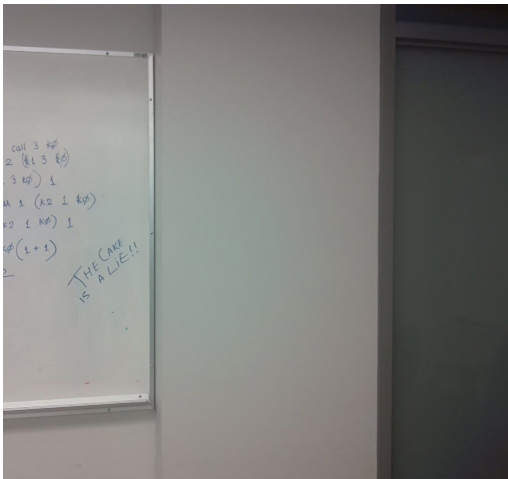
Example - Wall Portal



Final Image



Direct Pasting



Background Images

# Poisson Blending

Example - Companion Cube on the Floor



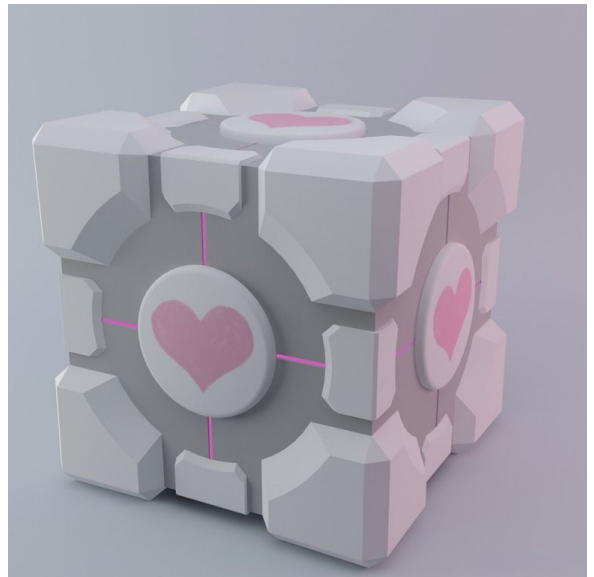
Final Image



Direct Pasting



Background Images



# Poisson Blending

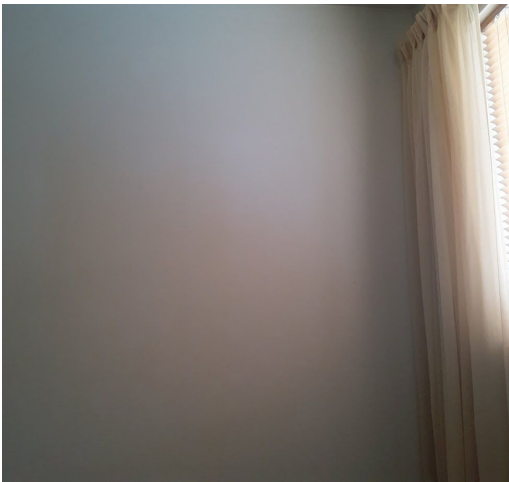
Example - Wheatley Labs (shows artifacts)



Final Image



Direct Pasting



Background Images



# Mixed Blending

## Description -

The Idea is the same as Poisson blending but by using a mix between the source and target gradients, we can get a more natural image for things which should be transparent or close to it.

# Mixed Blending

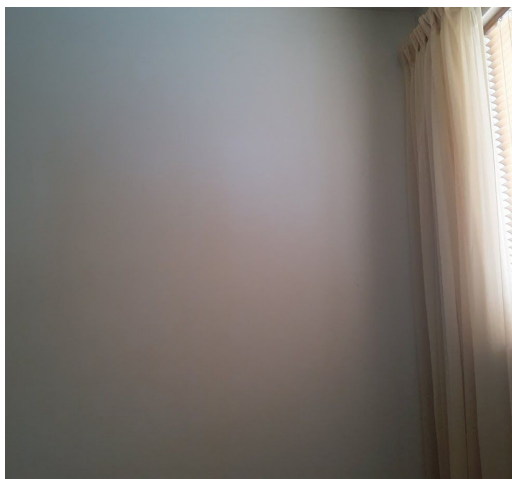
Example - Wheatley Labs



Final Image



Direct Pasting



Background Images



Note -- Better result than Poisson Blending



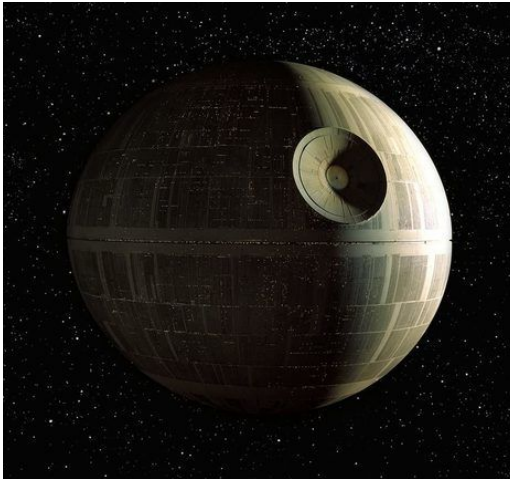
# Mixed Blending

Example - Death Star

Final Image



Direct Pasting



Background Images



# Mixed Blending

Example - Vancouver Bat Signal

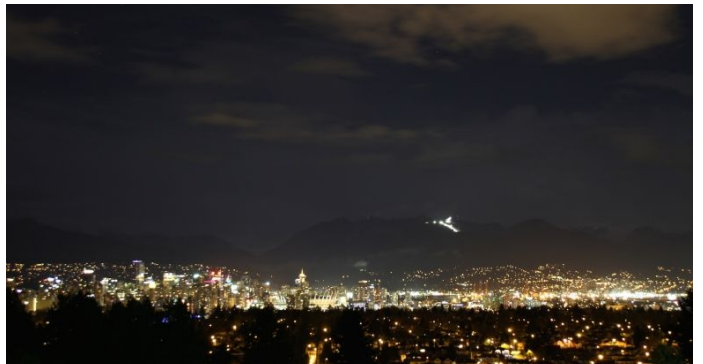
Final Image



Direct Pasting



Background Images



# Mixed Blending

Example - Vancouver Bat Signal

Final Image



Direct Pasting

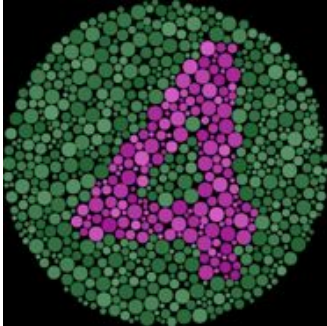


Background Images

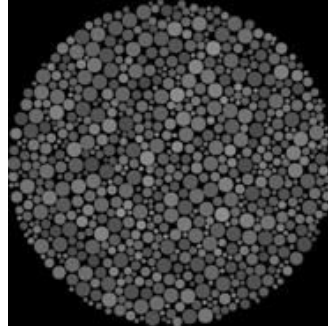


# Color2Gray

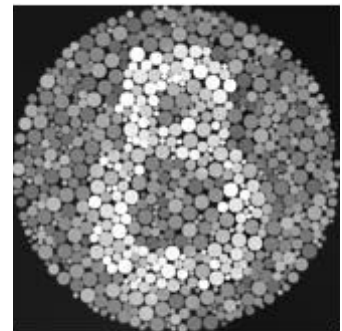
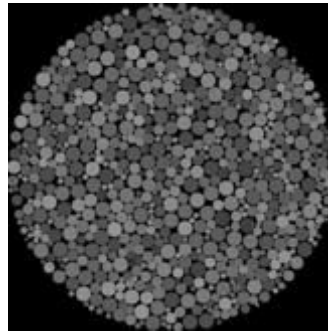
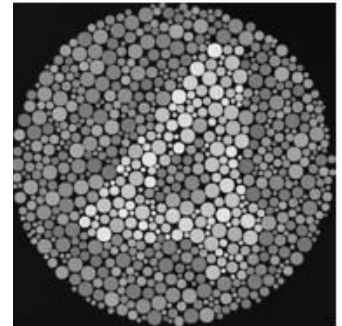
Input



Standard



Color2Gray



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