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Department of Information Technology
Academic Year 24-25

BE Major Project I Abstract

Group No. 18

Project Title: Virtual Dressing Trial Room Using U-Net Algorithm and Propositional Algorithm.

ABSTRACT: Trying clothes in clothing stores is usually a time consuming activity besides it might not even be possible to try on clothes in such cases as online shopping. Our motivation is to increase the time efficiency and improve the accessibility of clothes try on by creating virtual dressing room environment. In this work, we introduce a virtual dressing room application which is based on two major algorithm. Our proposed approach is mainly based on extraction of the images of clothes from url and alignment of model and matching the user with the uploaded image. In this we have done two major thing of the project which background removal and image matching with the model. In this our project for background removal we used openCv library. And based on it U net, Graph cut, R-CNN algorithm are present. In this our project we used U-Net algorithm. For image matching with the user image we have mainly used propositional Scaling algorithm. The whole project is implemented on flask frameworks and Python language.

Keywords :*Virtual Dressing Room , Online Shopping ,Image Processing , Background Removal, OpenCV , U-Net Algorithm , Graphcut Algorithm ,R-CNN Algorithm , Image Alignment, FlaskFramework ,PythonLanguage, Clothes Image Extraction , Model Alignment , Proportional scaling.*



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Uniqueness : The virtual dressing trial room is unique because it uses advanced technologies like the U-Net algorithm and propositional scaling to create a more accurate and realistic online shopping experience. Unlike traditional methods, which only allow customers to see static images of clothing, this virtual room lets users see how clothes fit and move on their own bodies in real-time. The use of machine learning and image processing ensures that the clothes are accurately overlaid on user photos, taking into account body shape and size. This feature sets it apart from existing virtual try-on tools, providing a personalized and interactive shopping experience that mimics an in-store fitting room

Motivation: There is a growing demand for innovative technologies in the fashion and retail sectors. Shopping for clothes in physical stores can be time-consuming and inconvenient. Standard clothing sizes do not always accommodate individual body shapes and sizes.

Our project provides a virtual try-on experience, allowing users to visualize how different outfits will fit them before making a purchase. This reduces the hassle of returns and increases confidence in buying decisions.

Our project incorporates cutting-edge technologies like U-Net for segmentation, and machine learning for personalized recommendations, positioning us at the forefront of fashion technology.

Group Members Details

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