University of Essex

Fashion-Stylist Application using Deep Learning

School of Computer Science and Electronic Engineering

Student: Oluwatosin Oluwole Supervisor: Xiaojun Zhai

DeepFashion

A large-scale fashion clothing database that contains over 800,000 images covering various fashion catgeories

Figure 1: Deep Fashion Dataset

Figure 2: Python and Google Colab used to develop the FRS

Project Overview

A Fashion Recommender System (FRS) that allows users to upload an outfit and get recommendations for similar outfits using Deep Learning technologies.

Methodology + Technologies

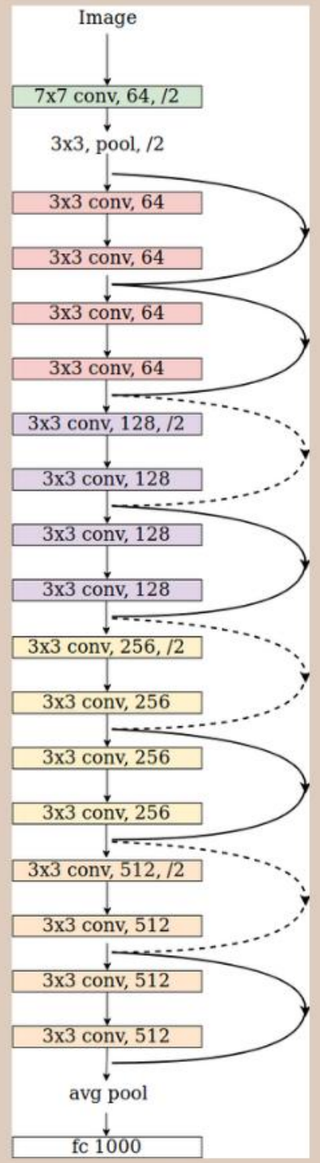

Figure 3: ResNet18 diagram

Convert images to embeddings

ResNet 18/50

Approximate Nearest Neighbours

Embeddings Centroid Detection

Aims & Objectives

- Provide a personalised shopping experience
- Evaluate performance of FRS (Scability, Speed & Robustness)
- Evaluate effectiveness of different recommendation algoritms
- Improve inventory management

References

Figure 1
Z. Liu, "DeepFashion: Attribute prediction," Category and Attribute Prediction Benchmark. [Online]. Available: https://mmlab.ie.cuhk.edu.hk/projects/DeepFashion/AttributePrediction.html. [Accessed: 20-Mar-2023].

Figure 2
G. Juantorena, "Como Empezar a analizar datos con python usando google colab," Medium, 27-Nov-2020. [Online]. Available: https://gjuantorena.medium.com/como-empezar-a-analizar-datos-con-python-usando-google-colab-1e3cf68cba. [Accessed: 20-Mar-2023].

Figurre 3
Grigory Serebryakov (Xperience.AI) Satya Mallick, G. S. (Xperience.AI), and S. Mallick, "Fully convolutional network for image classification on Arbitrary sized image," LearnOpenCV, 07-Feb-2023. [Online]. Available: https://learnopencv.com/fully-convolutional-image-classification-on-arbitrary-sized-image/. [Accessed: 20-Mar-2023].