

Scott Sievert

Carefully curated musings on math, python and skiing.



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APR 23RD, 2015

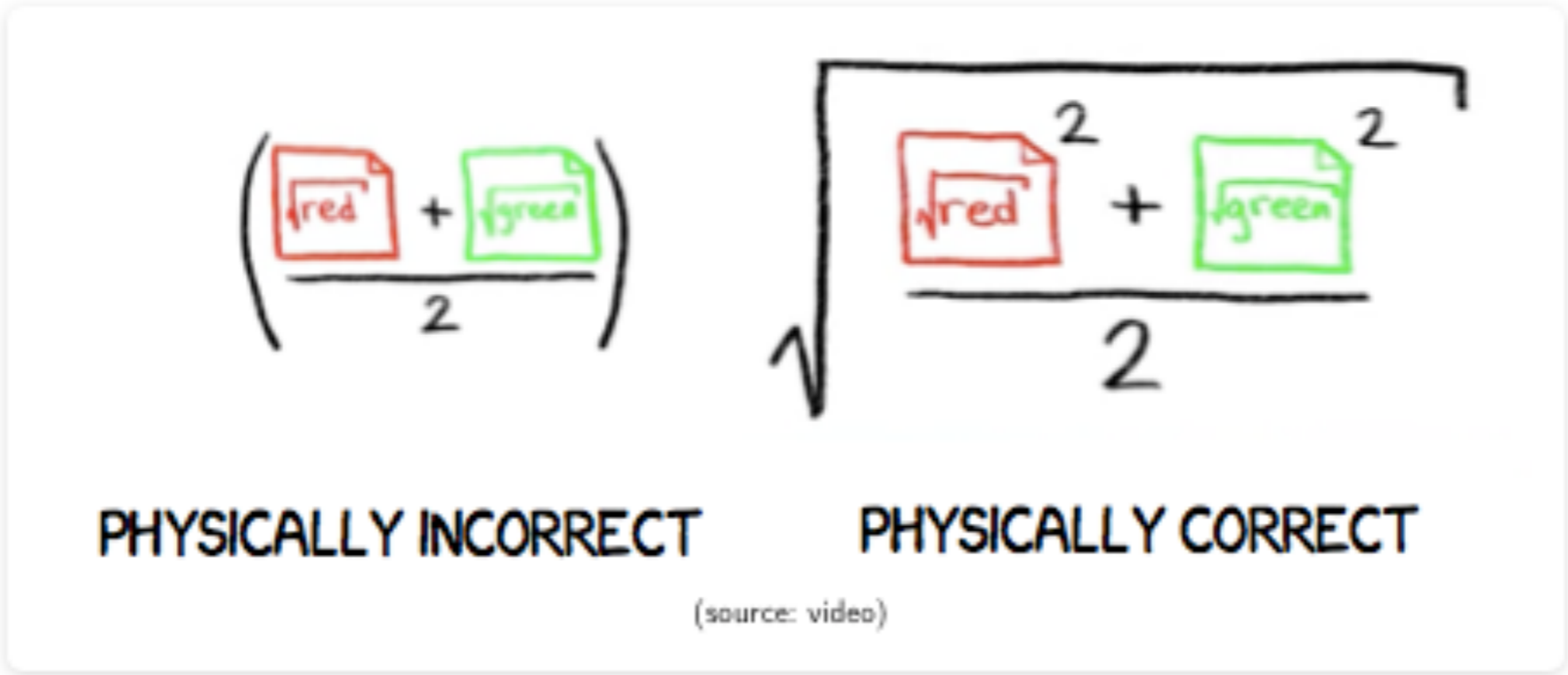
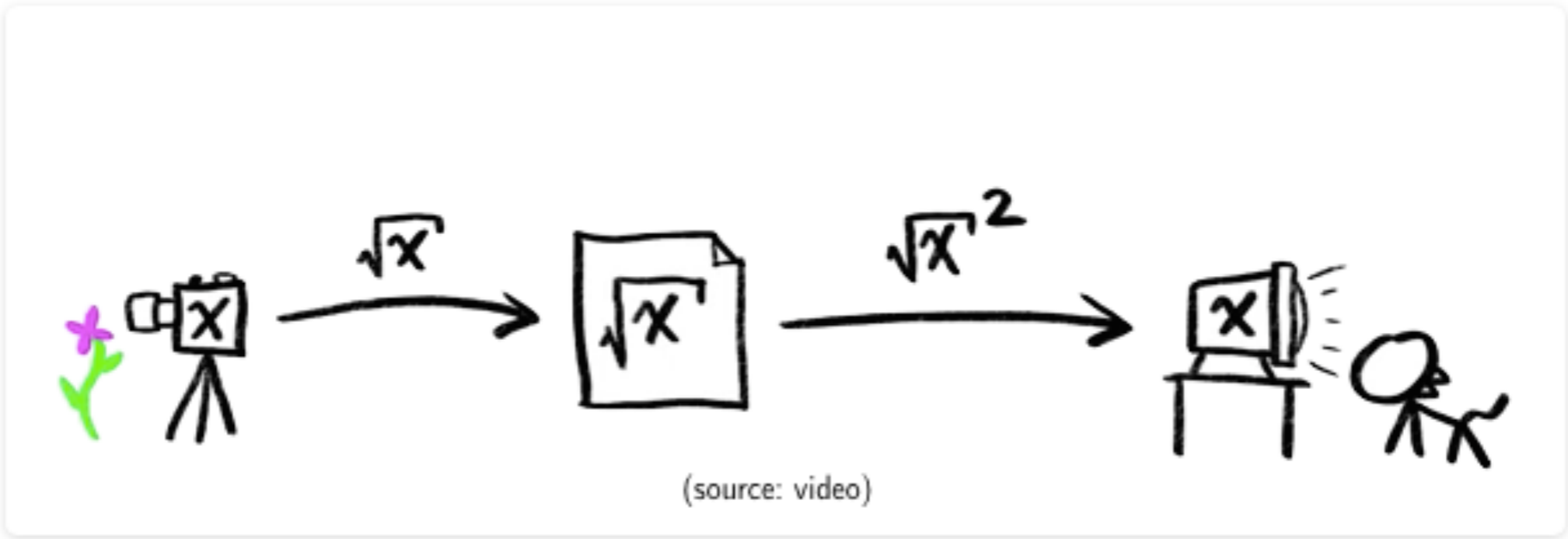
Computer color is only kinda broken

When we blur red and green, we get this:



Why? We would not expect this brownish color.

[Read on →](#)



```

1 from pylab import imread, hstack
2
3 x = imread('red.png')
4 y = imread('green.png')
5
6 middle = (x + y) / 2
7
8 # corresponds to the image on the left
9 final_brown = hstack((x, middle, y))

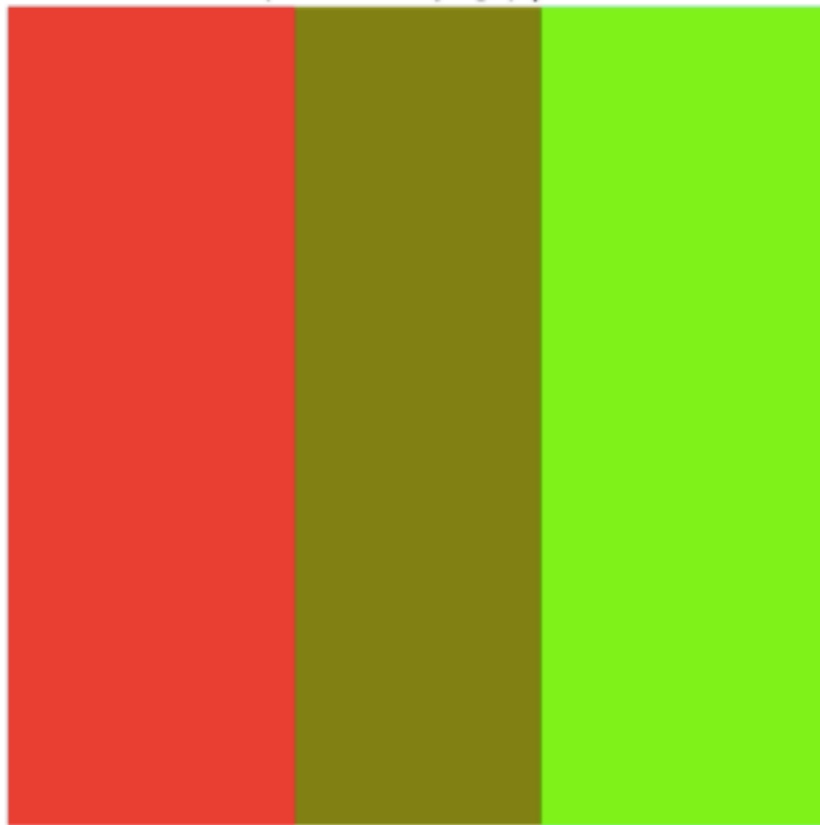
```

```

1 from pylab import imread, hstack, sqrt
2
3 x = imread('red.png')
4 y = imread('green.png')
5
6 middle = (x**2 + y**2) / 2
7 middle = sqrt(middle)
8
9 # corresponds to the image on the right
10 final_yellow = hstack((x, middle, y))

```

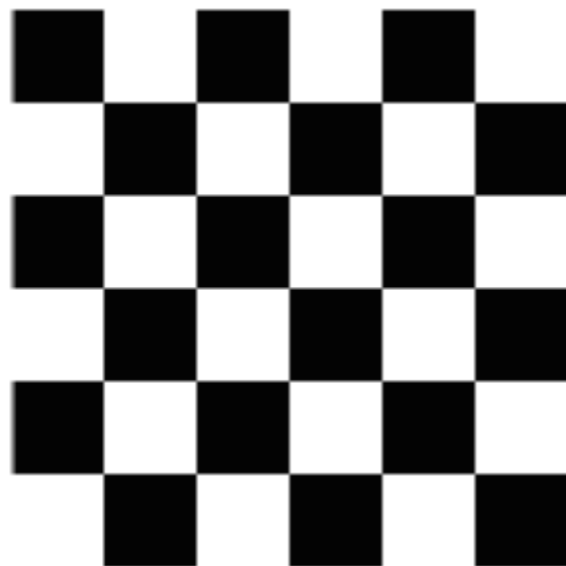
$$(\sqrt{x} + \sqrt{y})/2$$



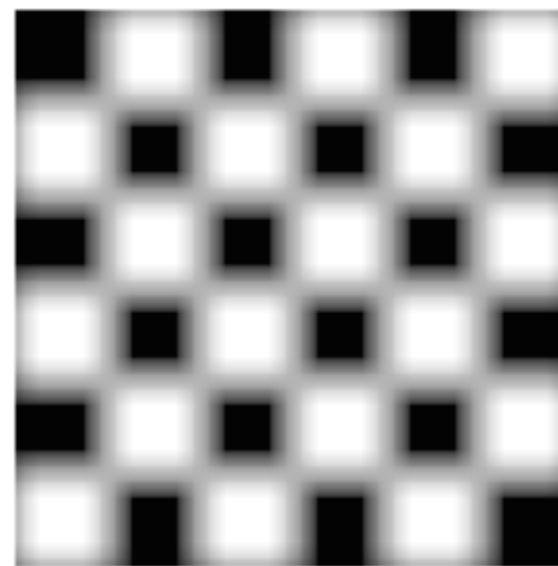
$$\sqrt{(x+y)/2}$$



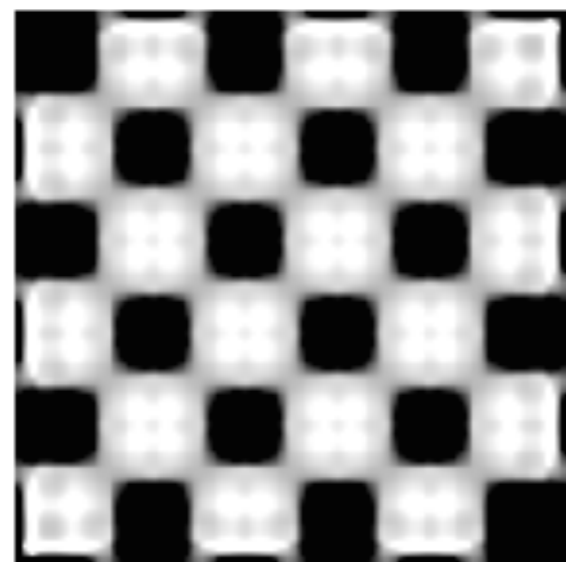
Original image



Blurred image

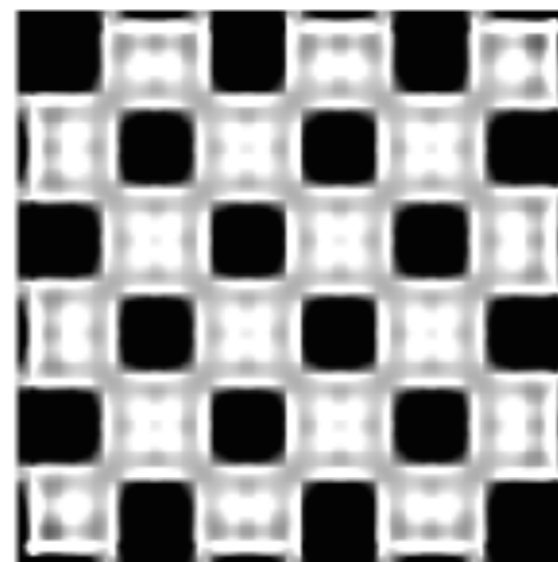


$$\sqrt{(x+y)/2}$$



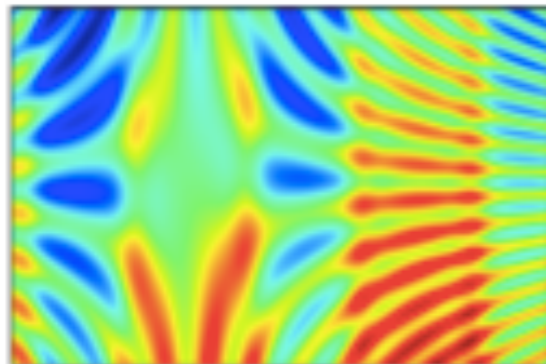
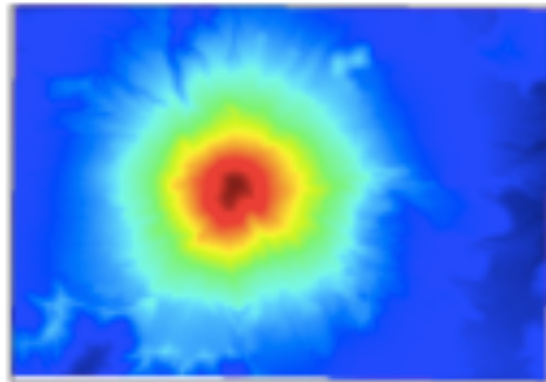
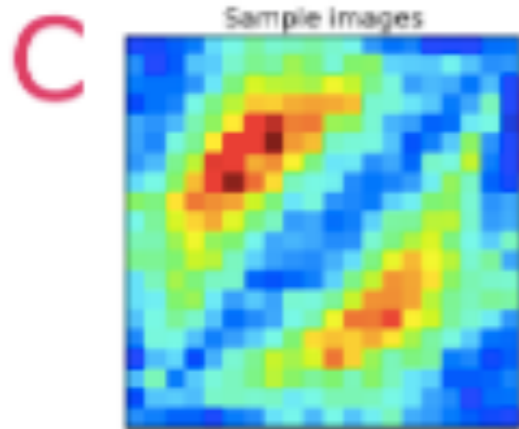
(use case: this post!)

$$(\sqrt{x} + \sqrt{y})/2$$

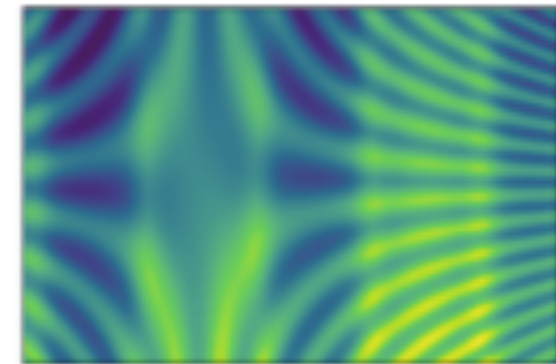
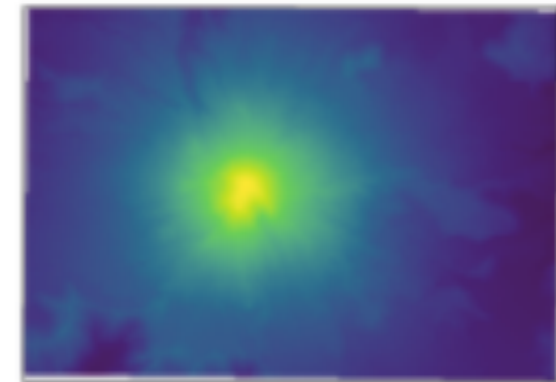
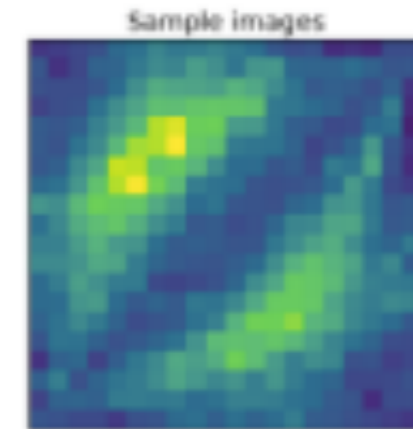


(use case: testing
deblurring algorithms)

jet
(old default)

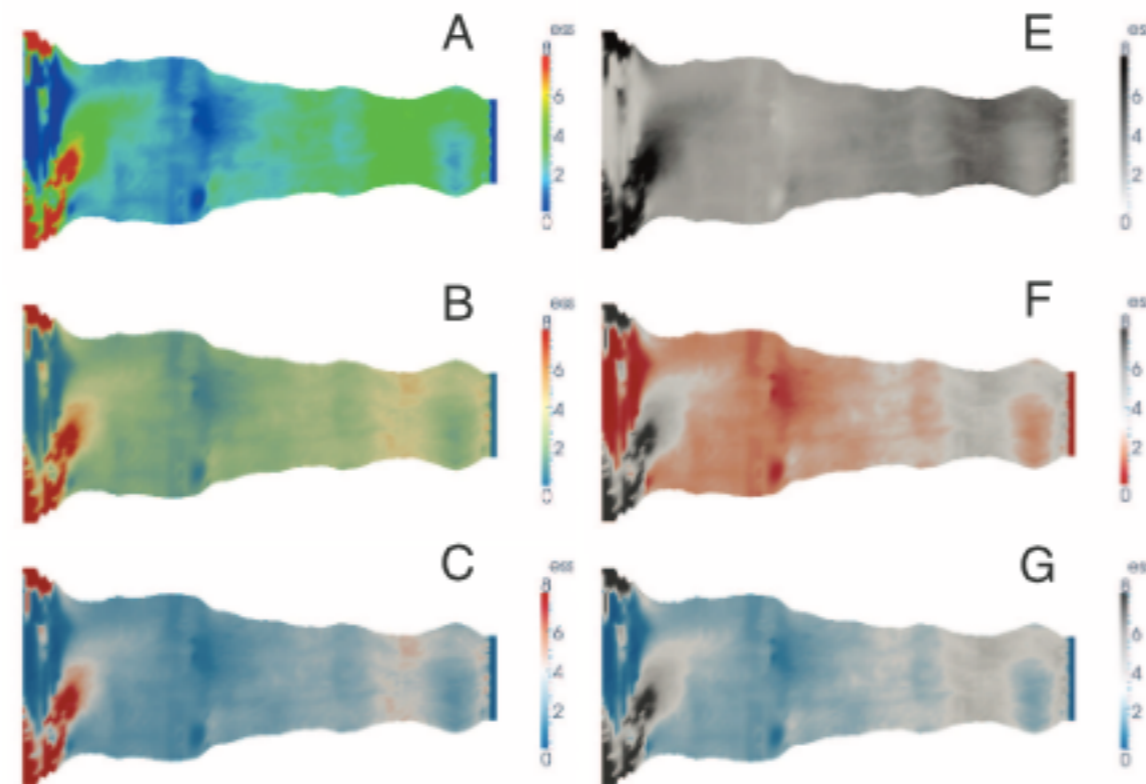


viridis
(new default)



Evaluation of Artery Visualizations for Heart Disease Diagnosis

Michelle A. Borkin, *Student Member, IEEE*, Krzysztof Z. Gajos, Amanda Peters, Dimitrios Mitsouras, Simone Melchionna, Frank J. Rybicki, Charles L. Feldman, & Hanspeter Pfister, *Senior Member, IEEE*



is not sensitive to increased complexity in the task and users are more accurate and efficient at identifying regions of interest in a 2D representation than a 3D representation, and that **the rainbow color map can significantly reduce a person's accuracy and efficiency.**

We are continuing to develop HemoVis based on the principles and results of this study. Also, even though the 2D representation is more accurate and efficient for our tasks, having a 3D representation is still

(aka jet)

~~jet~~

Warning: the use of
jet may endanger
your health