

Playing Card Detection and Identification

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Motivation: I play a lot of tabletop card games. One thing I have found is that the programs commonly used to identify cards come with a set of restrictions such as card placement, and background setup.

Goal: When given an image, identify and recognize all cards from a standard 52 card deck of playing cards, regardless of location in the image.



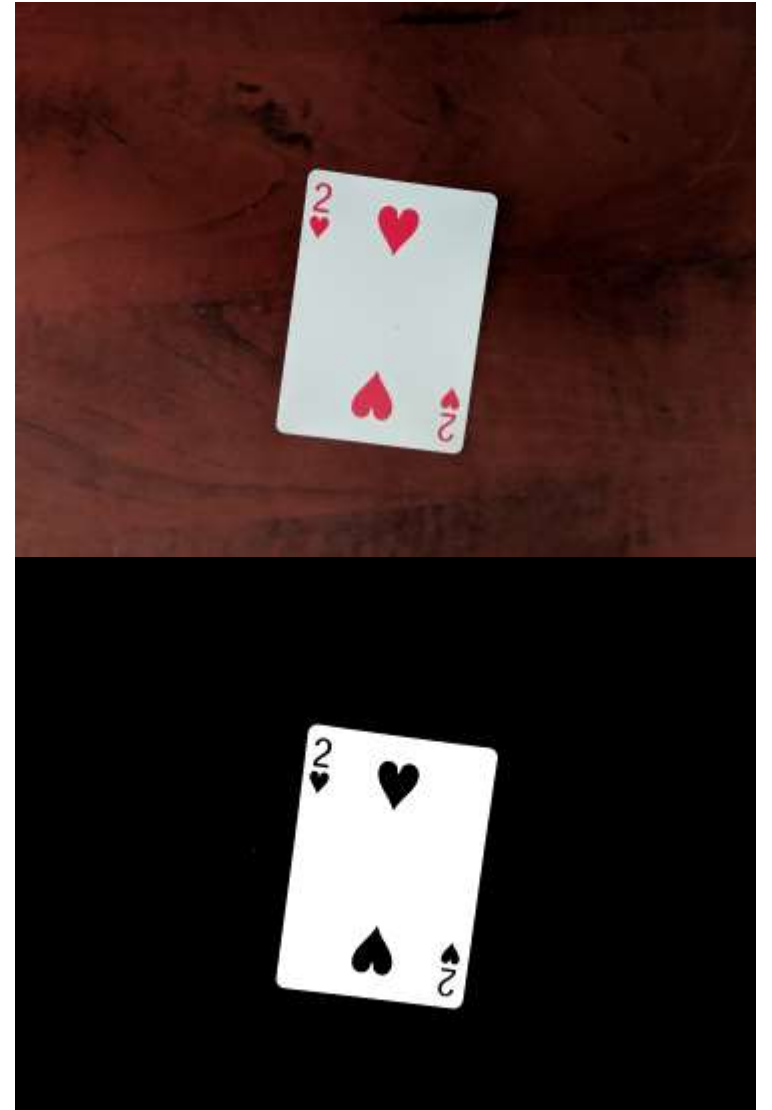
Approach and Considerations

Approach to problem

1. Detect where all the cards are in the image
2. Crop and rotate individual cards in preparation for identification using hough transform.
3. Identify the rank and suit of each card found in previous steps using template matching.

Additional Considerations

- Identify cards in a variety of orientations and on a variety of backgrounds



Challenges and Initial Results

- Initial Challenge: Background removal
 - Bright, non-uniform backgrounds are not easy to remove.



Adaptive Thresholding



Base Image



Otsu's Method

