

COMP338: Computer Vision

Assignment 1 Report

Group 7

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Brief Introduction of Project

This project makes stitch several relevant pictures come true. This project use SIFT to detect key points, build the SIFT descriptors and match SIFT descriptors. Next, RANSAC is used for removing incorrect SIFT matches. In the next step, homographies are calculated by using remaining matches. After calculating the homographies, wrapping images can be implemented by using the homographies matrices. The last step is blend these wrapped images together.

How to achieve functions

Step 1 : Find input images path. Create a folder and add images need to be stitched into this folder. Next, create an variable store these images need to be processed.

Step 2 : SIFT feature points computation, build the SIFT descriptors

Step 3. Match SIFT descriptors.

Step 4. Call ransac function to remove wrong matches and calculate homographies using remaining matches

Step 5. Wrap images by using homographies

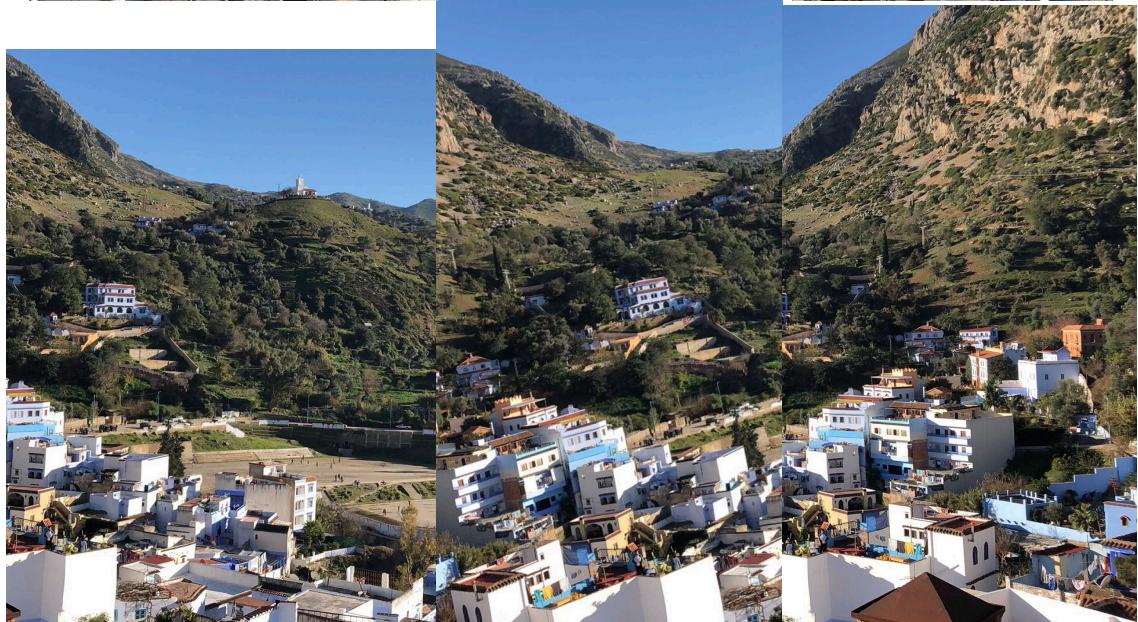
Step 6. Blend wrapped images

How to run the project

To run this project, you should add images need to be processed to the input folder first. Please be caution that images should be RGB image and in order. Then run the stitchMain.m, you can see the output images after processing completely and the output image will be saved on output file folder.

Test Sample

Input images:



Output image:

