Smart Fashion Recommender Application

Literature Survey

1.1 Introduction

The recommender system is becoming part of every business. The business tries to increase its revenue by raising the user's interaction by recommending new items based on user preferences. We have witnessed the rise of Netflix in the entertainment domain, using their strategies to implement a recommender system into their existing ecosystem. But there has been a minimal study in the hiring field from the perspective of a job seeker. To start any research, it is quintessential to review relevant work in the domain and technology.

1.2 Related work

Online business has been set up for around at least 30 years (Mirescu & Maiorescu, 2010; Tian & Stewart, 2008). The on-line media has extraordinarily influenced the whole lifestyle worldwide or, at least, 99% of it. Everything started in the late 80's, when the web entered the lives of many individuals around the world. Regardless of the numerous issues it brought about in the mid 2000's, the internet business industry has developed quickly and impacted all sides of employment in the public area. There has been an expanded pace of improvement in the public eye due to internet business (Mirescu & Maiorescu, 2010).

Romanian Journal of Information Technology and Automatic Control, Vol. 31, No. 4, 123-136, 2021 125 http://www.rria.ici.ro Recommendation systems have been described via many researchers in extraordinary ways. Some have described them as supporting systems which assist customers discover data about products for their pastime quicker than if it weren't for them (Park et al., 2011). They can additionally be defined as software programs which help users to decide and predict their wishes by analyzing the consumers' behavior and their shopping records (Jannach & Friedrich, 2013). They can additionally be defined as a statistics filtering techniques that are able to supply guidelines of commercial items for customers (Lee, 2012; Bobadilla et al., 2011). The goal of recommendation systems is not to make money. However, some groups like Amazon have turned this into a money-making commercial enterprise as it helps improving their sales. Building recommendations has also resulted into a robust enterprise as it works with maintaining loyal customers (Claypool et al., 1999). Recommender systems no longer consist only in calculating consumers' similarities to make recommendations, but also in analysing in detail the consumer' s trends and in mining facts (Claypool et al., 1999). Since The adoption and introduction of an improved e-commerce in the last 30 years (Tian & Stewart, 2008; Mirescu & Maiorescu, 2010) has come with many problems which have impacted the operation of the recommendation systems.

These websites encompass many customers and the availability of too much information. Browsing from a webpage to another, shopping online based on many alternatives and a great deal of detail have been a setback for e-commerce. Despite all these problems, humans cannot renounce to use it. The more people use it, the more information is generated. Customers tend to discover it challenging to get access to the required and efficient information (Isinkaye et al., 2015). In order to resolve this problem, e-commerce providers and shops have resorted to the use of recommendation systems. These are intelligent systems that can depend upon a single mouse click or key stroke to study the conduct of costumers and predict what their desires are (Krizhevsky et al., 2017) (Melville & Sindhwani, 2010). Pazzani's method (Pazzani, 1999) makes use of a person's profile as a vector illustration of weighted words derived from positive training example, by employing the Winnow algorithm. Several hybrid technics are considered to be the classification tasks (Pine, 1993, Schafer et al., 1999).

2.1 History and Overview of Recommendation System

The era of recommendation systems originally started in the 1990s based on the wide-spread research progress in Collective Intelligence. During this period, recommendations were generally provided to consumers based on their rating structure [52]. The first con-sumer-focused recommendation system was developed and commercialized by Gold-berg, Nichols, Oki and Terry in 1992. Tapestry, an electronic messaging system was de-veloped to allow users only to rate messages as either a good or bad product and service [53]. However, now there are plenty of methods to obtain information about the con-sumer's liking for a product through the Internet. These data can be retrieved in the forms of voting, tagging, reviewing and the number of likes or dislikes the user provides. It may also include reviews written in blogs, videos uploaded on YouTube or messages about a product. Regardless of communication and presentation, medium preferences are ex-pressed in the form of numerical values [52,54].

2.2 Recommendation System

Recommendation System Recommendation system (RS) is referred to as a decision-making approach for users under a multidimensional information environment [61]. 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 [59]. RS also assists in augmenting social processes by using the recommendations of other users when there is no abundant personal infor-mation or knowledge of the alternatives [52]. RS handles the complication of information overload that consumers usually encounter by offering customized service, exclusive con-tent, and personalized recommendations [57]. There are multiple phases involved in the recommendation system that develop the foundation of any state-of-the-art recommendation system. These are defined as the infor-mation collection phase, the learning phase, and the recommendation phase.

The interrelationship of these phases involved in the recommendation process. It shows that information collection is the initial stage of RS, which is followed by the learning phase and the

recommendation phase. The recommendation provided in the last phase can be gener-ated based on information gathered during the information collection phase.

3.1 Channels of Scholarly Dissemination Related to Fashion Recommendation System (FRS)

Articles published from January 2010 to June 2020 have been considered for the re-view purpose of this article. Various online literature resources or databases such as Sco-pus, Web of Science, Science Direct, and Design and Applied Arts Index (DAAI) have been used to find the literature. Boolean operator techniques i.e., "AND" or "OR" strate-gies were used to search articles from these sources. Keywords grouped in three catego-ries as listed below were used to conduct the final search. Group 1: Fashion OR Style OR Apparel OR Clothing Group 2: Recommend* Group 3: Filtering Technique OR Algorithm OR Model OR Artificial Intelligence OR Neural Network OR Deep Learning OR Meta-Learning OR Fuzzy Techniques OR Model OR Image Processing OR Image Retrieval OR Image Feature extraction.
Informatics 2021, 8, 49 6 of 35 Final Search = Group 1 AND Group 2, Group 1 AND Group 2 AND Group 3 Overall, 230 scholarly articles and 9 web sources have been reviewed. Among these, 214 scholarly articles were found containing the required keywords when using the search strategy mentioned above. Among these, 132 articles are indexed in Scopus, 26 in Web of Science, 3 in Science Direct and 1 in the Design and Applied Arts Index (DAAI) database. In addition, 50 articles and 2 patents were found in Google Scholar, published in different peer-reviewed journals and conferences.