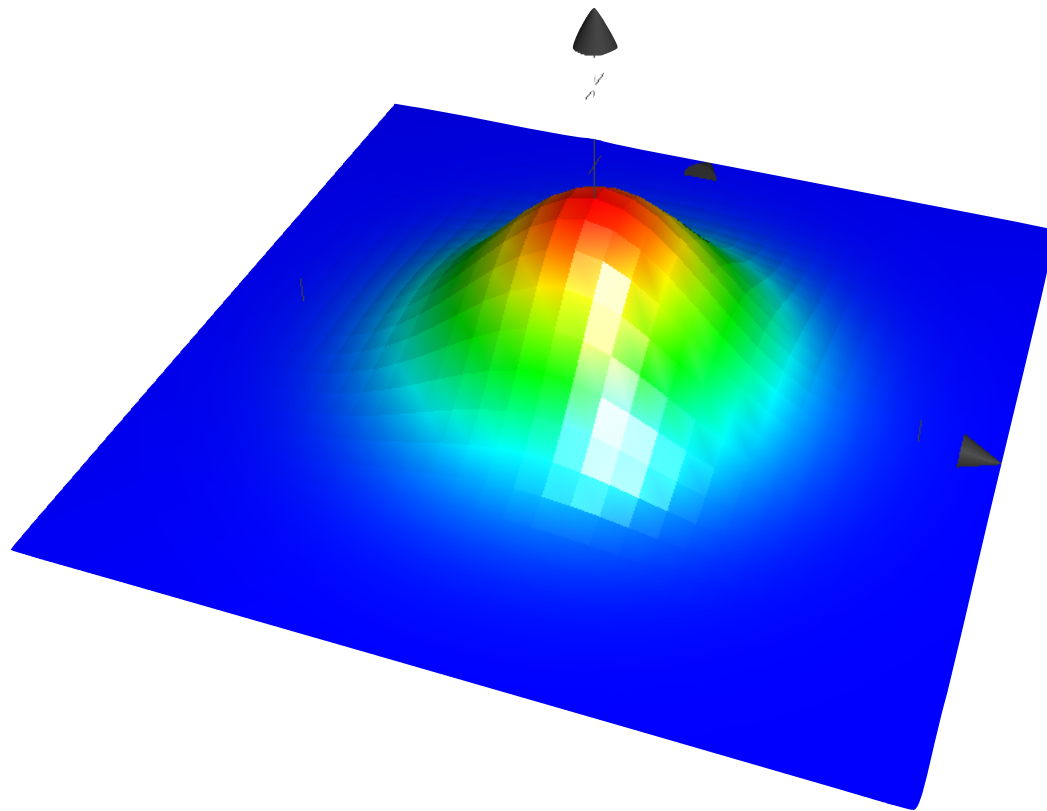


Gaussian Filter

The Gaussian filter



A Gaussian kernel gives less weight to pixels further from the center of the window

$$h(u, v) = \frac{1}{2\pi\sigma^2} e^{-\frac{(u^2 + v^2)}{\sigma^2}}$$

$\frac{1}{16}$	1	2	1
	2	4	2
	1	2	1

This 3 x 3 kernel is an approximation of a 2D Gaussian function

Gaussian Filtering versus Box Filter

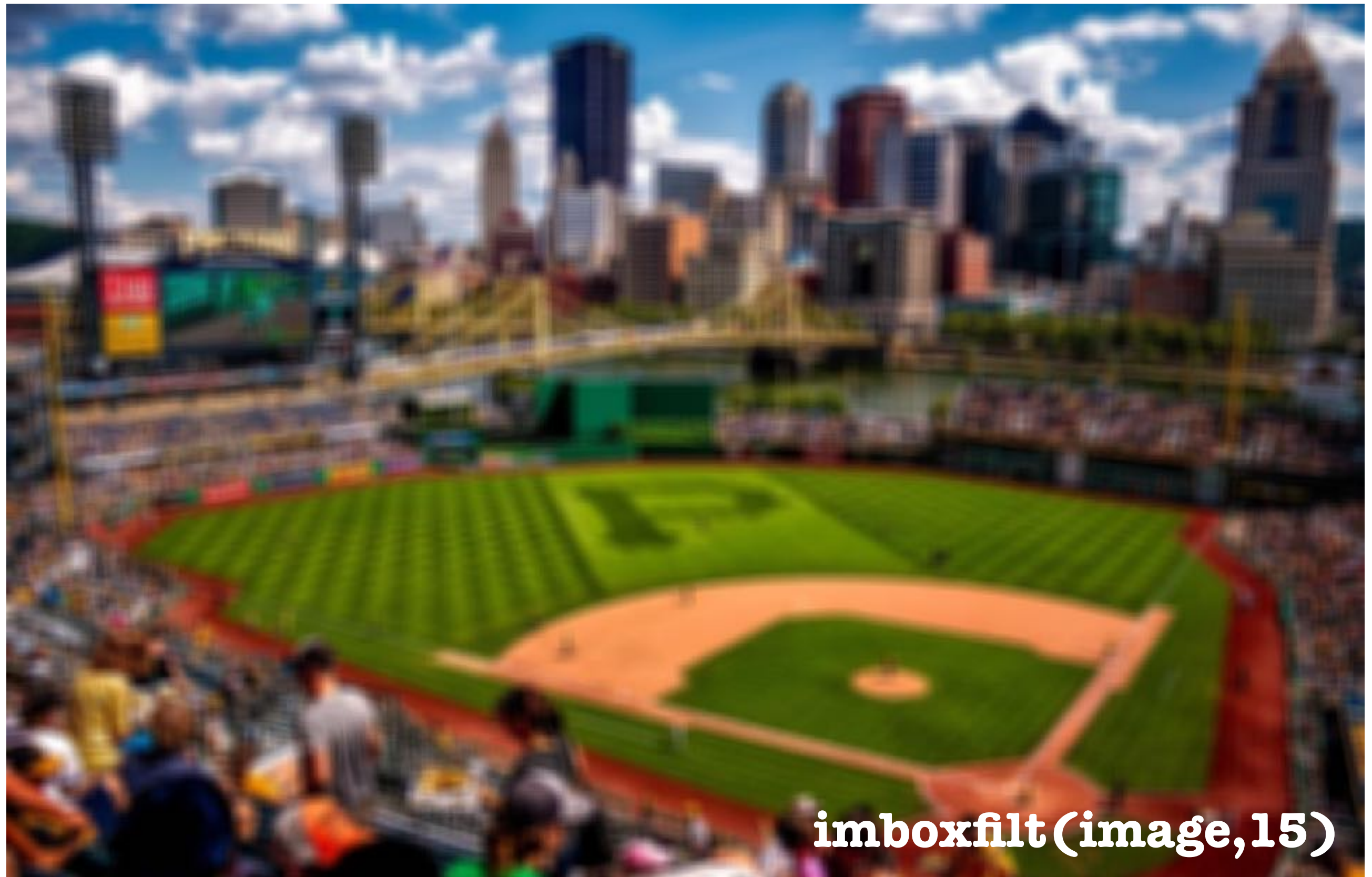


Gaussian Filtering versus Box Filter



imgaussfilt(image, 5)

Gaussian Filtering versus Box Filter



imboxfilt(image,15)

How would you create a shadow effect?

CMU



CMU

How would you create a shadow effect?

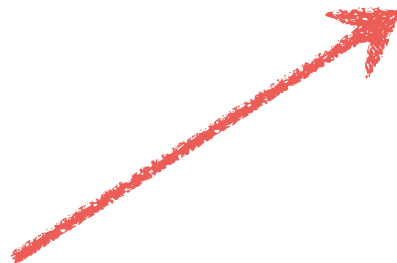
CMU



CMU

Overlay

CMU



Gaussian blur

How would you create a soft focus effect?



How would you create a soft focus effect?



0.5
→

0.5
↗

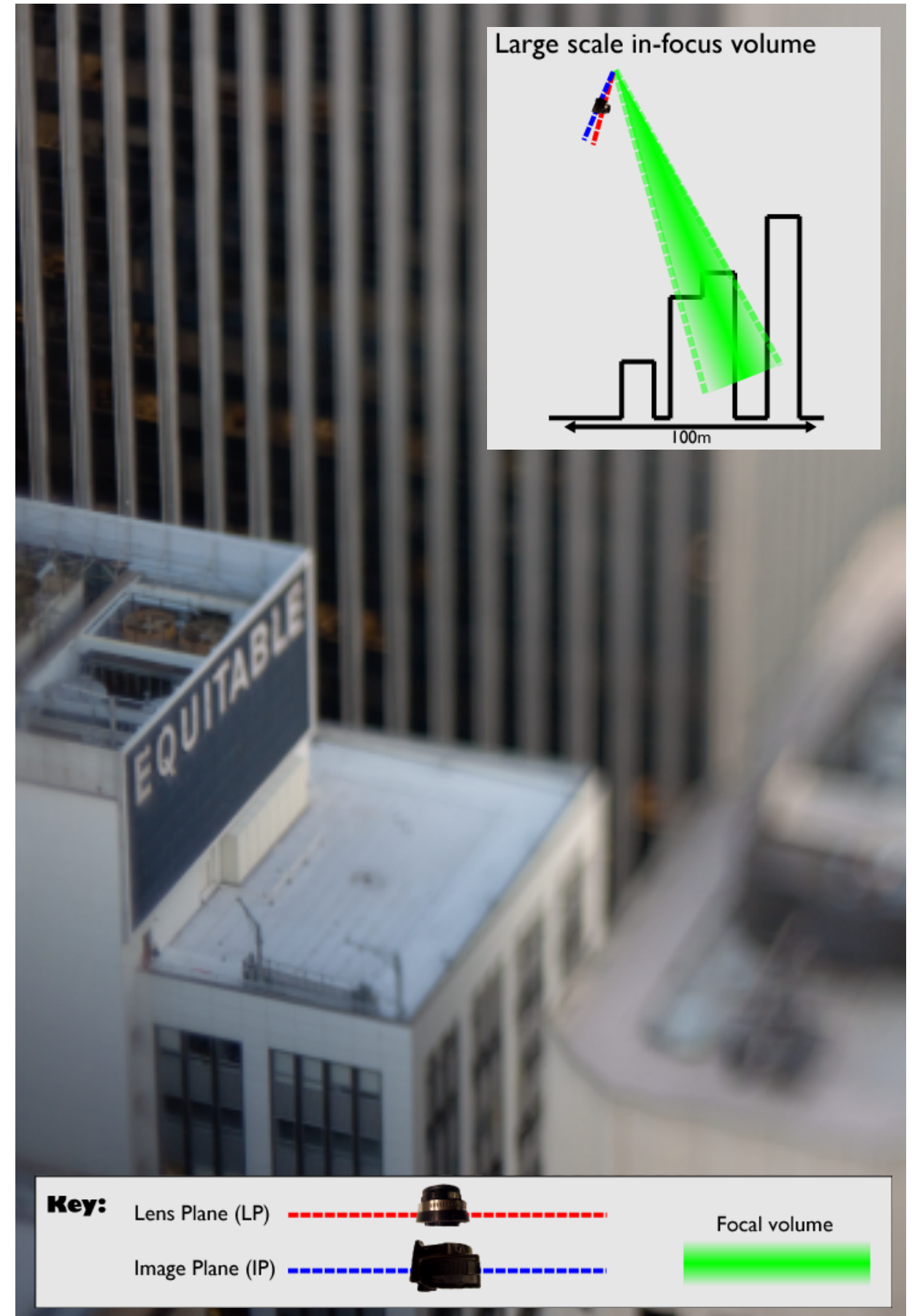
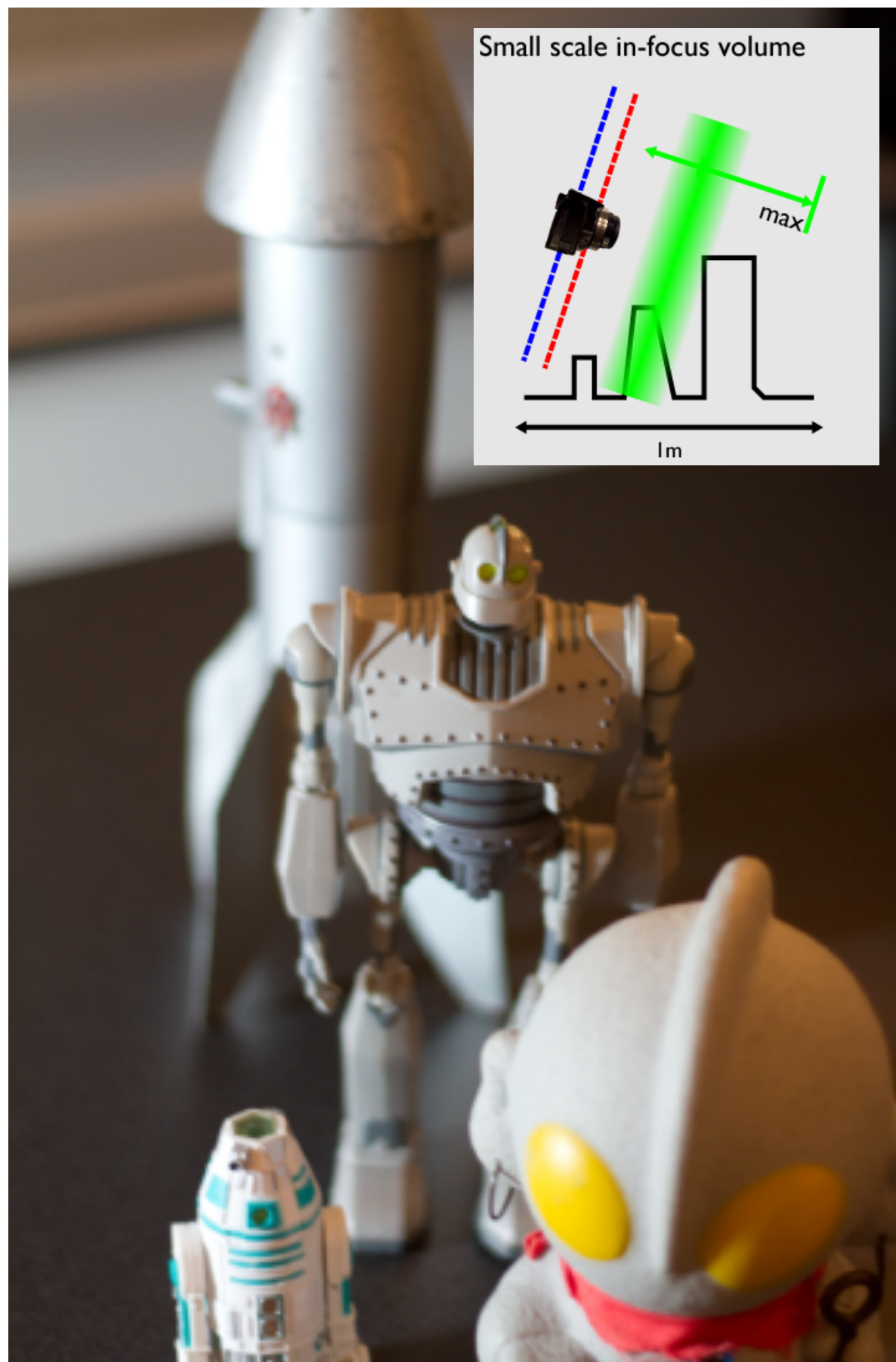


Gaussian blurred

Tilt Shift Effect



<http://www.flickr.com/photos/ender079/2704450659/>



How would you create a (super low-budget) tilt-shift effect?



http://farm8.staticflickr.com/7061/6867631897_f8377709b9_z.jpg

How would you create a (super low-budget) tilt-shift effect?



weight

Gaussian blurred

1.0 - weight

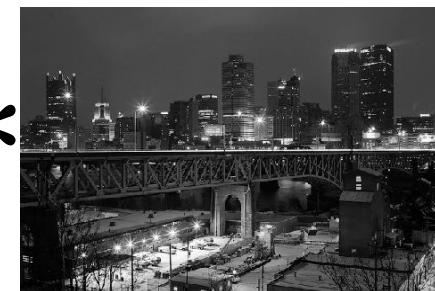
Original



Pixel wise multiply



Pixel wise add





Tell me everything wrong with this wannabe tilt-shift image