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MASTER IN ARTIFICIAL INTELLIGENCE
COMPUTATIONAL VISION

Feature detection and matching (II)

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1 Feature matching

1.1 Question 1

Modify the previous threshold. What is the effect of this threshold? Comment your response.

We can see the result of the default matching process in figure 1.

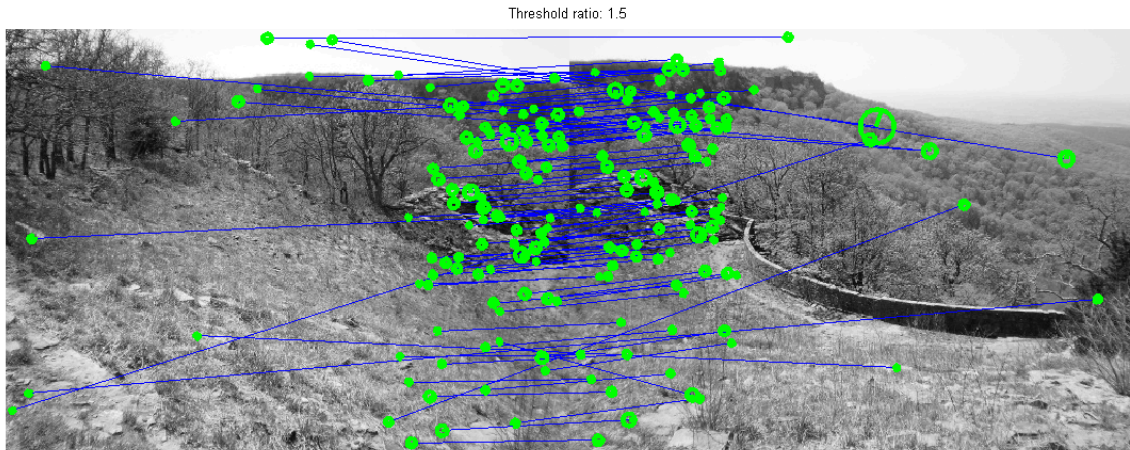


Figure 1: Result of matching with a threshold ratio of 1.5 (default)

We have also computed the matches using different thresholds. In figure 2 we can see the result of the matching algorithm with a threshold ratio of 2.0. It is clear that there are fewer matches. This is due to the fact that the ratio between the distances to the first and second best matches acts as an uniqueness measure. Therefore increasing the threshold leads to a more restrictive selection of the relevant matches and to a lower number of matches at the end.



Figure 2: Result of matching with a threshold ratio of 2.0

On the other hand the effect is reverted when we reduce the threshold. In figure 3 we can see that there is a notable increment in the number of matches when we set the threshold to 10.

1.2 Question 2

Comment on the obtained result. Is the resulting model (more or less) correct?

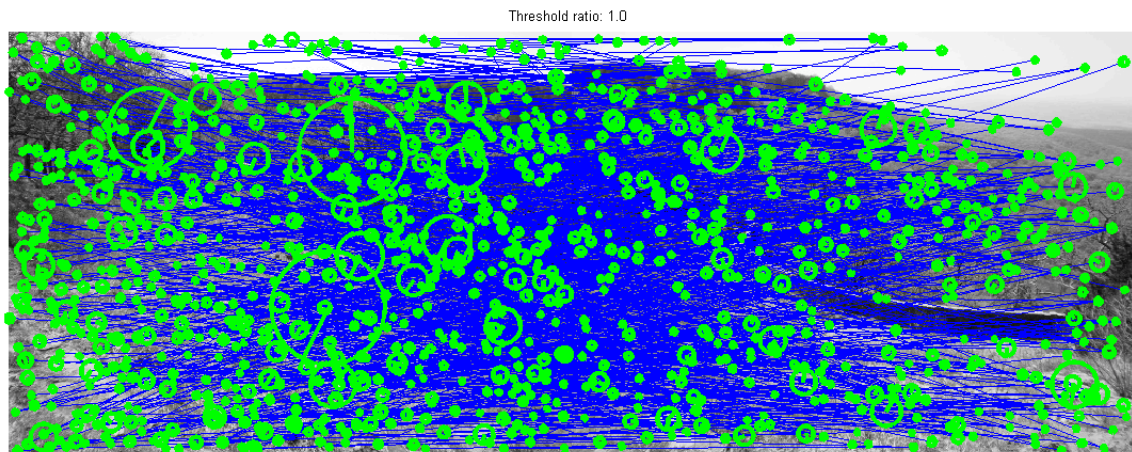


Figure 3: Result of matching with a threshold ratio of 1.0

By looking at the original images, do you think a linear model is enough to model the transformation between the two images?

2 Panorama creation

Appendices

A Annex

Some text in the annex.