

I used ORB for feature detection. It uses FAST key point detector and BRIEF descriptor. First it finds the keypoints using FAST then find N top points among them using Harris corner method. But FAST does not compute the orientation so for this purpose it computes an intensity weighted centroid patch with corner at the center. In BRIEF each bit feature has large variance and mean of around 0.5 but after orientation along keypoint direction it becomes more distributed. Brute force matcher matches each descriptor of first image to second image doing brute force search. Then I used RANSAC algorithm for creating homography and finally used thresholding to remove extra space in new image. At last I used histogram equilization to reduce seam in the new image.