LITERATURE SURVEY

Date	22 September 2022
Team ID	PNT2022TMID22341
Project Name	Smart Fashion Recommender Application

CASE STUDY 1

TITLE

Fashion Recommendation Systems, Models And Methods

AUTHORS

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

PROJECT DESCRIPTION

Recommendation system (RS) is referred to as a decision-making approach for users under a multidimensional information environment . RS has also been defined as an e-commerce tool, which helps consumers search based on knowledge that is related to a consumer's choices and preferences. RS also assists in augmenting social processes by using the recommendations of other users when there is no abundant personal information or knowledge of the alternatives.

There are several Algorithmic Models used in Fashion Recommendation Systems and they are Convolutional Neural Network (CNN), Recurrent Neural Network (RNN), Multilayer Perceptron (MLP), Generative Adversarial Network (GAN), k-Nearest Neighbor (kNN) , Autoencoder (AE) and Bayesian Networks. The study of algorithmic models revealed that researchers achieved better recommendation accuracy when combining multiple algorithms and techniques together rather than using a single algorithm-based baseline model.

CASE STUDY 2

TITLE

Design and Implementation of Clothing Fashion Style Recommendation System using Deep Learning

AUTHORS

Muhammad KHALID , Mao KEMING and Tariq HUSSAIN : 2021

PROJECT DESCRIPTION

The present paper presents the development of a system that recognizes fashion similar images. This can be accomplished by implementing an already existing CNN model with transfer learning for cloth image recognition using different libraries. For this purpose, a plan is created for collecting data and for developing the steps needed for preprocessing and cleaning up the data. Account features like patterns, machine, fabric, style etc are taken. After extensive preprocessing and cleaning of data in a dataset, the model of stacked CNN to predict the features specific to these attributes is constructed and to train the models with the dataset to generate accurate predictions regarding almost all forms of images. A stacked CNN was used and implemented, with the help of this algorithm through which the system can recommend similar images This is the last test to assess if deep learning for style recovery is at a high development and can be utilized in making fashion choices.

CASE STUDY 3

TITLE

Image-based fashion recommender systems

AUTHORS

Shaghayegh Shirkhani : 2021

PROJECT DESCRIPTION

In this Literature review, it is illustrated that a big picture on different research approaches towards fashion recommender systems. The trajectory of studies in fashion recommender systems from the very beginning is introduced. Representing what makes the fashion domain distinguished from other recommender system domains, the sources of complexity in the fashion domain by illustrating how interconnected these concepts are, as a framework that any fashion recommender system can be defined and understood through it are conceptualized. Focusing on image-based fashion recommender systems, a four main tasks are identified in fashion recommender systems, bringing their characteristics to the fore, including cloth-item retrievals, Complementary item recommendation, Outfit recommendation, and Capsule wardrobes. The studies which have been conducted in each category also have been introduced. In addition, the evolvement trajectory of image-based fashion recommender systems are provided , which consists of three main eras, in addition to considerations of the most recent advancements in computer vision and deep learning-based methods. Finally, the DL-based fashion recommender systems based on employing one single neural network or deep hybrid neural networks with highlighting the methods they used and the input are categorized.

CASE STUDY 4

TITLE

Outfit Recommender System

AUTHOR

Nikita Ramesh : 2018

PROJECT DESCRIPTION

Recommending clothes using images has made tremendous progress over the years. Ecommerce websites are hugely benefitted by this. As research in this field continues, more and more interesting methods have come to light. Work once started using text-based methods, turned to visual methods with image processing and use of neural networks, convolutional neural networks and now transfer learning with deep neural networks. Thus, we know that there is a common theme in the recent research carried out in the field of clothing recommendation. This theme is analyzing images, finding out features in the images and classifying pieces of clothing in the image. One can understand that this methodology works for most systems. Also, the existing scenario-based recommendations for clothes do not fully utilize the capability of deep neural networks. This paper has introduced a novel approach to recommending clothes based on events and can be used to give better suggestions to its users. A future work for this paper could be to use the nearest neighbor approach on an online store database instead of the current clothing database to suggest clothes. A user could then directly buy the recommended clothes if he/she wants to.