4-24-2019

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Clothing garment swapping via pose estimation and thin plate splines

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Introduction

We are working on a virtual try-on technology which has attracted a lot of interest recently by delivering product information similar to that obtained from direct product examination. It allows users to experience themselves wearing diverse garments without efforts of changing them physically.

Proposed Framework

We first perform pose estimation on the input image to detect the body joints and these body joints help us identify the corresponding clothing garments. We get a mask using the FCN. Then, based on the clothing garments, we do body morphing via thin plate splines transformation. We later transfer the clothing garments from the source to the target human to form the output image.

Components

Open Pose:
The pose skeleton is generated using the Open Pose estimation.

Thin Plate Splines:
The thin plate spline (TPS) tool matches Co-ordinates of the input and the target image.

Experimental Results

The output image shows the transfer of desired model clothes in the image B to the target person in the image A.

It allows users to experience themselves wearing diverse garments without efforts of changing them physically.