Project Checkpoint

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Our approach

1. Our approach initially involved using the code published by Zhu and Ramanan to perform landmark detection on the input faces. So far, one of most challenging sub-problems we've encountered has to do with obtaining a clear outline of the face, specifically the jawline. The code by Zhu and Ramanan performs this task fairly well in most test images weve tried.

2. Using the initial points, we then compute the convex hull. This yields a polygonal mask which we will later use to extract the actual face from the source image for warping.

3. Additionally, we also construct a bounding box/region of interest based on the initial set of detected facial points which we use to perform localized feature detection, identifying the nose, eyes, and mouth. The location of the nose is also used to perform left eye/right eye disambiguation and remove false positives.

4. Our next task is to detect the best corners within the local feature bounding boxes (most likely on the eyes and mouth) of the source and target images in order to prune dissimilar correspondence points in both the target and source images.

5. Then, our goal is to use the best correspondence points to do a Delaunay triangulation morphing of our convex hull from the source into the masked part of the target image.

6. Finally, we will use Laplacian blending to ensure a smooth transition from our face into the surrounding target image.

Our results

blah