Picture-Based Virtual Try-On

Group-1

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Introduction

- Virtual Try on technology lets customer see how clothes fit on themselves allowing them to virtually “try on” clothing before purchasing.
- The customer can try on while sitting in any part of the world.

Problem Statement

- The Virtual-try on is a crucial aspect of research as, during the COVID-19 pandemic lockdown, most businesses went into crisis mode, and not just large brands, but even tiny businesses are wondering how they would survive.
- In a post-Covid-19 future, taking our time in stores will be tough; as a result, internet purchasing has exploded.
- A renowned deal of time and work is taken to create a virtual try-on system.
- The purpose of a virtual try-on is to create a photo-realistic new picture with a fresh item of clothing while removing the previous one's effects.
- But it is still limited to the starting phase as many technical gaps can be seen in it.

Research Gap

01. Simple poses only

Only outcome of most common and easy poses.

02. Clothes indistinguishable

Inner side of the clothes were indistinguishable from the outer side.

03. Mismatch

A huge mismatch in the current and target clothing shapes.

04. Limited Dataset

It consists of only particular poses image.

05. Pixel leak

The clothing pixels often leak into the skin pixels, and in the case of self occlusion, the skin pixels may be completely replaced.

Research Questions

- RQ1. How can we figure out unique poses ?
- RQ2. How to prevent the scattering of pixels ?
- RQ3. How to get the same target image as the input image ?
- RQ4. How to prevent overlapping of the input image on the target cloth ?
- RQ5. Which dataset should we utilized to get the desired results ?
- RQ6. Which model give the best results in accordance to the existing issues?

Result

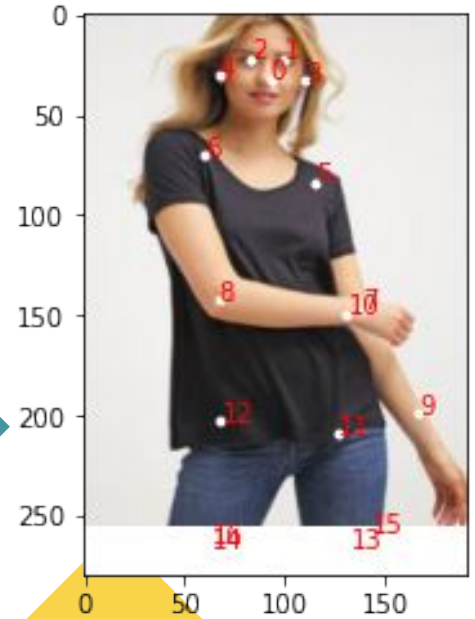
- The authors of the ACGPN did not mention the models they used to create person segmentation labels and detect the keypoints on a human body. Thus, we picked the models ourselves and ensured the quality of the ACGPN model's.
- We tried overcoming flaws and improved the accuracy by integrating the two different datasets.
- Also, we were successful in identifying even with the most unusual poses.
- Resolved one of the main limitation where it predicted different target image in comparison to the input image.

Input Image

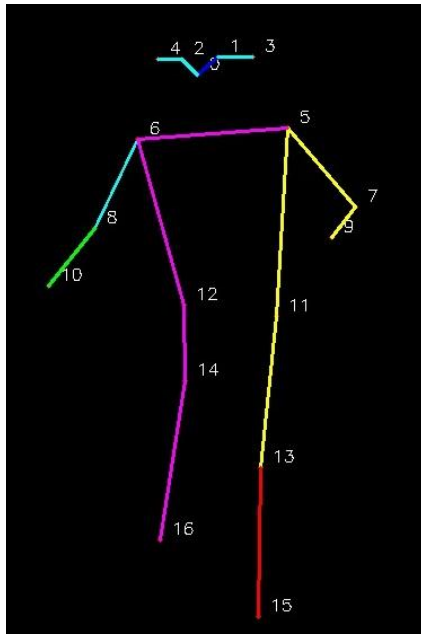
Target Cloth Image

Semantic Segmentation: PSPNet

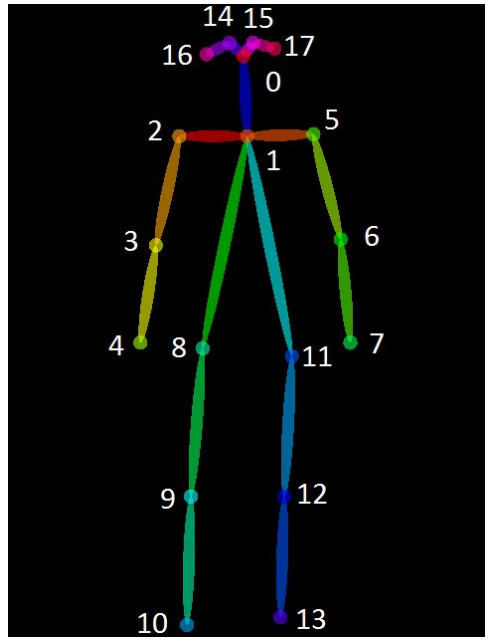
Pose Keypoints



Pose Detection: PoseNet



Pose Detection: PoseNet to OpenPose



Input Image

Our Output Image

Author's Output

References

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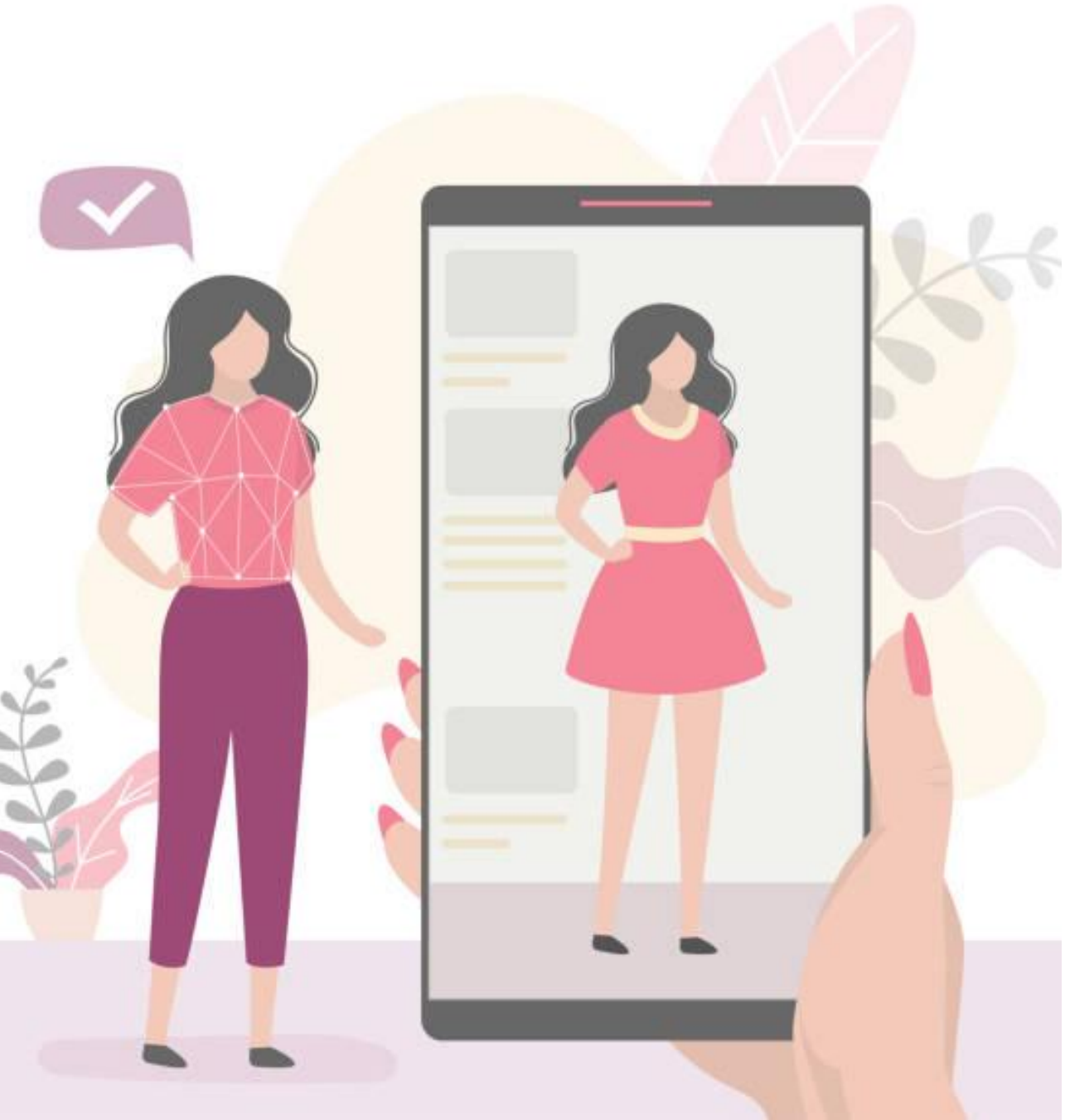

Thank you

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