

Friend Blend

Team APPY FIZZ

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Problem Description

- Two friends don't want to take a selfie, maybe because of camera resolution.
- Want to have a picture together, nobody around to take it.
- Two people visit the same place at different times but want to have a picture together at that place.



Project Paper Introduction



(g) Image 1



(h) Image 2



(i) Result



(j) Image 1



(k) Image 2



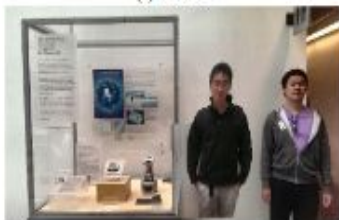
(l) Result



(m) Image 1



(n) Image 2



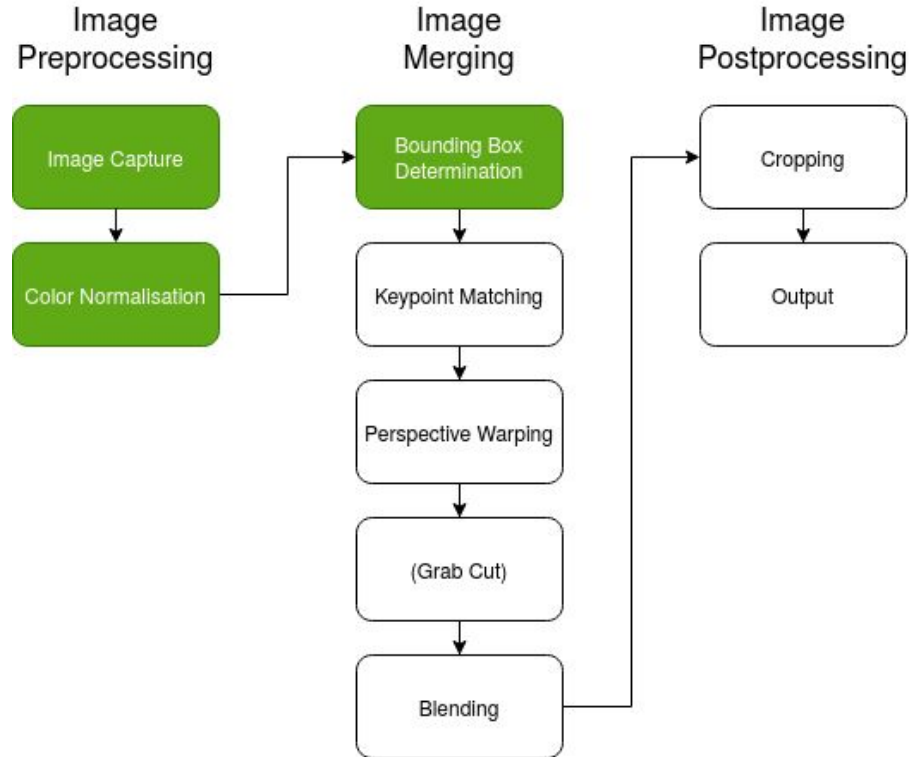
(o) Result

Given two input images, our goal is to create a third image with both Person A and Person B in the photo together.

The FriendBlend algorithm mainly relies on segmentation and registration techniques for extraction and merging images.

Process

1. Color correction
2. Face and body detection
3. Homography estimation
 - a. Keypoint Detection
 - b. Keypoint Matching
 - c. Homography Computation
4. Image blending

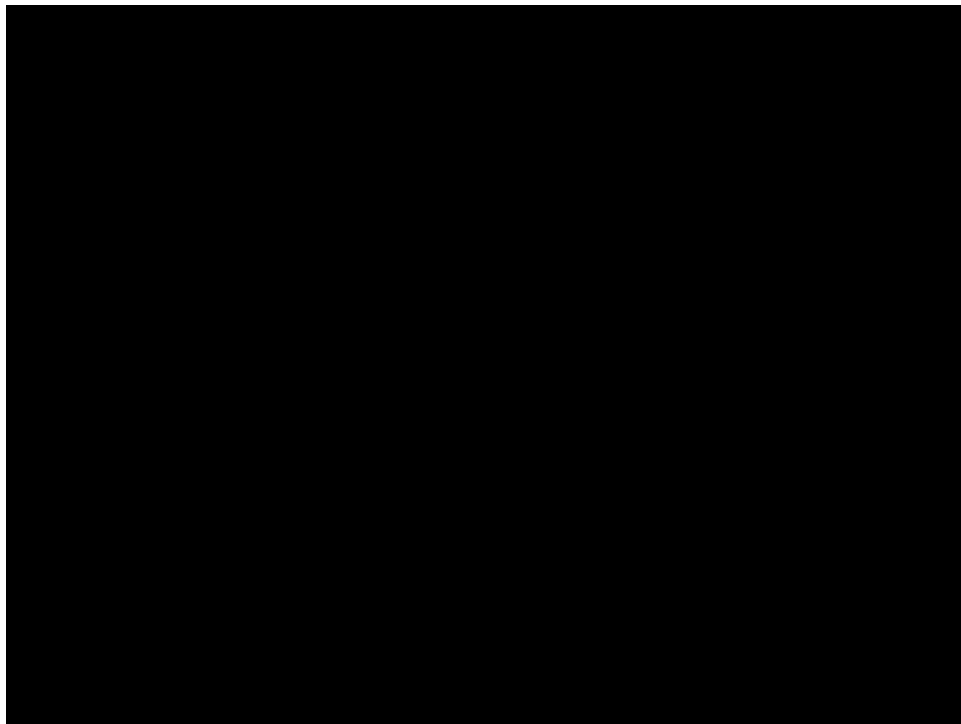


Stage 1 - Color Correction



It is crucial to make sure that the lighting from the two input images are approximately the same before the blending process to make the image look realistic.

Stage 2 - Face and Body Detection



$$x_{left}^{body} = x_{left}^{face} - w$$

$$x_{right}^{body} = x_{left}^{face} + 2 \cdot w$$

$$y_{top}^{body} = y_{top}^{face} - h$$

$$y_{bottom}^{body} = height(image)$$

Current Progress



Input Image



Color Corrected Image

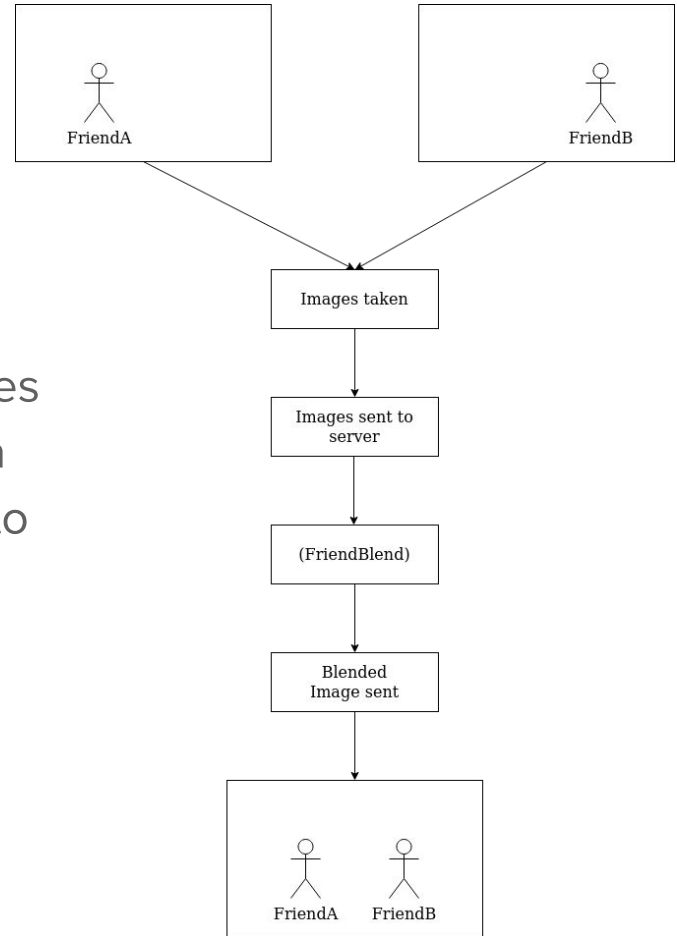


Predicted Bounding Box

Mobile App



Since virtually everyone takes pictures with their phones, a mobile app is the best way to showcase the algorithm.



Work left

- Homography estimation:
 - Keypoint Detection
 - Keypoint Matching
 - Homography Computation
- Image blending

We are on track according to the timeline and are confident that we'll be able to finish the project in time.

Thank You

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