BLG 453E Homework - 3

Due 5.12.2018 22:00

Policy: Please do your homework on your own (Do not copy paste your solutions from the internet or your friends). The code and the report you submitted must be your own work. All code must be implemented using **Python 3.5+** programming language and **OpenCV Python wrapper**. If you use other version of Python and your code give an error because of Python version you will get 0 point. Include necessary files with your homework. Do not use absolute file paths. The deadline for this assignment will not be postponed.

For your questions: albay@itu.edu.tr

1. **Image Morphing**

   In this homework, you are required to implement image morphing using delaunay triangulation. You can find more information using following link:

   https://www.learnopencv.com/face-morph-using-opencv-cpp-python/

   Only use built-in OpenCV library functions to create Delaunay Triangles and other basic operations likte imread etc. Do not use built-in functions for affine matrix estimation or image warping. You can use other necessary libraries such as numpy. You have to imlement affine estimation function and image warping on your own. You do not have to use PyQt5 but if you use PyQt5, you will get 50 extra points. Morphed image must contain first image intensity values but it is warped into second image coordinates (So you must select appropriate blending values for pixel intensities and coordinates).

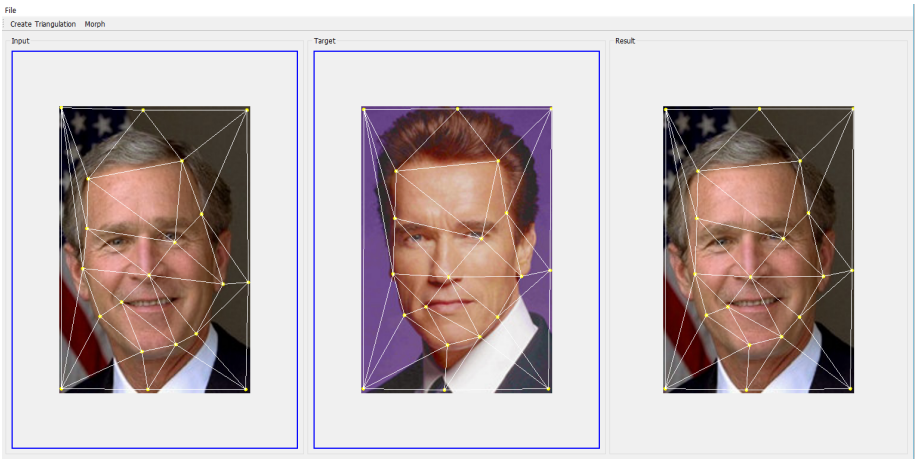

Figure 1: Before morphing, coordinate points and images.

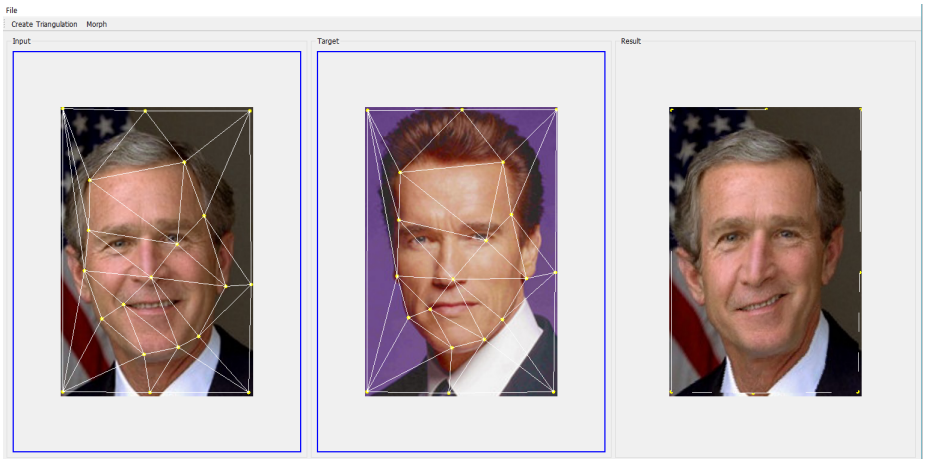

Figure 2: After morphing operation.