Journal Report 7
10/14/19-10/24/19
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Daily Log

Tuesday October 15

I looked through StackOverflow and other forums to see if anyone had encountered this bug before, either while using the library or just while using OpenCV normally.

Thursday October 17

I changed the python code to pass in the pictures in different ways and tried directly running the scripts provided on some of the test images in the blog post. I also tried redownloading all the libraries I installed for this, to make sure all the versions were correct. Finally, I remade the calibration and stored it to make sure that wasn't the issue either.

Monday October 21

I read about how the Python bindings for OpenCV interact with the OpenCV C++ code, to see how to potentially modify the OpenCV souce code or modify the OpenCV python bindings. I also looked up how the blockmatcher works in more detail, to see where exactly the segfault might happen.

Tuesday October 22

I wasn't at school.

Thursday October 24

I spent most of class messing around with the Python bindings and the OpenCV source code to try and fix the issue, but it didn't work. I decided to learn how the algorithm worked in detail so that I could reimplement it myself. At the end of class, I read more of the source code for the stereo vision library just to see how it worked, and went back and reread some of the papers I found earlier to refresh my memory.

Timeline

Date	Goal	Met
Week of 10/10	Using saved camera calibration, create 3D point cloud and check it for accuracy. If time permits, try it with harder test images, such as poor lighting and smoother textures	No, there were a lot of issues I had to debug with the library
Week of 10/17	Figure out if segfault can be fixed, otherwise find another method for creating a point cloud	It was a short week, so I started on this
Week of 10/24	Continued from previous week	Yes, I determined that I need to find another method
Week of 10/31	Start setting up configuration of stereo vision prototype in C++, make sure all necessary libraries are installed	
Week of 11/7	Continue setting up calibration of stereo vision prototype	

Reflection

This weekend, I made a lot of attempts to debug the code that wasn't working in the stereo vision library. I looked through any potential part of the code the bug could be, and realized that I probably won't be able to fix it within a reasonable amount of time. Even though it wasn't successful, I now determined that I will have to redo it from scratch. Looking through all the source code for different parts of it helped me better understand how it works. Luckily, I found some papers in the first few weeks that are very helpful, and I think I can use them to implement the stereo vision algorithm. I plan do it directly in C++ this time, as it should be easier to debug any potential issues in OpenCV if they arise.