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CSCI 350: Data Analytics

Spring 2017

Exam#2

Correspondence via Correlation

1. Describe how the run-time changes as a result of changes to resolution?

The changes between the run-time and the resolution seem to exponential.

That is, with a decrease in pixel shifts between searches, increases the time exponentially.

I see this according to my resolution vs time subplot 2.

2. Describe how the resolution changes the quality of the correspondence (finding the correct match)?

The quality doesnt seem as effected by the resolution change as the time. It does however, lower the quality of correspondence score around a percent or more with each increase in pixel shift size.

3. At what point in the tradeoff between resolution and performance do you feel the increase in performance is more desirable than the associated change in quality of the correspondence?

I believe that increasing the pixel shift resolution to 6 was the best. It had roughly the same score as 5 and was 4 seconds faster. One thing I did find interesting was the difference between 1 pixel and 2 pixel resolution. They produced the same score with the same match found, although 2 pixel resolution was around 3.8 times faster than 1 pixel resolution. This is a huge gap in performance when they produced the same result.