

Georgia Tech's Computational Photography Portfolio

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Assignment #1: A Photograph is a Photograph



Mouth of the Shark
“The Seas” with Finding Nemo and Friends
Epcot, Disney World, Orlando FL
Sony Nex-6 with Sigma 30mm F1.4 DC Lens

Assignment #2: Epsilon Photography



A photo was taken to represent each 10 minute interval over the course of an hour. Photos are not time-lapse, the minute hand was moved by hand.

Epsilon parameter is the movement of the minute hand.

https://drive.google.com/file/d/0B5_HXWC9q1g5TjB6ck9zOEpScVE/view?usp=sharing

Assignment #3: Camera Obscura



The Scene



The Setup



The Image

Assignment #4: Blending



Black



White



Final Image

Assignment #5: Panoramas



National Air and Space Museum, Washington D.C.

Assignment #6: HDR



$\frac{1}{8}$ sec



$\frac{1}{4}$ sec



$\frac{1}{2}$ sec



1 sec



Wojciech Toman
<http://hdr-photographer.com/>

Final HDR Image

Assignment #7: Video Textures



*Start frame filename: 039.png
Index frame number: frame0000.png



*End frame filename: 091.png
Index frame number: frame0052.png

What alpha value produced the smoothest loop? 0.01
Link to your candle video texture gif: [Google Drive Link](#)

** Frame filename is from original set of frames*



Assignment #7: Video Textures



Start frame filename: 0013.jpg
Index frame number: frame0277.png



End frame filename: 0290.jpg
Index frame number: frame0277.png

- A loudspeaker playing music.
Sourced from online content, video in resources section.
- Alpha value for the best loop - 0.005
- Link to your video texture gif - [Google Drive - gif](#)
- Link to the frames (folder) - [Google Drive - source frames](#)



Midterm Project - Seam Carving

Aspect Ratio Change: Removing Seams



Source Image



Replicated



Example in Paper

Midterm Project - Seam Carving

Image Enlarging: Adding Seams



Source Image



Replicated



Example in Paper

Final Project - Colorization

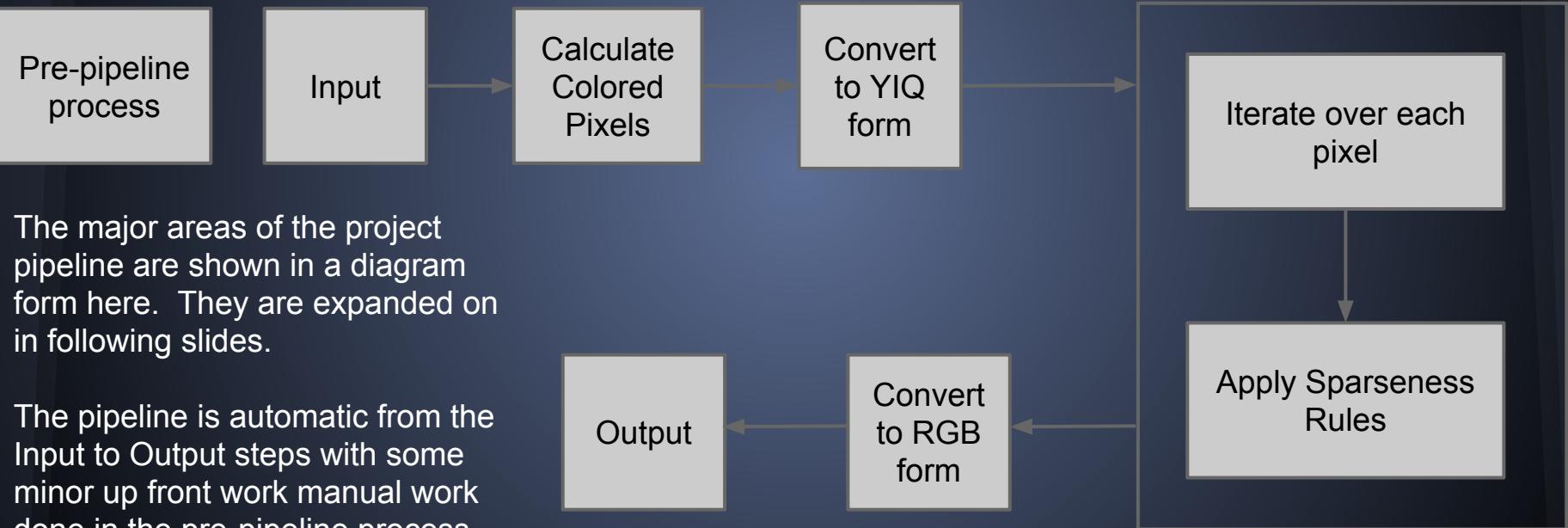
Replicating Colorization using Optimization

In this project we aim to colorize black and white images using an optimization approach as presented in the paper “Colorization using Optimization” by Levin, Lischinski, and Weiss. Coloring will be applied to a sample of source images found.



Final Project - Colorization

Project Pipeline



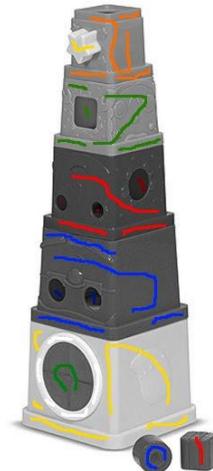
Final Project - Colorization

Example Set 1



set1_input_bw.bmp

Input : B&W Image



set1_input_marked.bmp

Input : Color Marks



set1_output.bmp

Output: Colorized



Original Image

set1_orig.jpg

Final Project - Colorization

Example Set 2



set2_input_bw.jpg

Input : B&W Image



set2_input_marked.jpg

Input : Color Marks



set2_output.jpg

Output: Colorized



Original Image

set2_orig.jpg

Final Project - Colorization

Example Set 3



set3_input_bw.bmp

Input : B&W Image



set3_input_marked3.bmp

Input : Color Marks



set3_output3.bmp

Output: Colorized

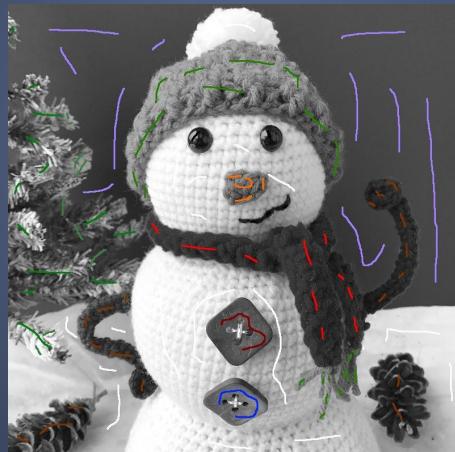
Final Project - Colorization

Example Set 4



set4_input_bw.bmp

Input : B&W Image



set4_input_marked3.bmp

Input : Color Marks



set4_output3.bmp

Output: Colorized