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HW5 Write up

For the first step, I use SIFT to find the matched points between two images and the result is like this: 电脑萤幕画面

低可信度描述已自动生成

We can see the points are matched by blue lines across the images.

Second, compute the fundamental matrix and draw epipolar lines, get a figure like this: 电脑萤幕画面

中度可信度描述已自动生成

Third, compute the camera poses and visualize it: 图表, 箱线图

描述已自动生成

We can see the four configurations of camera pose from my fundamental matrix.

Fourth, using provided function to visualize 4 sets of camera poses with reconstructed 3D point cloud: 图表, 散点图

描述已自动生成

Fifth, after implementing dense stereo matching between two views based on dense SIFT, I get this: 建筑的摆设布局

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It’s the rectified image pair.

Finally, I visualize the stereo match, and this is the disparity map: 屏幕上有个电视

描述已自动生成

We can see the red areas are differences between two images and dark blue area are similar. For details, please see my code. Thank you!