

Homework 4 Writeup

Instructions

- Describe any interesting decisions you made to write your algorithm.
- Show and discuss the results of your algorithm.
- Feel free to include code snippets, images, and equations.
- Use as many pages as you need, but err on the short side. If you feel you only need to write a short amount to meet the brief, then
- **Please make this document anonymous.**

get_interest_points.m

For the function `get_interest_points`, I used a normal Harris corner detection method. I followed the algorithms below to implement Harris corner detection:

1. Compute image derivatives by applying sobel filters to image.
2. Compute M components as squares of derivatives by finding I_x^2 , I_y^2 , and $I_x I_y$.
3. Apply a Gaussian filter of size $[4, 4]$ and width 2 to each of I_x^2 , I_y^2 , and $I_x I_y$.
4. Compute corneriness $C = \det(M) - \alpha \text{trace}(M)^2$.
5. Apply threshold on C to pick high corneriness.
6. Non-maxima suppression to pick peaks. I used function `colfilt()` to find maximum peaks.

get_descriptors.m