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Apparel Fit Classification using Convolutional Neural Networks

OVERVIEW

Fashion industry waste is a well documented problem, and a leading cause of global warming. Every second, the equivalent of one garbage truck of textiles is landfilled or incinerated, which includes unsold merchandise being destroyed by the retailers. This appalling practice is all too common in the industry. Reducing the amount of deadstock i.e. unsold merchandise is key to shifting towards a responsible fashion industry. One aspect of reducing deadstock is planning and merchandising smarter assortments that better reflect the needs of the customer. As fashion trends evolve, one aspect that is constantly changing is how fitted the clothing is that people are wearing. For instance, an individual's body measurements, according to a manufacturer, might fall within the range of a size M, however due to recent trends they prefer to wear a size S or L. Having a better understanding of current and future trends and how customers are wearing clothes will enable companies to make better informed design and merchandising decisions.

SOLUTION

Build a CNN model that will classify images of clothing based on how loose or fitted the clothing is. This model could be used by apparel ecommerce sites where customers are encouraged to upload photos of themselves in the clothing. It could also be used by apparel manufacturers to perform more industry wide trend forecasting as well. This would facilitate smarter designs as well as size assortments, and help reduce the amount of unsold merchandise.

DATA SOURCE

Images from ecommerce websites along with garment and model measurements will be scrapped.

TOOLS & TECHNIQUES

Web scraping, deep learning using Keras and Tensorflow.

CHALLENGES

The biggest challenges will be gathering and organizing the data, and training the model.