Ideation Phase

Literature Survey

Date	19 September 2022
Team ID	PNT2022TMID19420
Project Name	Smart Fashion Recommender
Maximum Marks	4 Marks

Case Study 1

A Fashion-Brand Recommender System Using

Brand Association Rules and Features

Authors: Yuka Wakita, Kenta Oku, Hung-Hsuan Huang and Kyoji Kawagoe

Users are finding it more and more challenging to locate their preferred fashion goods among the vast array of options due to the rapid expansion of web businesses selling clothing on the internet. Although there are many fashion brand recommender services accessible to help customers find items to buy, the accuracy is so poor that they must inspect each item of clothing individually. In this article, we suggest a strategy for recommending fashion brands that is based on both the features of fashion and the laws of fashion association. In order to find new brands for a user that are comparable to their favourite labels, the fashion-brand association criteria are applied. As the fashion-brand feature can be used to determine brand similarities, the criteria describe the common occurrences in fashionbrand liking. We also provide a brand-new approach that combines these two approaches. We created a serial hybrid by combining these two approaches. It is demonstrated that, among alternative approaches, including existing services, a combination method yields the highest F-measure.

Case Study 2

Intelligent Fashion Recommender System: Fuzzy Logic in Personalized Garment Design

Authors: L. C. Wang, X. Y. Zeng, Senior Member, IEEE, L. Koehl, and Y. Chen

In order to supply fresh, customised garment items, this article suggests a new intelligent fashion recommender system that will choose the most appropriate garment design scheme for a certain consumer. This technique incorporates emotive fashion themes, human perception of unique body shapes, and knowledge of experienced designers. The corresponding perceptual information is routinely gathered from experts utilising sensory assessment methods. Using fuzzy sets and fuzzy relations, the perceptual data of customers and designers are mathematically codified.Fuzzy decision trees are used to model the intricate relationship between fundamental sensory descriptors provided by designers and measurements of the human body. An empirical model based on learning data recorded and assessed on a collection of representative samples is what the fuzzy decision trees represent. the intricate relationship between fundamental sensory descriptors and clothing Consumer-provided themes are modelled using fuzzy cognitive maps. The two models combined can give the fashion recommender system more detailed information, allowing it to assess if a certain body shape is appropriate for a desired emotional fashion theme and which garment design scheme can enhance the body shape's perception. Through the evaluations of target customers and fashion authorities, the proposed system has been proven in a customised design and mass market selection utilising a technique often utilised in marketing research.

Case Study 3

Scenery-based Fashion Recommendation with Cross-Domain Geneartive Adverserial Networks

Authors: Sang-Young Jo, Sun-Hye Jang, Hee-Eun Cho, and Jin-Woo Jeong

Due to its enormous complexity, developing an efficient fashion suggestion system is still a difficult task.Earlier studies have typically concentrated on how to offer clothing that aesthetically matches the user's current fashion preferences.However, a user's environment (the natural landscape) can also have a significant affective impact when proposing clothing. This paper introduces a novel technique for recommending clothing styles that complement target environments. In order to address this, the database's exemplar images of the target landscape are first gathered.Then, to produce fashion designs from the sceneries, a cross-domain generative adversarial network (GAN) is used. The experimental results show that the suggested system is workable and suggest other research directions.

Case Study 4

Collaborating with Users in Proximity forDecentralized Mobile Recommender Systems

Authors: *Felix Beierle*

The majority of recommender systems, whether they be for movies, music, restaurants, etc., are centralised in nature. The service provider controls all the data, recommender algorithm biases are not obvious to the user, and service providers frequently produce lock-in effects that make switching providers difficult for the user. In this study, we propose that a significant portion of the data used by conventional recommender systems for movies, music, or POIs already resides on the user's smartphone. Data can be transferred directly between users via device-to-device communication because to the widespread use of smartphones and the close proximity of other users in public spaces or on public transit. This enables every smartphone to create its own database and generate personalised recommendations. Among the the advantage of such a system is that it allows for ad hoc group recommendations in addition to recommendations for a single user.Despite the fact that the necessary infrastructure for such a platform already exists—the users' smartphones—there are difficulties with both the mobile recommender system platform and its recommender algorithms. We propose a mobile architecture for the specified system in this work, which includes a recommender system, data interchange, and data collecting. We also emphasise the system's prospects and limitations.

S.No	Title	Proposed Work	Algorithms	Technology	Advantages / Disadvantages
1	A Fashion-Brand Recommender System Using Brand Association Rules and Features	In this paper, we propose a fashion-brand recommendation method based on both the fashion features and the fashion association rules. The fashion-brand association rules are used to select new brands for a user which are similar to user’s favorite ones.	Apriori algorithm	Cloud Application	**Advantages:** finding few the favorite brands so that it’s easier for them to find the favorite clothes quickly. **Disadvantages:** more detailed evaluation is required to

					improve the brands and designs recommendations accuracy more.
2	Intelligent Fashion Recommender System: Fuzzy Logic in Personalized Garment Design	This paper proposes a new intelligent fashion recommender system to select the most relevant garment design scheme for a specific consumer in order to deliver new personalized garment products.	ID3 Algorithm	Cloud Application	**Advantages:** integrates emotional fashion themes and human perception on personalized body shapes and professional designers' knowledge. **Disadvantages:** Measuring the body size and shapes is quite tedious as it varies from each other.
3	Scenery-based Fashion Recommendation with Cross-Domain Geneartive Adverserial Networks	a hierarchical fashion multimedia mining model. Mining and analyzing fashion media on the web, the system recommends fashion items to users based on the user's skin color and clothing color, or a company style (brand).	KNN algorithm	Cloud Application	**Advantages:** Automatically generate fashion items (e.g., clothes, handbags, and shoes) whose affective features (i.e., style) are reflected by target sceneries. **Disadvantages:** further study is needed to generate more variable and harmonious fashion images from the given scenery images.
4	Collaborating with Users in Proximity for Decentralized Mobile Recommender Systems	workaround by broadcasting URLs of cloud storage providers from which the receivers can then download the sender's data.	Recommender algorithms	Cloud Application	**Advantages:** it is not restricted to recommendations for just one user – ad-hoc group recommendations are also possible. **Disadvantages:** 1.Potential attack vectors and the overall security of the system should be investigated. 2. Transmission times in real user scenarios, and battery consumption.
