SMART FASHION RECOMMENDER APPLICATION

IBM – LITERATURE SURVEY

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CASE STUDY I

TITLE

Fashion recommendation system using CNN

AUTHOR

Anjan M, Abhishek V, C. Balamanikantan, Dheeraj, Dr. Venugeetha Y: 2020

PROJECT DESCRIPTION

Recommendation systems are the techniques that are used to predict the rating one individual will give to an item or social entity. The items can include books, movies, restaurants and things on which individuals have different preferences. These preferences are being predicted using two approaches first content-based approach which involves characteristics of an item and second collaborative filtering approaches which considers user's past behaviour to evaluate its choices. This thesis proposes a fashion recommendation system which will recommend clothing images supported the style sort of the provided clothing images. In this work, we focus on the images of upper body as well as the lower body clothing and with human model in the images. We have created our own datasets through web scrapping of different e-commerce websites. In this paper we have come up with an idea to build a content-based recommendation system using ResNet-50 convolutional neural network.

Keywords - Recommendation System, Web scraping, Vue.js, Flask, ResNet-50, Web App, Content-based filtering

CASE STUDY II

TITLE

Fashion Recommendation Systems, Models and Methods

AUTHOR

Samit Chakraborty, Md. Saiful Hoque, Naimur Rahman Jeem, Manik Chandra Biswas, Deepayan Bardhan and Edgar Lobaton: 2021

PROJECT DESCRIPTION

In recent years, the textile and fashion industries have witnessed an enormous amount of growth in fast fashion. On e-commerce platforms, where numerous choices are available, an efficient recommendation system is required to sort, order, and efficiently convey relevant product content or information to users. Image-based fashion recommendation systems (FRSs) have attracted a huge amount of attention from fast fashion retailers as they provide a personalized shopping experience to consumers. With the technological advancements, this branch of artificial intelligence exhibits a tremendous amount of potential in image processing, parsing, classification, and segmentation. To the best of the authors' knowledge, this is the first scholarly article to review the state-of-the-art fashion recommendation systems and the corresponding filtering techniques. In addition, this review also explores various potential models that could be implemented to develop fashion recommendation systems in the future. This paper will help researchers, academics, and practitioners who are interested in machine learning, computer vision, and fashion retailing to understand the characteristics of the different fashion recommendation systems.

Keywords - fashion recommendation system; e-commerce; filtering techniques; algorithmic models; performance

CASE STUDY III

TITLE

Design and implementation of clothing fashion style recommendation system using deep learning

AUTHOR

Muhammad Khalid, Mao Keming, Tariq Hussain: 2021

PROJECT DESCRIPTION

In recent years, the huge amount of information and users of the internet service, it is hard to know quickly and accurately what the user wants. This phenomenon leads to an extremely low utilization of information, also known as the information overload problem. Traditionally, keywords are used to retrieve images, but such methods require a lot of annotations on the image data, which will lead to serious problems such as inconsistent, inaccurate, and incomplete descriptions, and a huge amount of work. To solve this problem, Content Based Information Retrieval (CBIR) has gradually become a research hotspot. CBIR retrieves picture objects based entirely on the content. The content of an image needs to be represented by features that represent its uniqueness. Basically, any picture object can be represented by its specific shapes, colors, and textures. These visual characteristics of the image are used as input conditions for the query system, and a result the system will recommended nearest images and data set. This research designs and implements two-stage deep learning-based model that recommends a clothing fashion style. This model can use deep learning approach to extract various attributes from images with clothes to learn the user's clothing style and preferences. These attributes are provided to the correspondence model to retrieve the contiguous related images for recommendation. Based on data-driven, this thesis uses convolutional neural network as a visual extractor of image objects. This experimental model shows and achieves better results than the ones of the previous schemes.

CASE STUDY IV

TITLE

A Flask based Application for Recommending the Similar Kind of Dresses

AUTHOR

Reshma B Nair, N Susila, Ranjeetha Priya K, Sruthi Anand: 2018

PROJECT DESCRIPTION

The growth of online social networks and the amount of information shared through it are immense in the recent years. It provides information in all fields such as education, sports, fashion, etc and also updates us with all the latest news that is happening around the world. Some of the popular social media sites are Facebook, Twitter, Instagram and it has become a platform for people to easily communicate and share information. Nowadays business people use social media as their means for communication. Fashion industry is one of the businesses which frequently changes and the social media is considered to be as the cheapest and easiest means to communicate. Hence an application is created which obtains the photos of the user from their facebook account and suggests the similar kind of dresses based on their collection of dresses.

Keywords - Dress, social networking, fashion.

CASE STUDY V

TITLE

Image-based fashion recommender systems

AUTHOR

Shaghayegh Shirkhan: 2021

PROJECT DESCRIPTION

Fashion is perceived as a meaningful way of self-expressing that people use for different purposes. Although this massive demand for fashion products provides an excellent opportunity for companies to invest in fashion-related sectors, it also faces different challenges in answering their customer needs. Fashion recommender systems have been introduced to address these needs. This thesis aims to provide deeper insight into the fashion recommender system domain by conducting a comprehensive literature review on more than 100 papers in this field focusing on image-based fashion recommender systems considering computer vision advancements. Justifying fashion domain-specific characteristics, the subtle notions of this domain and their relevancy have been conceptualized. Four main tasks in image-based fashion recommender systems have been recognized, including cloth-item retrievals, Complementary item recommendation, Outfit recommendation, and Capsule wardrobes. An evolvement trajectory of image-based fashion recommender systems concerning computer vision advancements has been illustrated consists of three main eras and the most recent developments. Finally, a comparison between traditional computer vision techniques and deep learning-based has been made. Although the main objective of this literature review was to perform a comprehensive, integrated overview of researches in this field, there is still a need for conducting further studies considering image-based fashion recommender systems from a more practical perspective.