

Jake Fund  
903138567

### 1. Harris corners

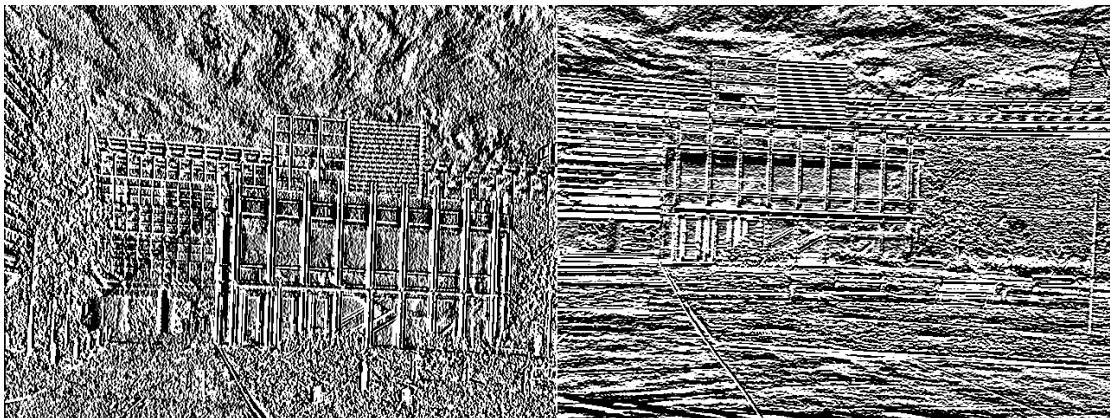


Figure 1 ps4-1-a-1.png

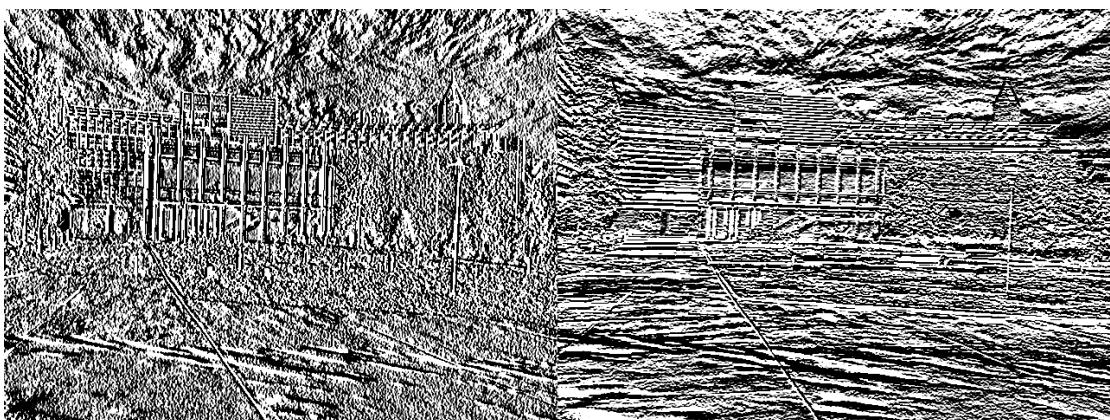


Figure 2 ps4-1-a-2.png

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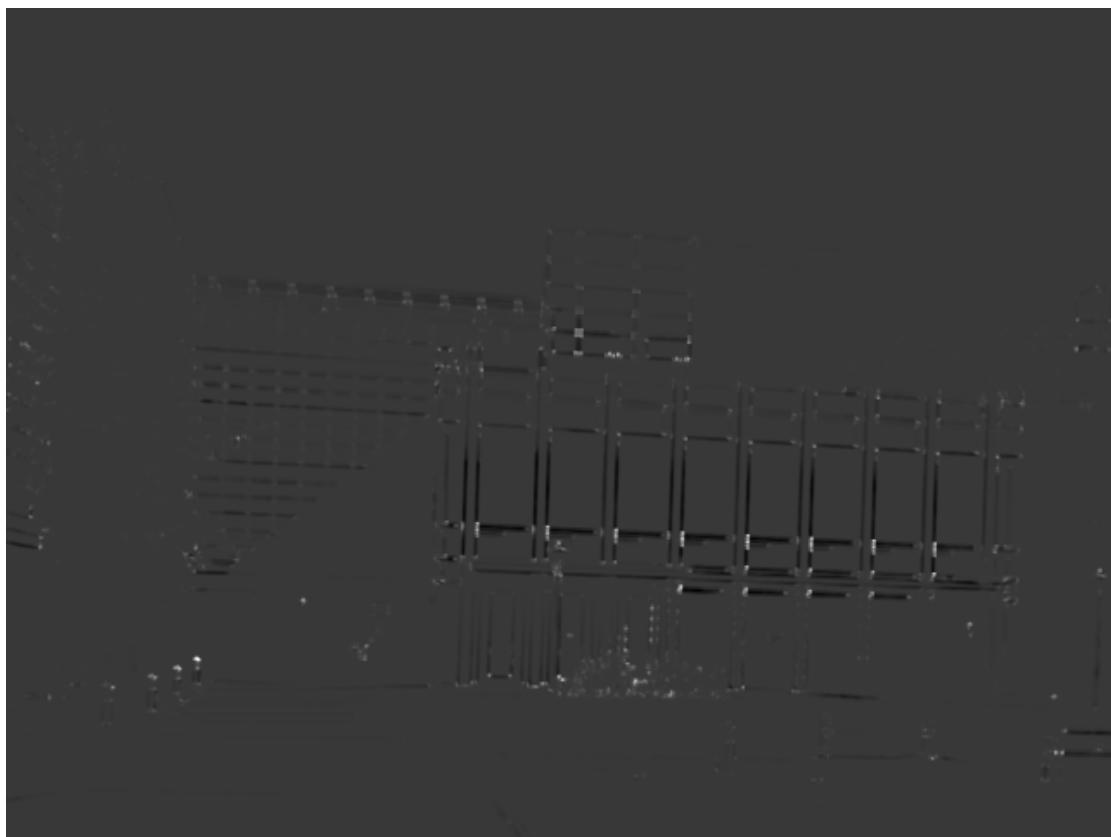


Figure 3 ps4-1-b-1.png

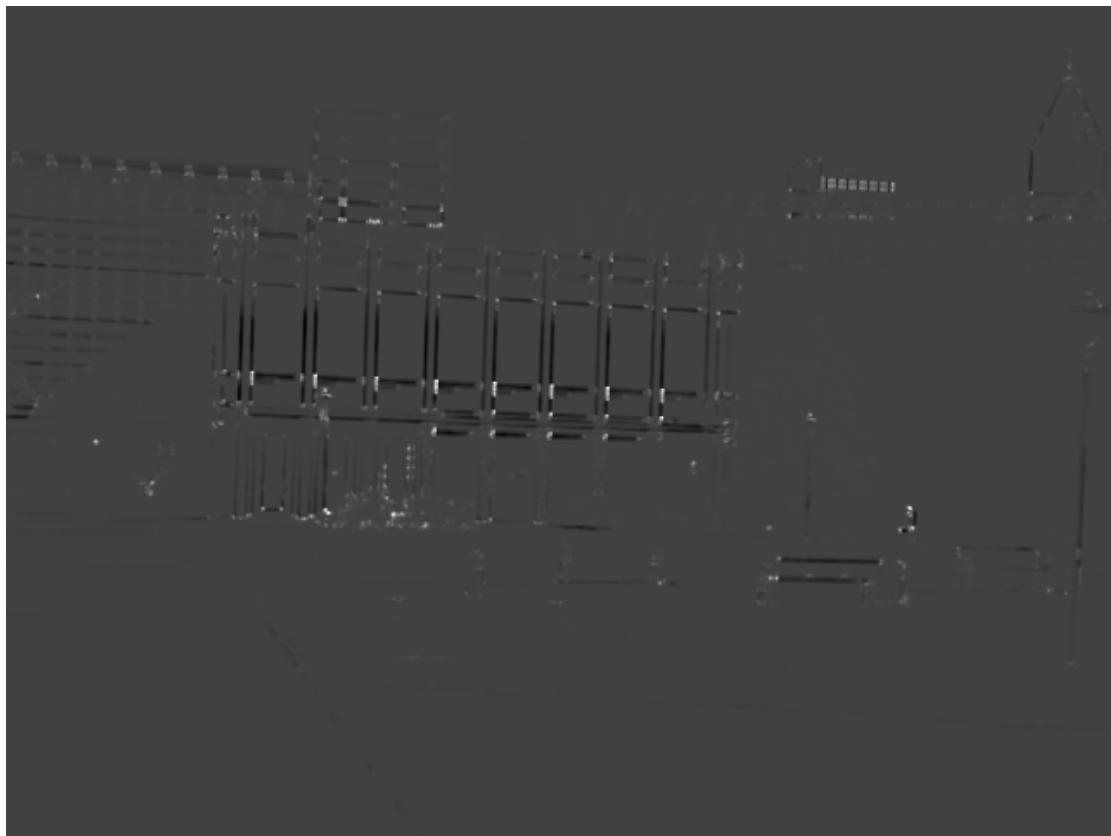


Figure 4 ps4-1-b-1.png

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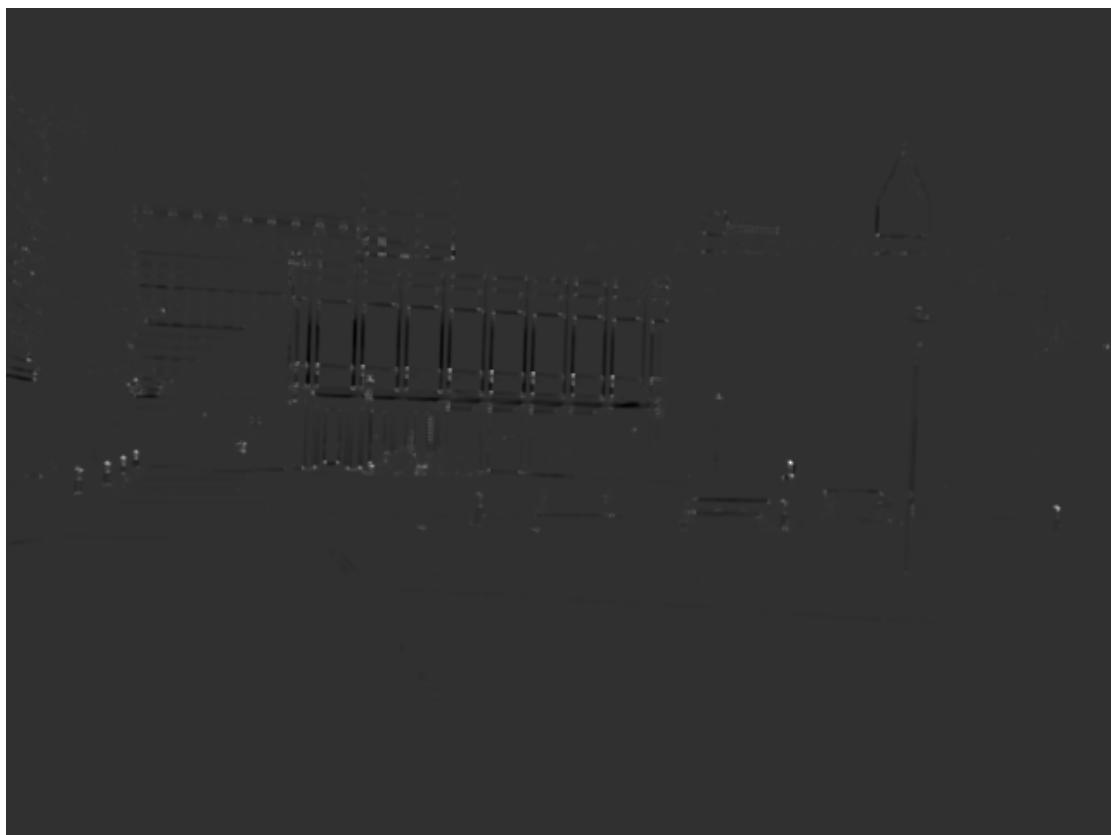


Figure 5 ps4-1-b-3.png

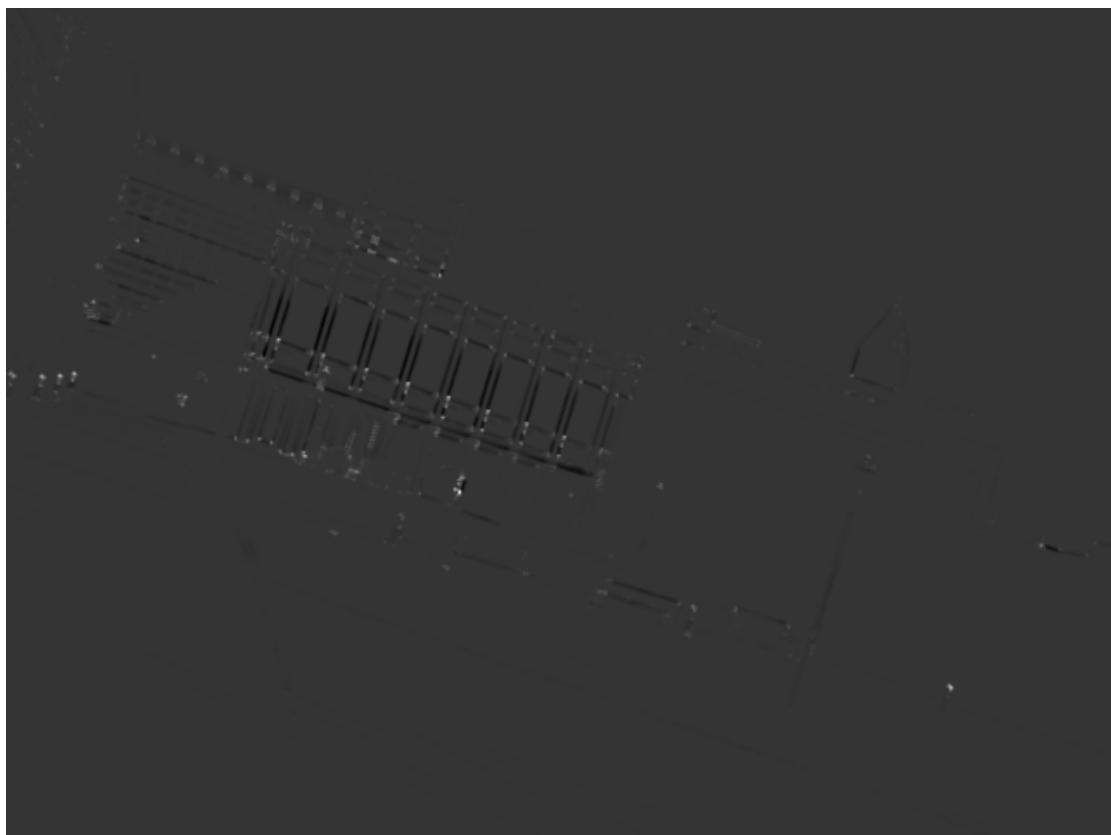


Figure 6 ps4-1-b-1.png

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Figure 7 ps4-1-c-1.png



Figure 8 ps4-1-c-2.png

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Figure 9 ps4-1-c-3.png



Figure 10 ps4-1-c-3.png

**Output (Textual Response):** in order to get good results for the corners, I had to set the minimum threshold R to be at least .25.

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Any less would return way too many features. I used a Gaussian filter to find better results. Even though the filtering and window size was set to be the same, some points were found on image when they should have been found in another, perhaps there is a bit of noise in the intensity of the images.

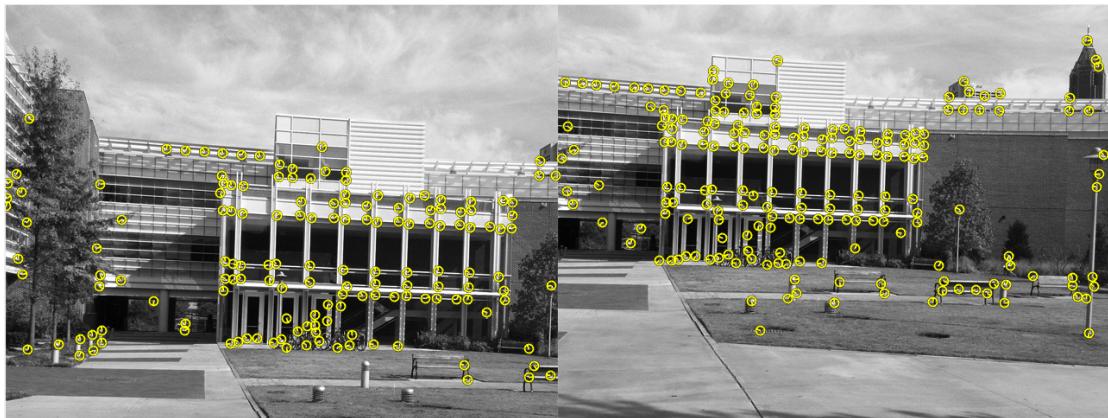


Figure 11 ps4-2-a-1.png

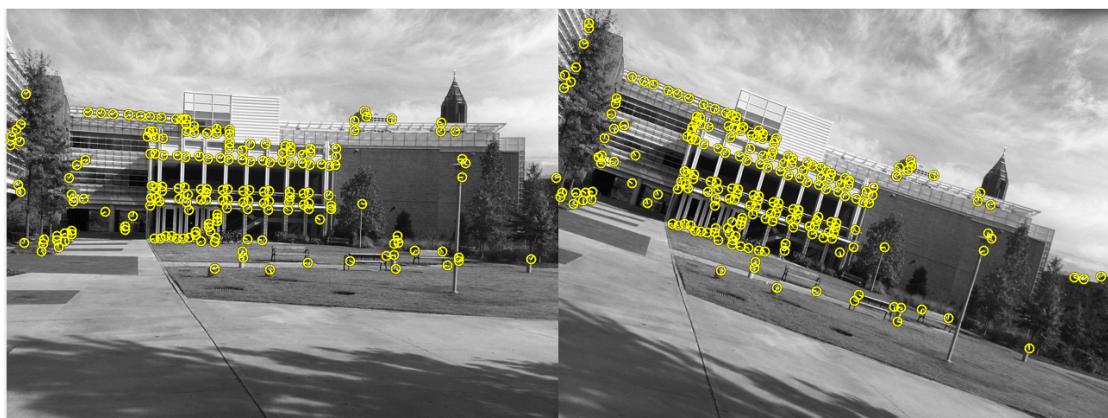


Figure 12 ps4-2-a-1.png

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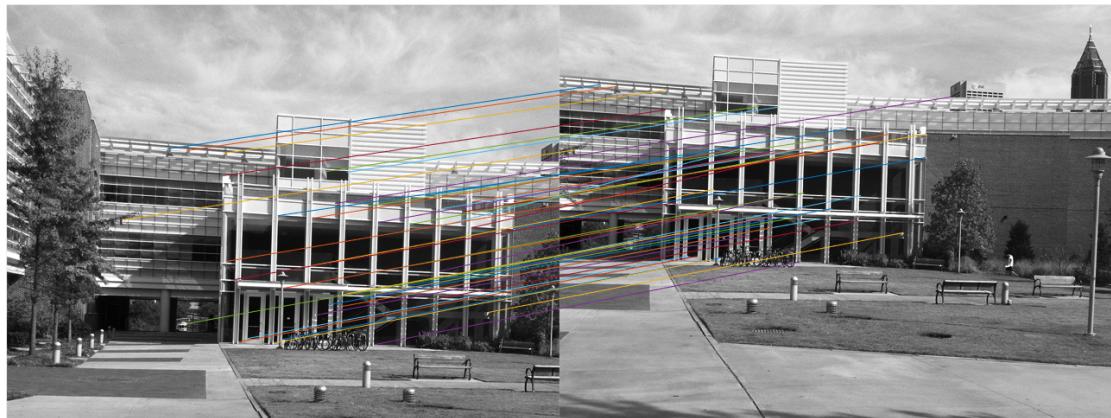


Figure 13 ps4-2-b-1.png

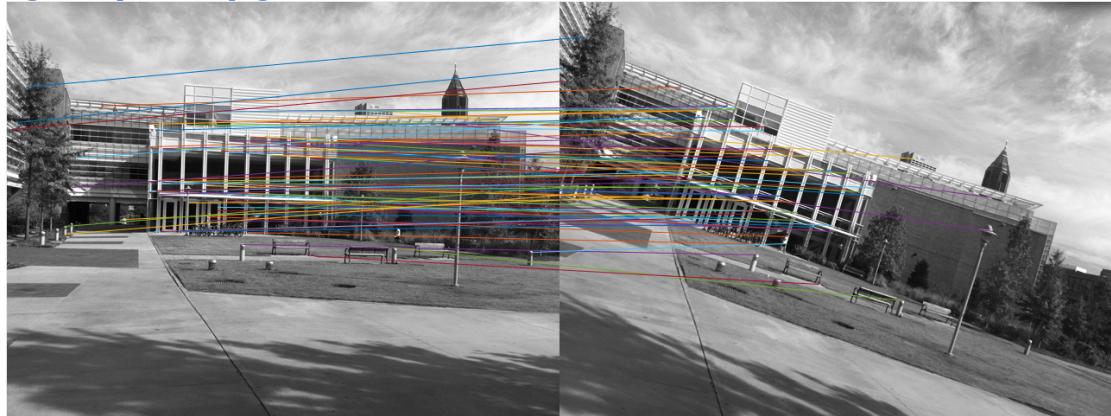


Figure 14 ps4-2-b-2.png

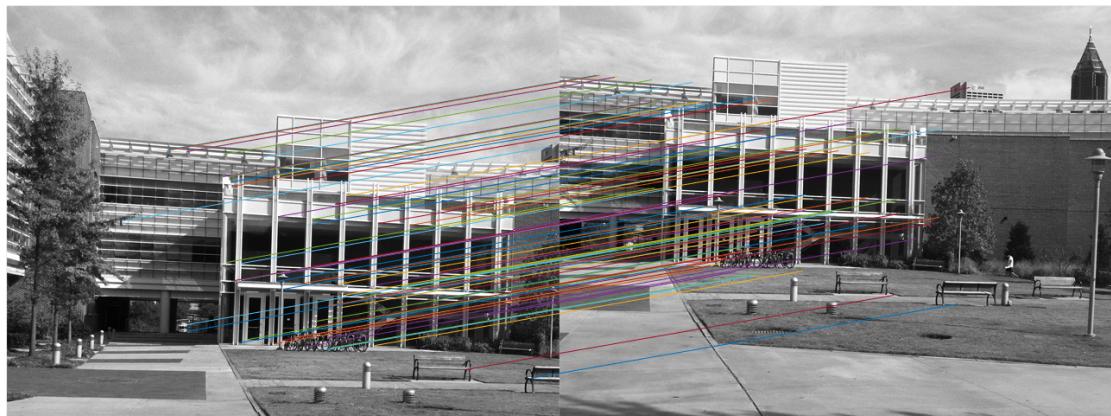


Figure 15 ps4-3-a-1.png

**Output (Textual Response):**

- What translation vector was used? [144.897435897436, 85.9230769230769] weight vector was subtracted to get the translation.
- What percentage of your matches was the biggest consensus set? 96.15 % of the matches were used.

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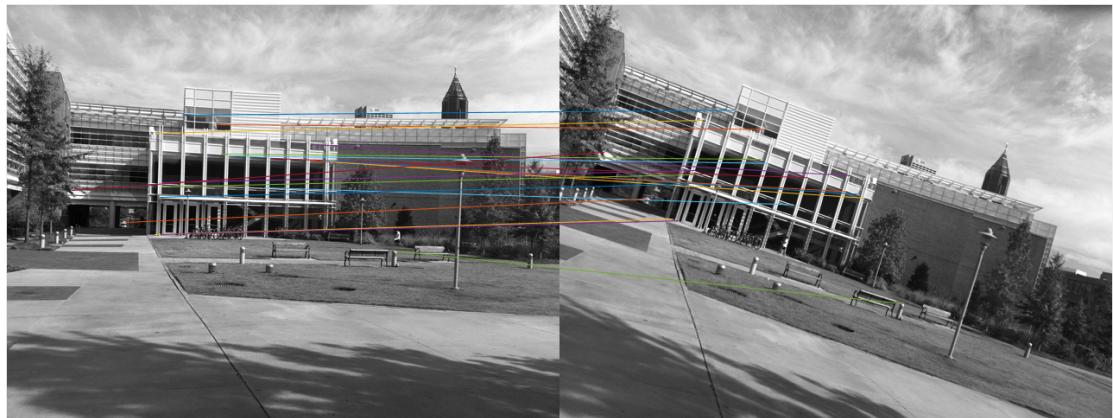


Figure 16 ps4-3-b-1.png

**Output (Textual Response):**

-What is the transform matrix for the best set?

0.982570540557005 -0.292095801084755 40.3264671826440  
0.292095801084755 0.982570540557005 -63.2788713510871

-What percentage of your matches was the biggest consensus set?

0.4762

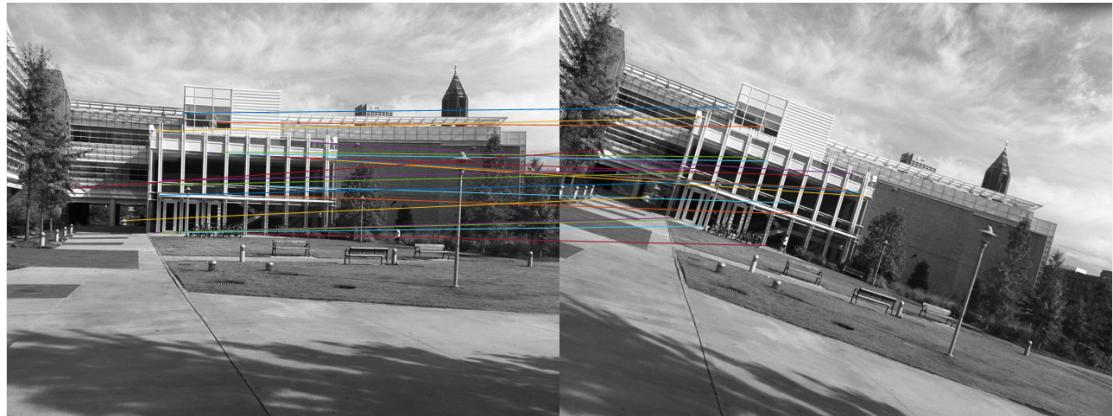


Figure 17 ps4-3-c-1.png

**Output (Textual Response):**

-What is the transform matrix for the best set?

0.988155668358715 -0.267061477721374 34.1584884376756  
0.288494077834180 0.992949802594473 -64.7650874224479

-What percentage of your matches was the biggest consensus set? 50%