

Cmpt 412

Project 4

(Use three late days)

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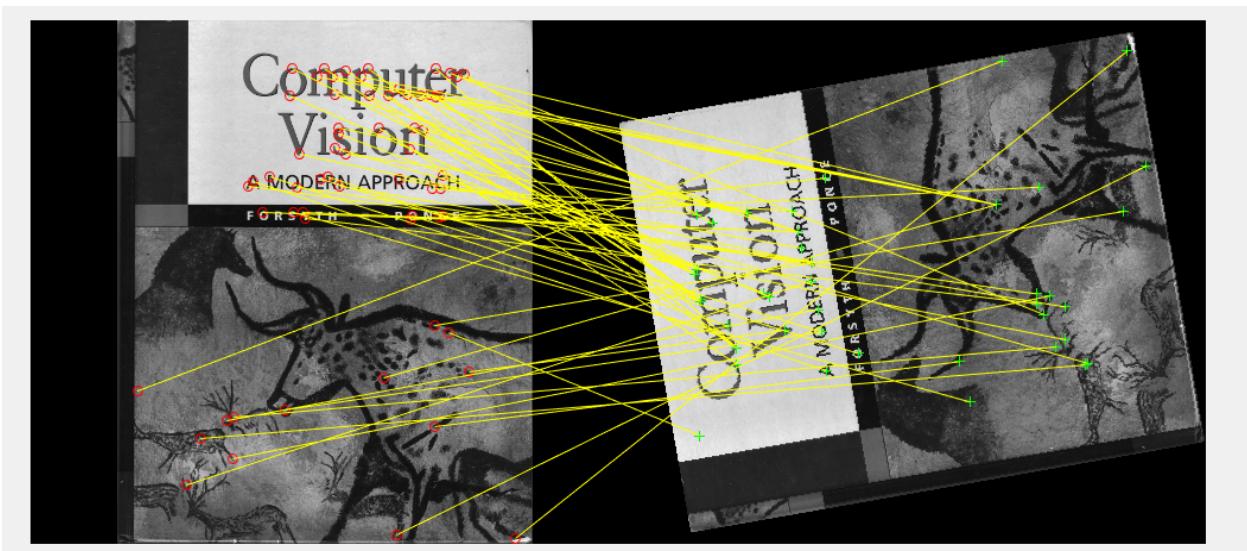
## 1. Feature Detection, Description, and Matching

Since there is no function showMatchedFeatures in the project, I mainly used other parts of the assignments to show the results

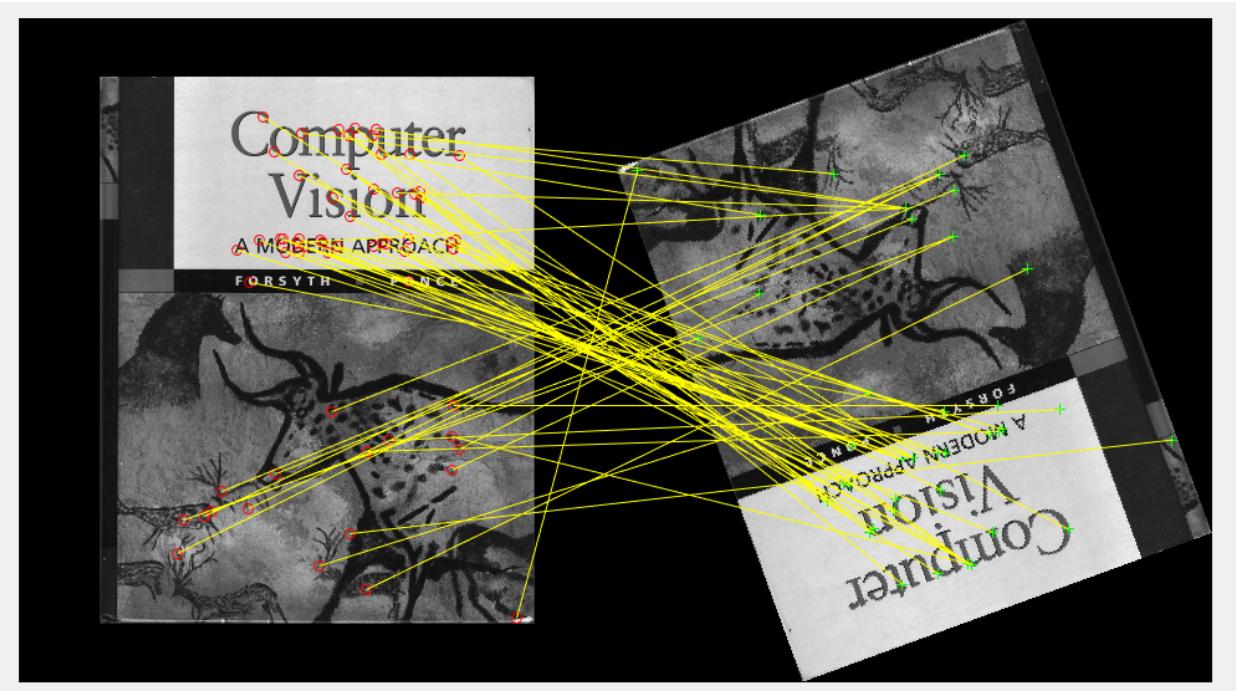
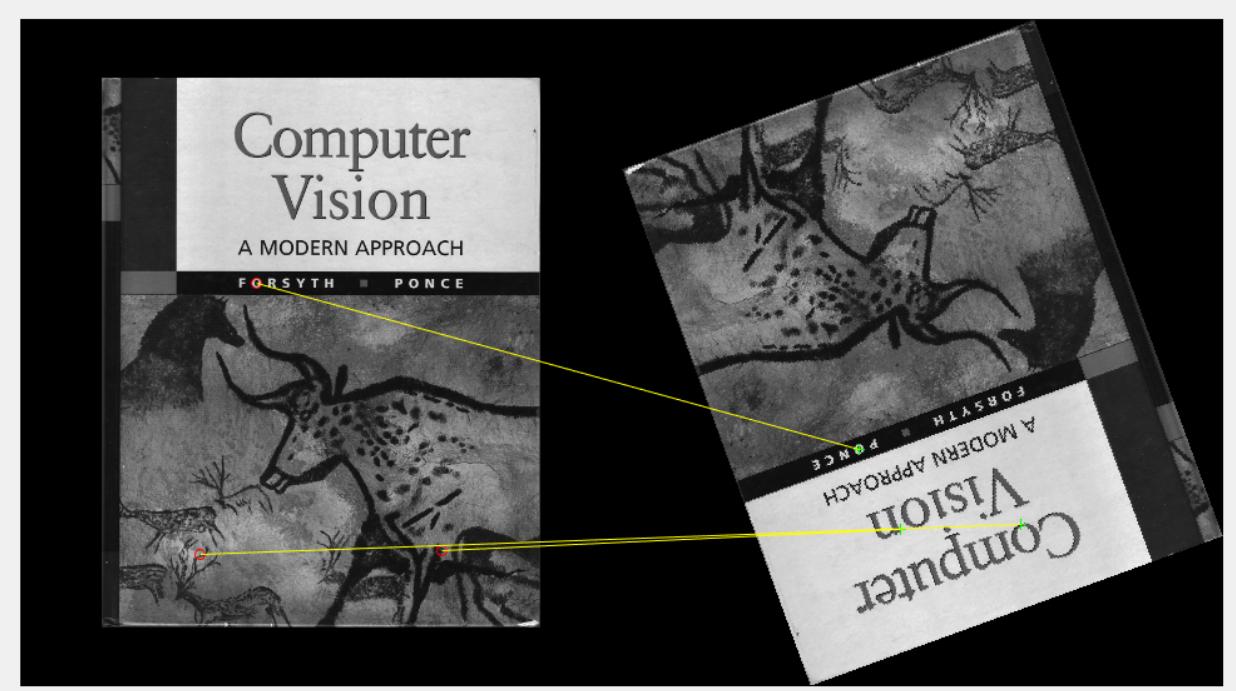
## 2. BRIEF and Rotations

(brief first image and SURF second image)

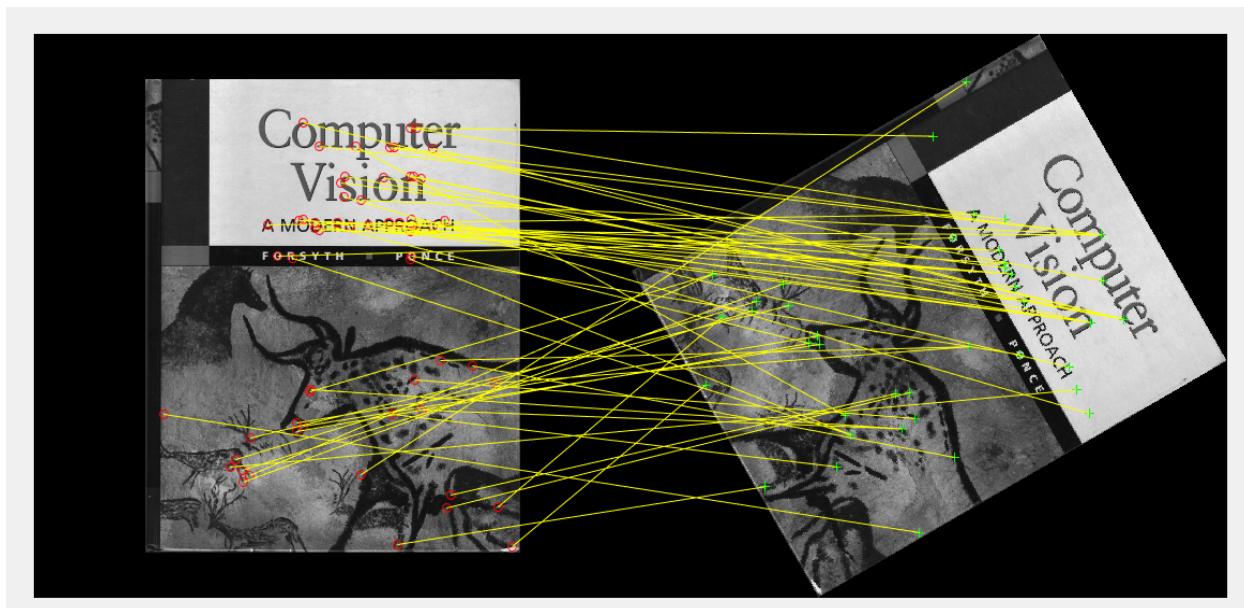
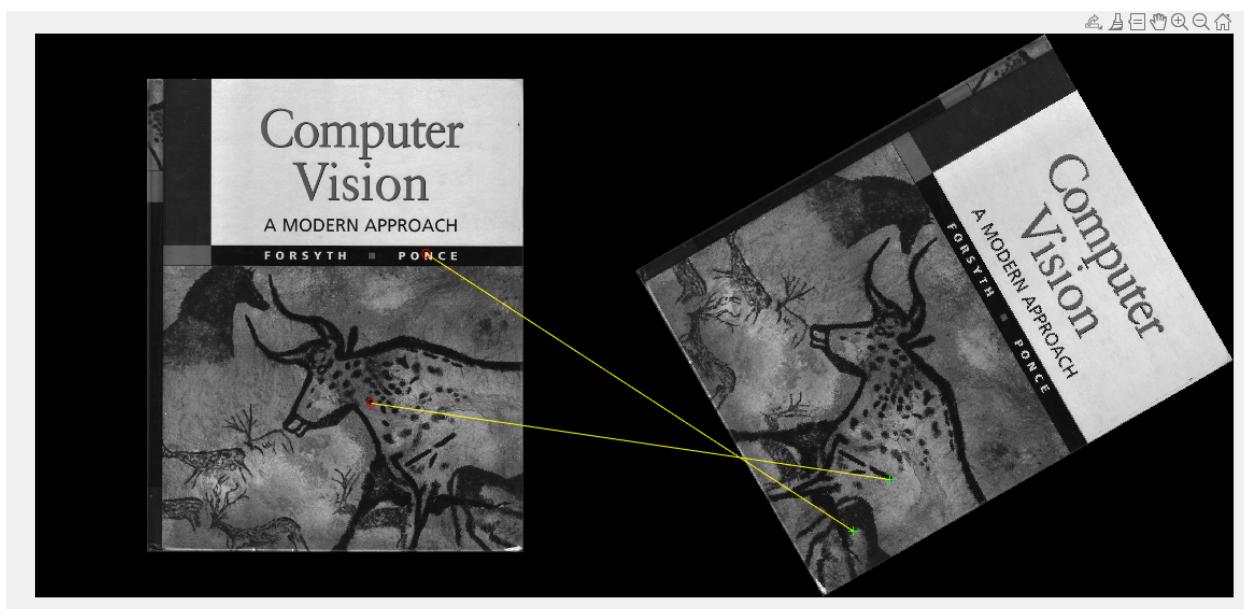
100 degrees



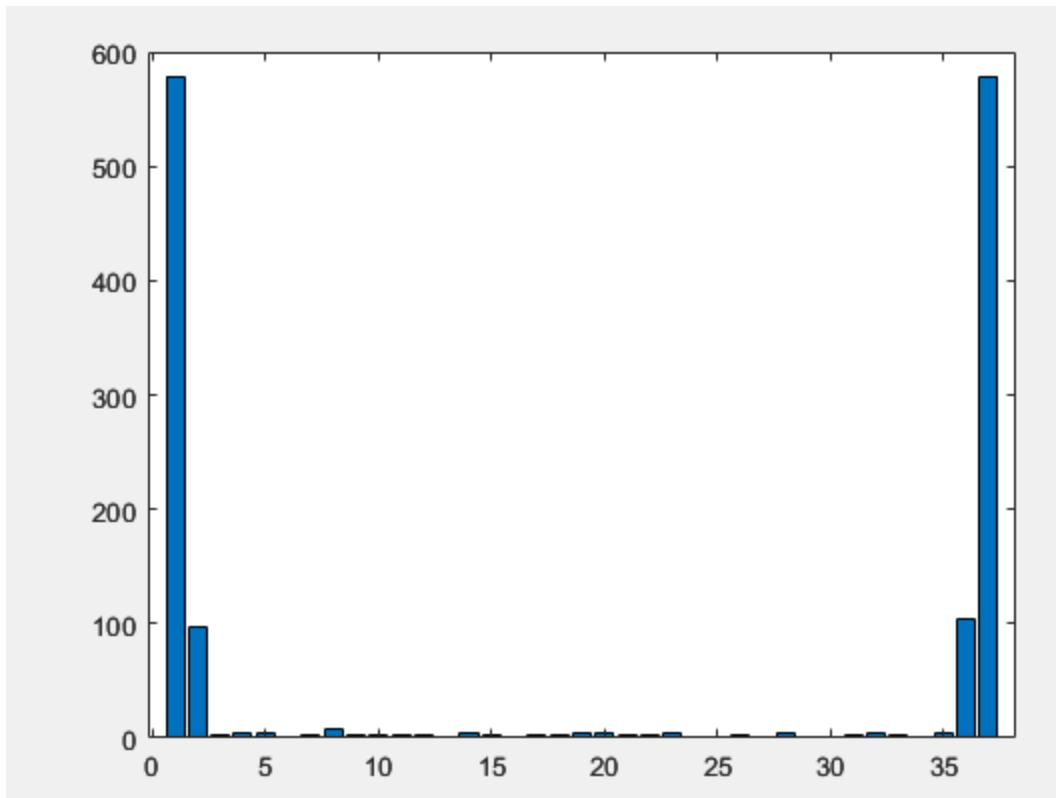
200 degrees



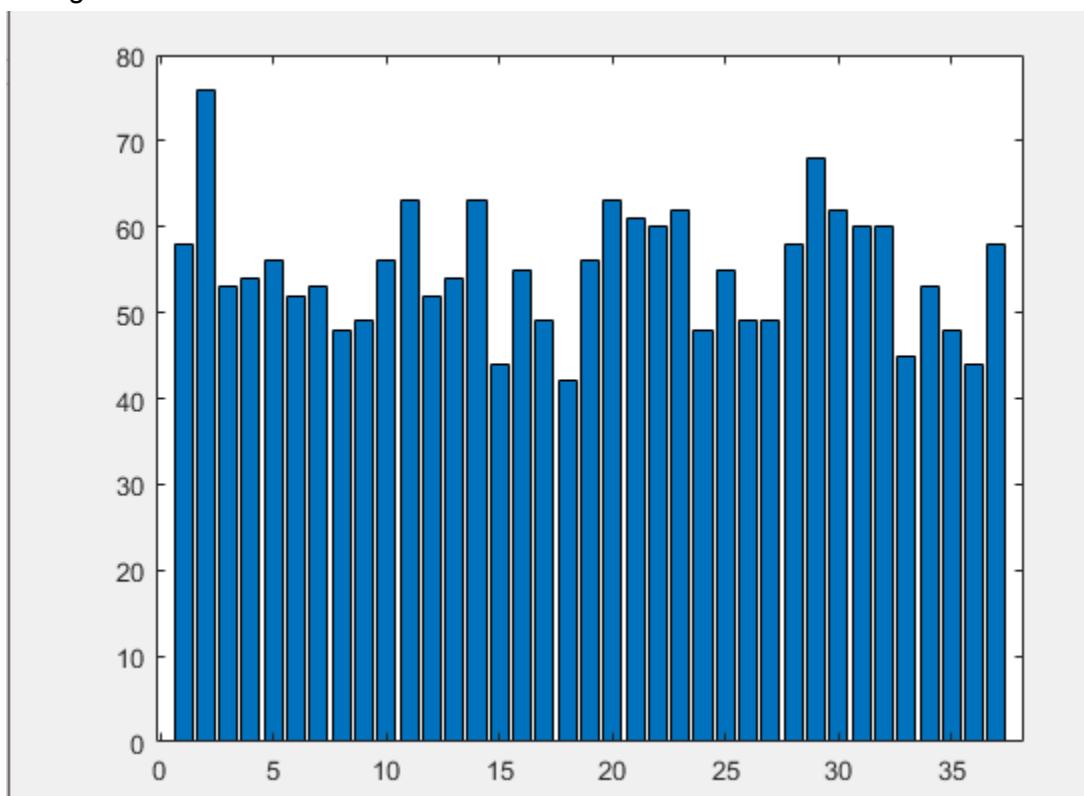
300 degrees



Histogram brief:



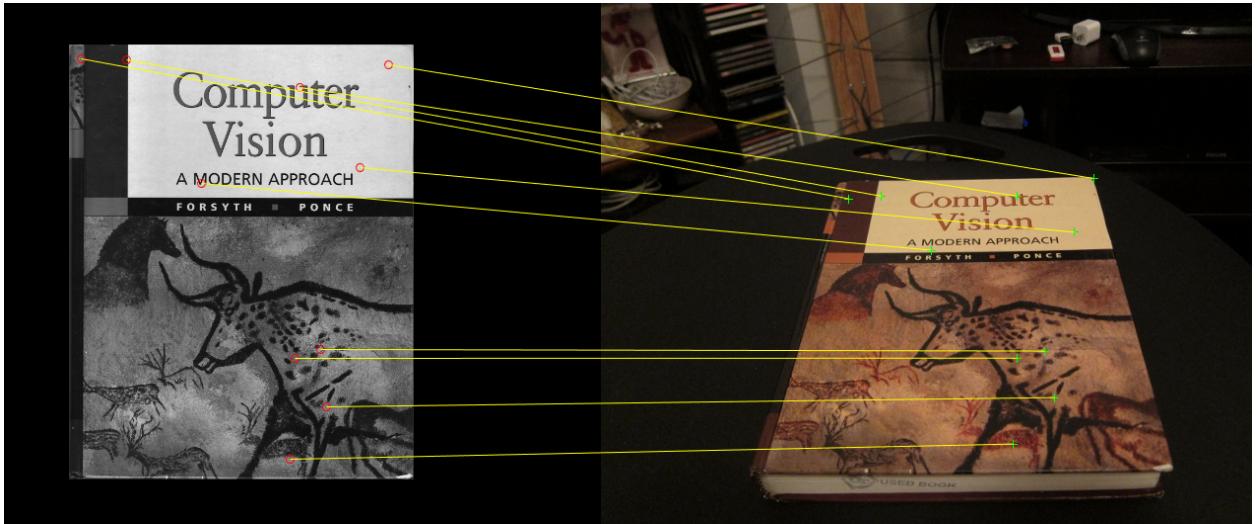
Histogram SURF:



Brief is not made for rotations, as the histogram shows only 5 degrees of rotation variation. In contrast, SURF allows hits from all variations. Notice how the hits are increased significantly with all rotation orientations.

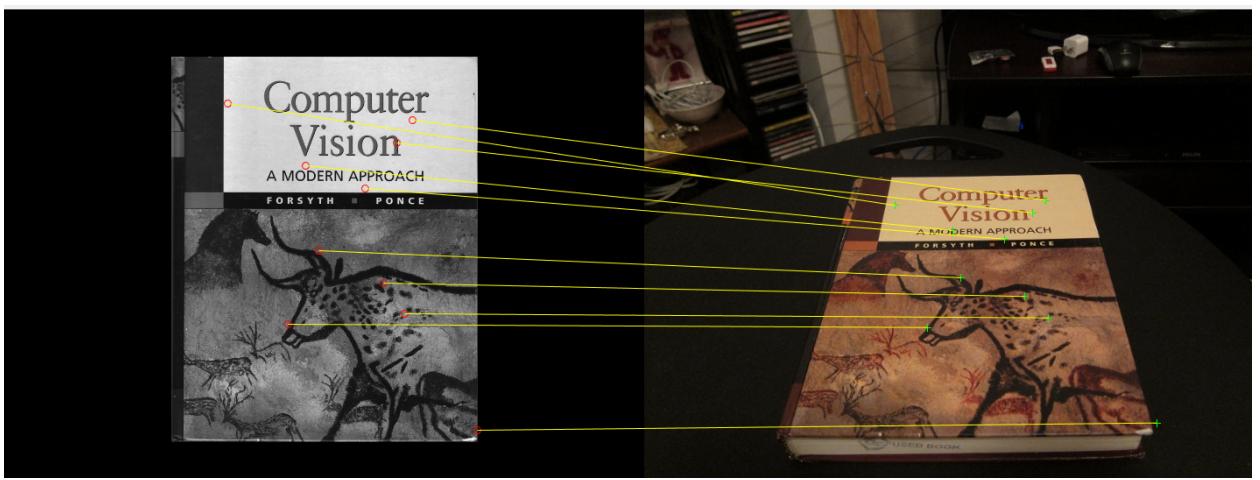
### 3. Homography Computation

Use test\_computeH.m to display the following image uncomment functions to display correct images. (10 random points chosen)



### 4. Homography Normalization

Use test\_computeH.m to display the following image uncomment functions to display correct images. (10 random points chosen)



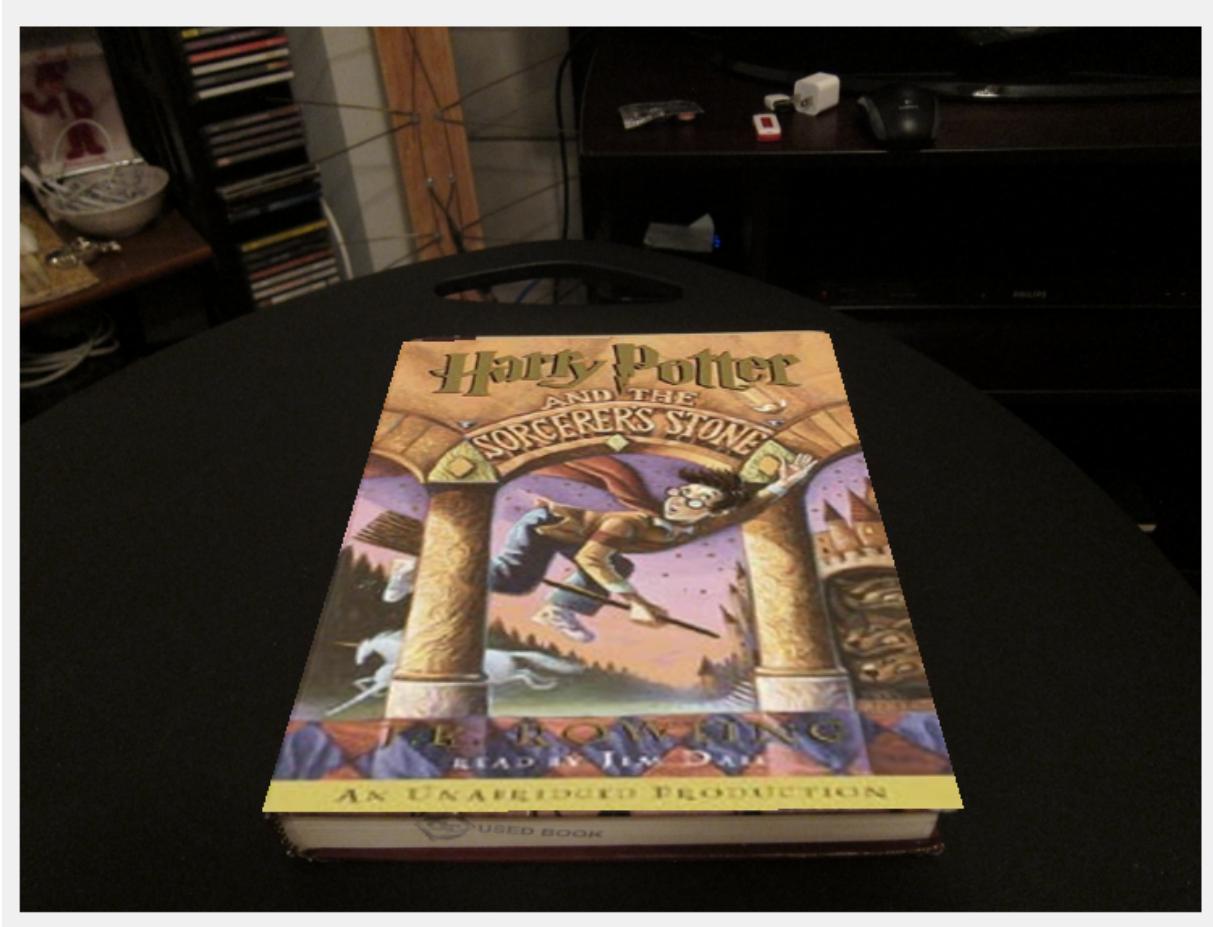
### 5. RANSAC

Use test\_computeH.m to display the following image uncomment functions to display correct images. (10 random points chosen then filtered by 4 points)



## 6. HarryPotterizing a Book

Note: changed inverse to transpose instead cause of calculations



## 7. Creating your Augmented Reality application

Running ar.m saves the video as ar.avi in the result/ directory.

