

Research Log

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April 19, 2016

March 30, 2016	Established research log after 3 hours of learning new \LaTeX
April 2, 2016	Added some additional comments to the Process
April 3, 2016	Have been reading [1] and [2]. Available at [3]. Have Question for Kamangar regarding [1] about difference between: <ul style="list-style-type: none">• Camera Plane : Coordinates u,v• Focal Plane : Coordinates s,t
April 11, 2016	Reviewing blog articles located at: <ul style="list-style-type: none">• https://erget.wordpress.com/2014/02/01/calibrating-a-stereo-camera-with-opencv/• https://erget.wordpress.com/2014/02/28/calibrating-a-stereo-pair-with-python/• https://erget.wordpress.com/2014/03/13/building-an-interactive-gui-with-opencv/• https://erget.wordpress.com/2014/04/27/producing-3d-point-clouds-with-a-stereo-camera-in-opencv/ for process to get webcam up and running. Previous issues related to fine-tuning <i>block matching</i> parameters. Need to review sources at list at bottom of http://docs.opencv.org/2.4/modules/calib3d/doc/camera_calibration_and_3d_reconstruction.html to understand.
April 19, 2016	Made adjustments to python for image acquisition scripts (from blogs mentioned on April 11, 2016.) NOTE: Consider creating rig with glue to keep stereo camera placement / direction constant.
April 19, 2016	UPDATE: Error with <code>calibrate_cameras</code> python code causing linux machine to crash. If can't be resolved switch over to MacBook. NOTE: Package should be setup by calling <code>\$ python setup.py install</code>
April 19, 2016	UPDATE: Crash due to recursive shell call and was fixed. OpenCV not detecting all chessboard corners. Will try a new board.

References

- [1] Sing Bing Kang Heung-Yeung Shum, Shing-Chow Chan. *Image Based Rendering*, pages 9–13. Springer Publishing, 1 edition, 2007. Pages cited are Book Pages Numbers. Formula for PDF Page Number is (PDF Page Number = Book Page Number + 17).
- [2] Sing Bing Kang Heung-Yeung Shum, Shing-Chow Chan. *Image Based Rendering*, pages 23–27. Springer Publishing, 1 edition, 2007. Pages cited are Book Pages Numbers. Formula for PDF Page Number is (PDF Page Number = Book Page Number + 17).
- [3] Sing Bing Kang Heung-Yeung Shum, Shing-Chow Chan. *Image Based Rendering*. Springer Publishing, 1 edition, 2007. Available online at: <http://link.springer.com/content/pdf/10.1007%2F978-0-387-32668-9.pdf> Pages cited are **Book Page** Numbers. Formula for **PDF Page** Number is (**PDF Page** Number = **Book Page** Number + 17).