CompSci 773: Intelligent Vision Systems

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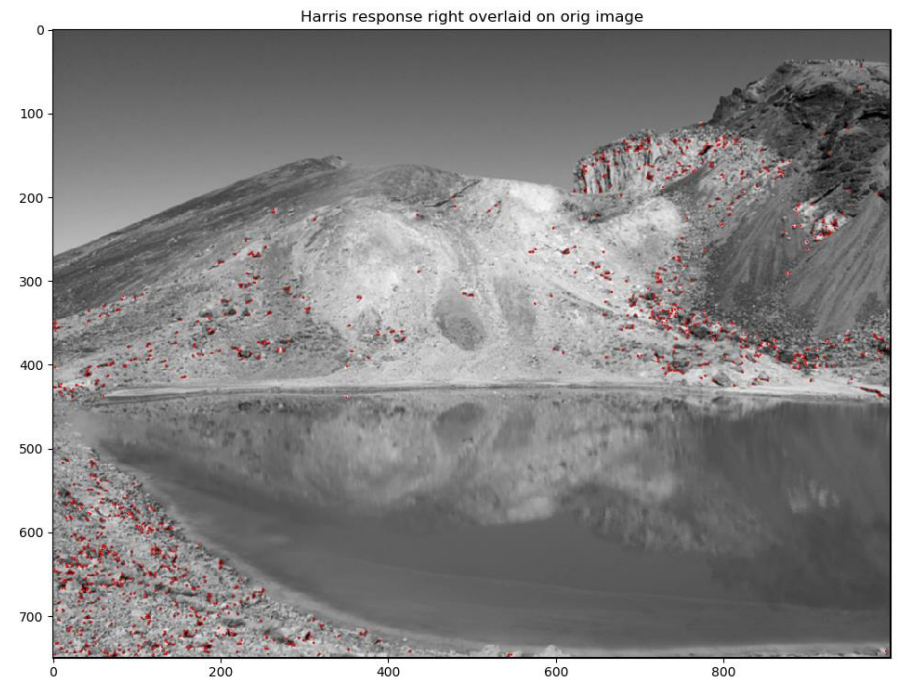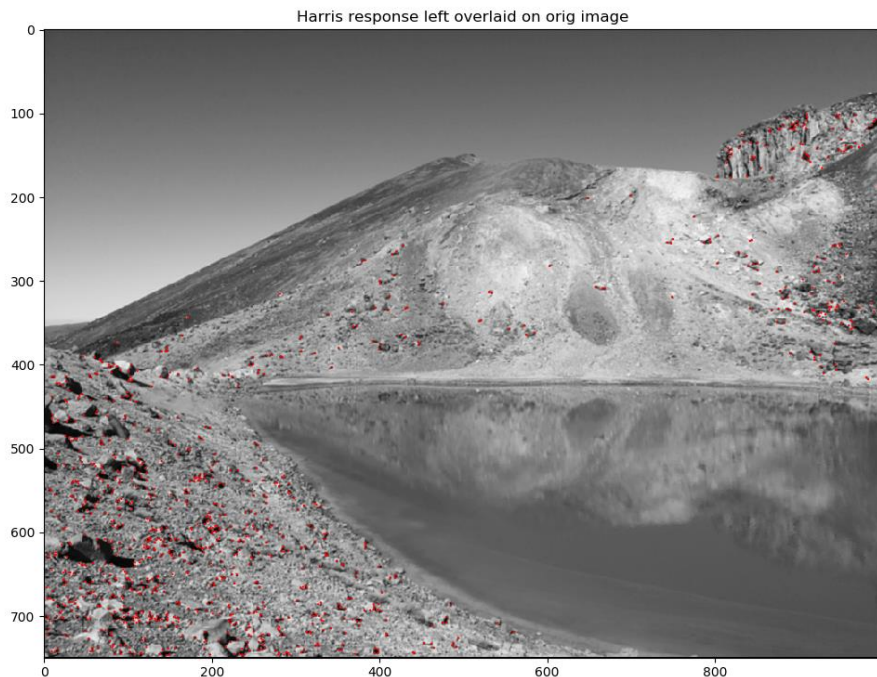
Assignment Image Stitching

- Motivation: I have my holiday images from Tongariro Alpine Crossing…
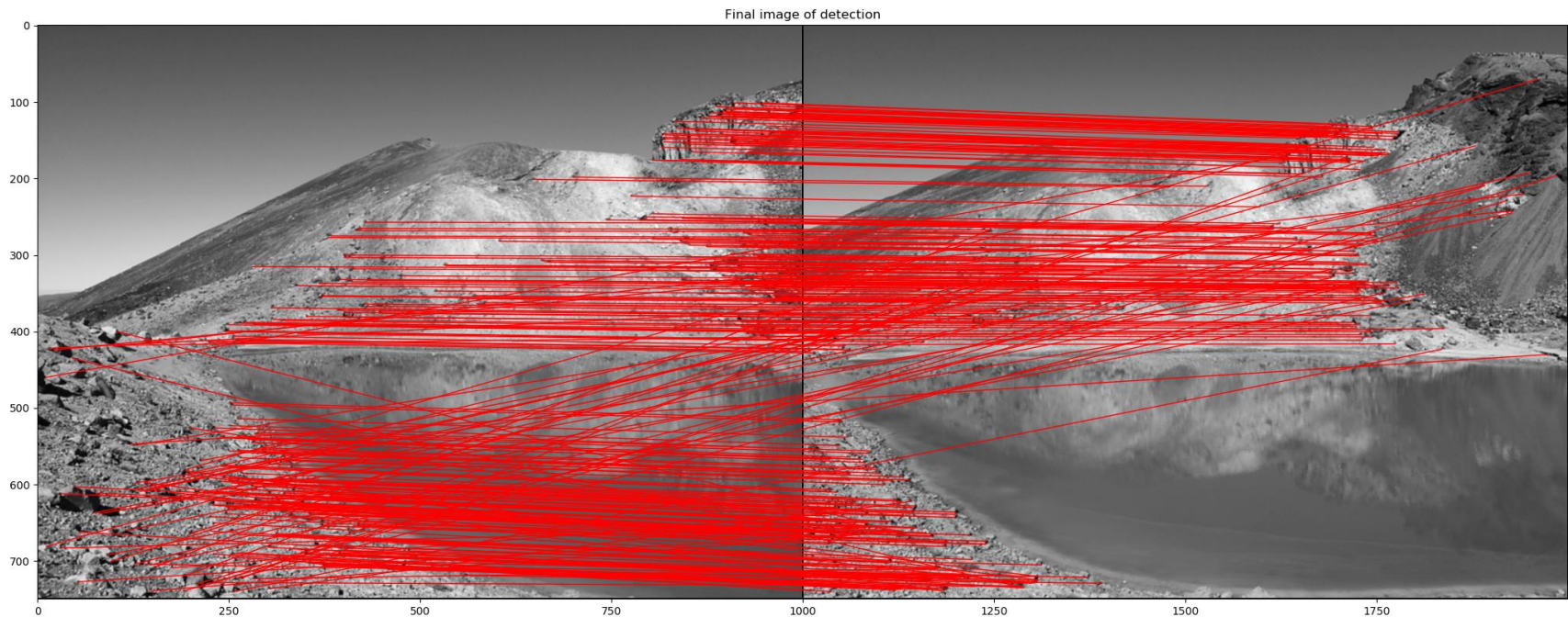
Assignment Image Stitching

- Phase 1: Extraction of Harris corners
  - Done

Harris response left overlaid on orig image

Harris response right overlaid on orig image

Assignment Image Stitching

- Phase 2: Extraction of descriptors and matching
    - Done

Final image of detection

Assignment Image Stitching

- Phase 3: Compute Homography, RANSAC and Image Warping
  - Due date: Friday, 11th of June, 23:59
  - Given matching candidates, implement a RANSAC loop and a method that computes a homography from n>=4 point correspondences
  - Find the best homography during RANSAC, refine homography solely with inliers and compute the image warping (warping code provided)
  - Write a short reflective report on the assignment, summarizing what you learned

Warped image of current homography

Assignment Image Stitching Hints

1) For DLT refer to slide 61 of lecture on registration

2) For RANSAC refer to slide 15 of lecture on RANSAC and warping

3) Don't use randomly drawn points for DLT if any 3 out of the four are collinear! Make sure random draws avoid drawing the same points!

4) The provided warping code takes left and right image as inputs, as well as the homography that maps coordinates from left to right image. It computes the result on a grid double the width of the input images, but with the same height.

5) Please keep the report as concise as possible. Do not repeat content from the slides. Include screenshots where applicable. The report is intended to see if you understood the workings of the image stitching algorithm and to demonstrate experiments you may have performed, which should lead to reflections and conclusions.