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Problem/Idea Description:

In the fashion industry, accurate assessment of body size estimation is of paramount importance to both consumers and retailers. With the growing popularity of online shopping, people are often faced with the challenge of finding clothing that fits well and matches their figure. Inappropriate clothing not only causes customer dissatisfaction, but also contributes to a high rate of returns, which creates additional logistical and financial challenges for retailers. Moreover, the fashion industry's impact on the environment is significant, with textile production, manufacturing, and waste contributing to pollution and resource depletion.

Background Information:

The fashion industry has undergone significant changes in recent years, and online shopping has become increasingly prevalent. While online shopping offers convenience and accessibility, it comes with unique challenges, especially regarding clothing sizing. Unlike traditional stores where shoppers can try on clothes before buying, online shoppers must rely on size charts and descriptions provided by retailers. However, differences in sizing standards between brands and inaccurate sizing charts often result in shoppers receiving ill-fitting clothes, causing dissatisfaction and a flood of returns.

Available Solutions:

Takyar, A. (2023, December 8). *Fashion forward: Use cases and benefits of AI in fashion*.

LeewayHertz - AI Development Company.

<https://www.leewayhertz.com/ai-use-cases-in-fashion/#:~:text=Personalized%20fashion%20advice%3A%20AI%2Ddriven,24%2F7%20personal%20stylist%20experience>.

bloomreach.com. (n.d.). *Artificial Intelligence in retail: fashion Bloomreach*. <https://www.bloomreach.com/en/blog/2021/impact-artificial-intelligence-online-fashion-retail>

Rincon, L. (2023, June 14). Virtually try on clothes with a new AI shopping feature. *Google*. <https://blog.google/products/shopping/ai-virtual-try-on-google-shopping/>

AI Clothing Detection: Use cases for fashion and e-commerce – PostIndustria. (n.d.). <https://postindustria.com/ai-clothing-detection-use-cases-for-fashion-and-e-commerce/>

Data acquisition

To develop a reliable body size estimation system for fashion purposes, qualitative and diverse data must be obtained. One approach to data collection is to search for reviews of various online stores that contain information about the body sizes of customers who have purchased clothing items.

Solution Description:

Our solution aims to develop a body size estimation system tailored for fashion purposes, enabling users to accurately determine their clothing sizes for online shopping. The core of our solution will involve leveraging Convolutional Neural Networks (CNNs), a powerful deep learning architecture known for its effectiveness in image processing tasks. By training CNN models on labeled datasets of customer reviews containing body size information, we will create a predictive model capable of estimating body sizes.

Tech Stack:

- Python for overall project development
- TensorFlow for implementing neural network models
- HTML/CSS/JS for web-site development

