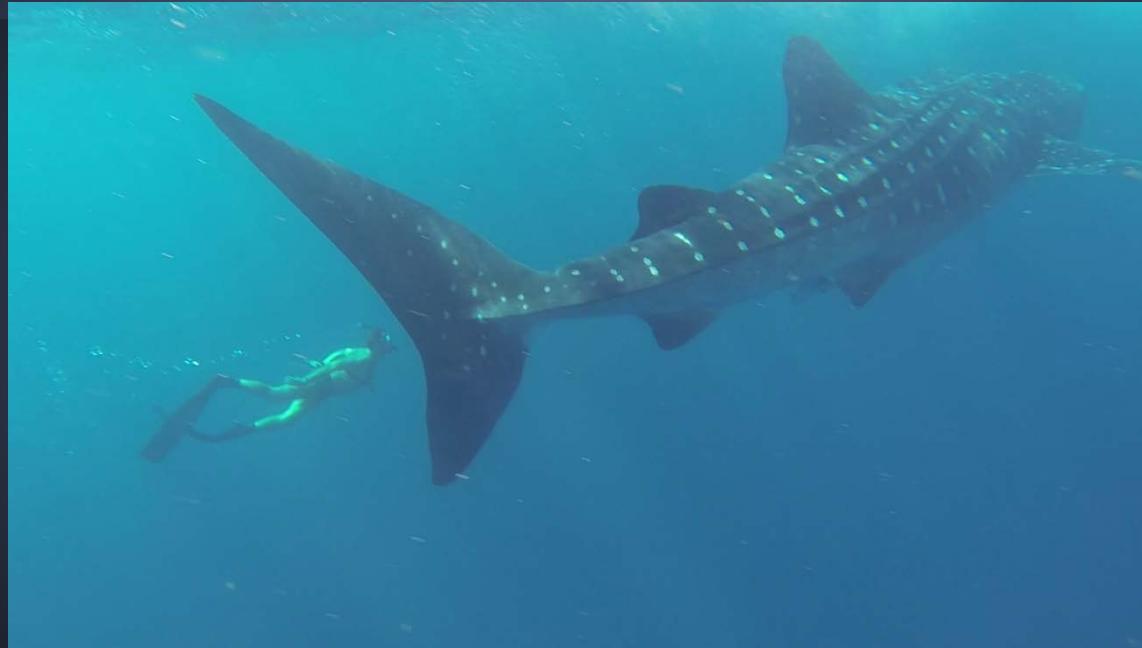


Georgia Tech's Computational Photography Class Portfolio

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Assignment #1: A Photograph is a Photograph



“Deep Pursuit”

This photograph was shot off the coast of Isla Mujeres in Cancun, Mexico with a GoPro Hero3 camera

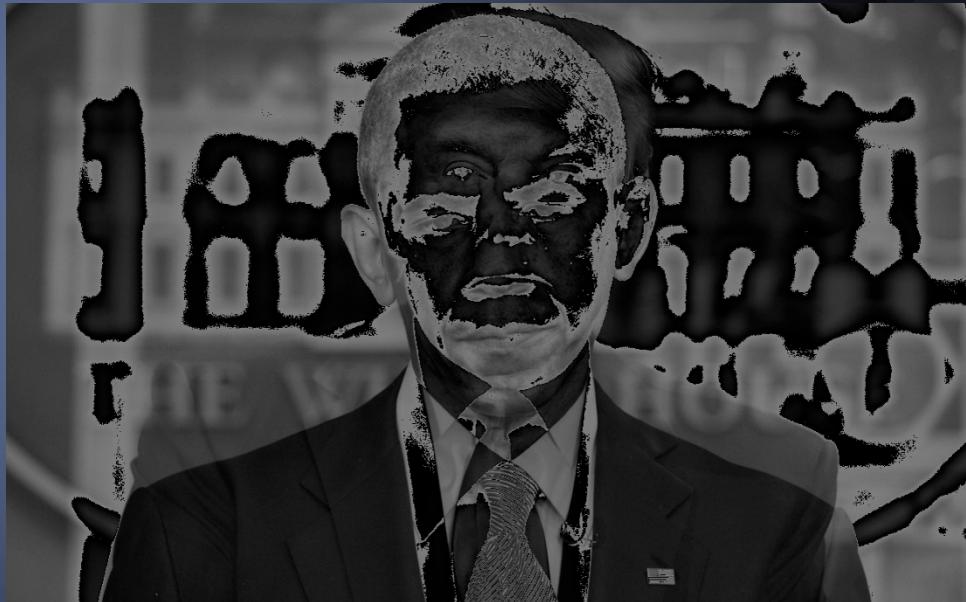
Assignment #2: Image I/O

Input:



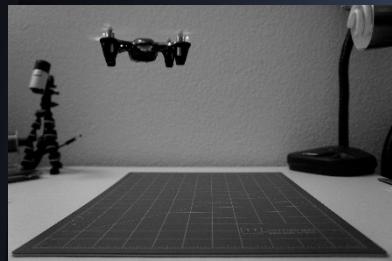
averageTwoImages()

Output:

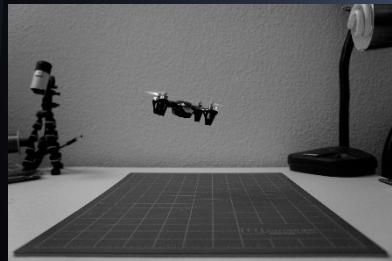


Assignment #3: Epsilon Photography

1



2



3



4



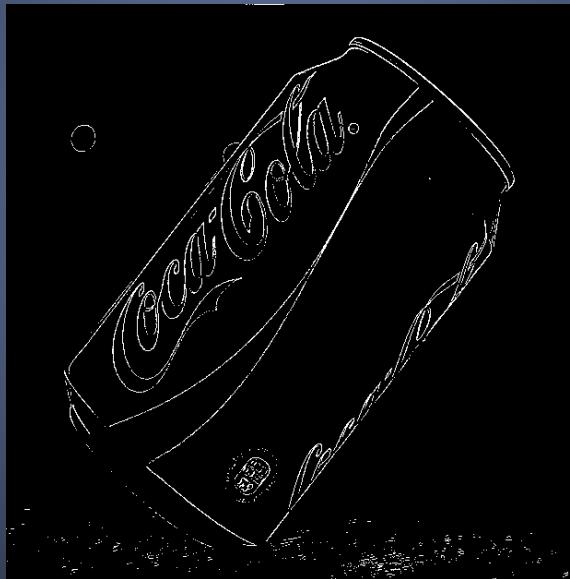
A quad of quads! This epsilon photograph captures a single quadcopter in motion. By overlaying 4 images of the quad in different positions in the three dimensional space, it appears as if there is a swarm!

Assignment #4: Gradients and Edges

Input



Black/White Gradient
(threshold=50)



Canny Edge Detection
(thr1=900, thr2=3200, apSz=5)



Assignment #5: Camera Obscura

Scene



Setup



Resulting Image



Assignment #6: Blending



White Input



Mask



Black Input



Blended
Output

Assignment #7: Feature Detection

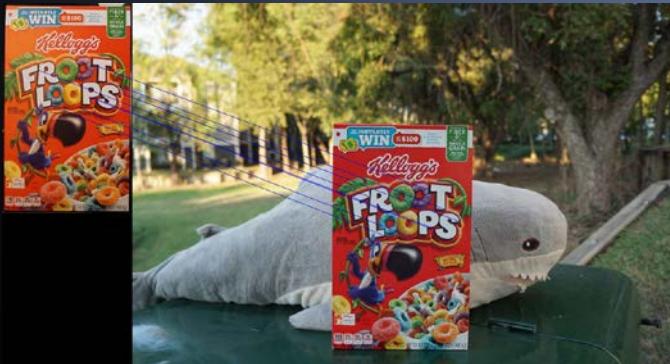
Indoor



Rotation



Outdoor



Far



Assignment #8: Panoramas

Inputs



Stitched Panorama



Cropped Panorama



Assignment #9: HDR

Input Images with varying shutter speeds

1/125



1/50



1/15



1/5



1/2



High
Dynamic
Range
Output



Assignment #10: Pictures of Space (1)

Legacy Photosynth
of Austin Skyline,
29 photos.



Panorama at Doug Sahm Hill, 23 photos. Microsoft ICE.

Assignment #10: Pictures of Space (2)



Photosynth 3D of HOPE Outdoor Gallery,
21 photos.



Photosynth 3D at Mount Bonnell, 22 photos.

Assignment #11: Video Textures

Inputs:



Outputs:



GIFs:

[alpha=2.5E6](#)



[alpha=1.5E6](#)

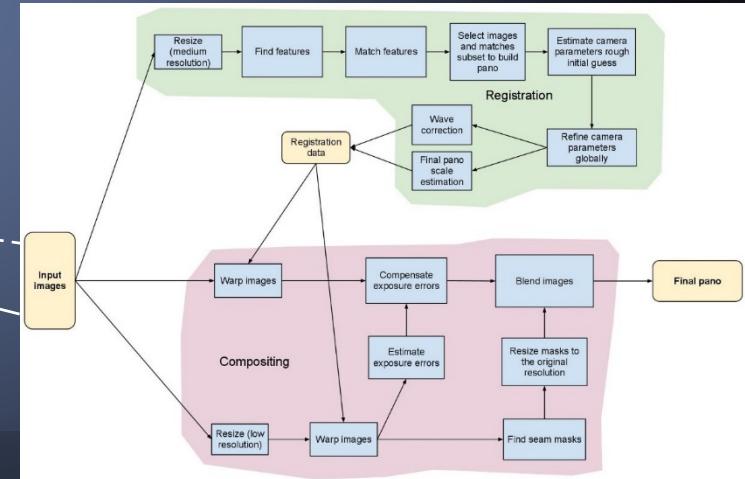
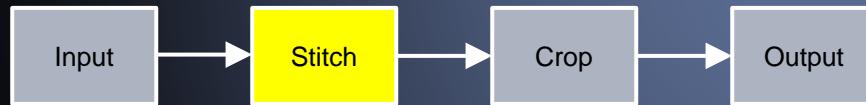


[alpha=1.5E6](#)

Final Project

The goal of this solo project was to computationally combine bokeh and panoramic photography to achieve a bokeh panorama, also known as the Brenizer Method. This technique utilizes panoramic stitching to create stunning portraits with a shallow depth of field and wide angle of view. The final result looks like a picture taken with a very large sensor and/or a very fast lens (aperture $< f/1$).

Process:



Final Project (2)

Input



Output



Final Project (3)

Here are more of my results:

- [Between Two Trees](#) (49 image bokeh panorama)
- [If a Guitar Falls in a Forest](#) (99 image bokeh panorama)
- [Cloudy Hat](#) (31 image bokeh panorama)
- [Saw on Fence](#) (8 image bokeh panorama)

Full resolution cropped outputs:

- <https://drive.google.com/folderview?id=0B-9-oKYR8vK2TUd0LVZhdkx2TDA&usp=sharing>



Thank you.