

Tyler Quackenbush
Stereo Calibration

Task 1 – Camera Calibration

Left

Camera Matrix: $\begin{bmatrix} 1735.3434 & 0. & 336.1173 \\ 0. & 1738.5981 & 229.555 \\ 0. & 0. & 1. \end{bmatrix}$

Distortion: $\begin{bmatrix} -0.4032 & -2.2138 & 0.0054 & 0.0009 & 66.6621 \end{bmatrix}$

Right

Camera Matrix: $\begin{bmatrix} 1749.0277 & 0. & 302.9609 \\ 0. & 1754.3172 & 207.1204 \\ 0. & 0. & 1. \end{bmatrix}$

Distortion: $\begin{bmatrix} -0.5347 & 1.2324 & 0.0041 & 0.0053 & 5.916 \end{bmatrix}$

Task 2 – Stereo Calibration

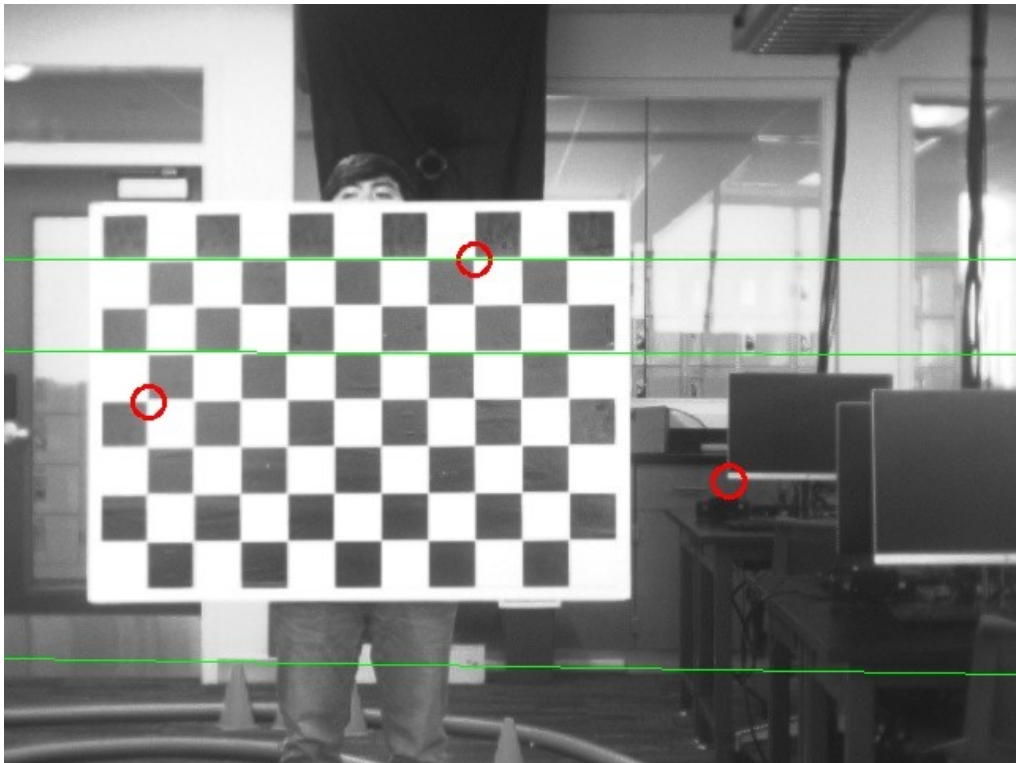
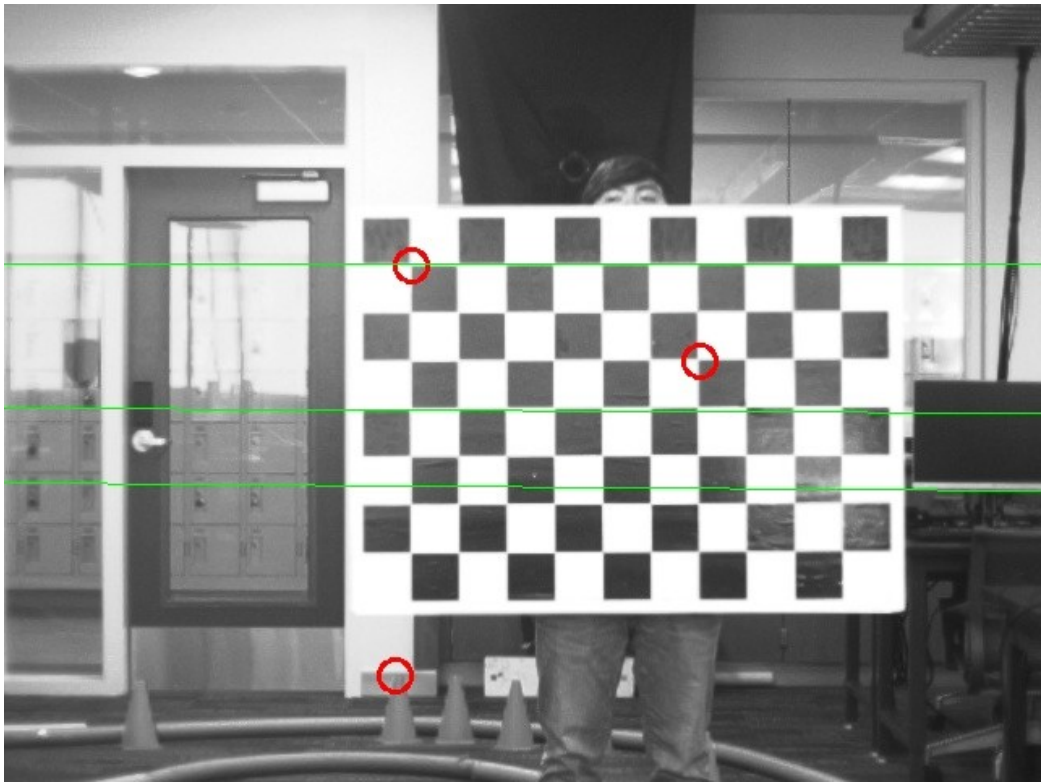
Rotation: $\begin{bmatrix} 0.9999 & 0.0008 & 0.0162 \\ -0.001 & 0.9999 & 0.0134 \\ -0.0161 & -0.0134 & 0.9998 \end{bmatrix}$

Translation: $\begin{bmatrix} -20.3461 \\ -0.0468 \\ 2.1293 \end{bmatrix}$

Essential: $\begin{bmatrix} 0.0028 & -2.1285 & -0.0754 \\ 1.8005 & -0.2715 & 20.376 \\ 0.0668 & -20.3442 & -0.2721 \end{bmatrix}$

Fundamental: $\begin{bmatrix} -0. & 0.0002 & -0.0375 \\ -0.0002 & 0. & -3.6559 \\ 0.027 & 3.667 & 1. \end{bmatrix}$

Task 3 – Epipolar lines



Task 4 – Rectification

