

Fashion Recommendation System and its Impact on Consumers' Purchase Decision Making

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Abstract:

Consumers' fashion preferences are influenced by a range of variables including: demographics, location, personal preferences, social influences, age, gender, season, and culture. Additionally, recent study on fashion recommendation demonstrates that fashion preferences differ not only from one country to another but also from one city to another. Combining fashion preferences with the aforementioned variables related to clothing selections that may help researchers better understand customer preferences by transmitting the picture attributes. As a result, fashion designers and merchants benefit by studying client preferences and suggestions. Additionally, consumers' data gathered from clothing choices and product preference have become available on the Internet in the form of text, opinions, images and pictures. Both online and offline fashion retailers are using these platforms to reach billions of users who are active on the Internet. Therefore, e-commerce has become the predominant channel for shopping in the recent years.. With the development of e-commerce technology, A large number of consumers prefer to buy garments through e-commerce websites. But on the internet, where the large majority of choices have become overwhelming, it is necessary to filter, prioritize, and present pertinent information quickly according to every one's preferences. Recommendation systems (RSs) solve this problem through sifting a significant amount of dynamically created data to offer customers personalized content and suggestions. The suggestions relate to various decision-making processes, such as what items to buy, what music to listen to, or what online news to read. This paper examines the various traits and potentials of the prediction techniques used in Fashion Recommendation systems (FRs).

Keywords :

Recommendation systems (RSs); Fashion recommendation system (FRs); Collaborative filtering (CF); Content-based filtering (CB); Hybrid filtering technique.

References :

- 1- Abdul-Saboor Sheikh, Romain Guigoures, Evgenii Koriagin and 3 others, 2019, "A Deep Learning System for Predicting Size and Fit in Fashion E-Commerce", proceeding of the 13th ACM conference on recommender systems, pp. 110-118, Copenhagen, Denmark.
- 2- AL-Ghuribi, Sumaia, Mohammed a,b and Shahrul Azman Mohd Noah, 2021, (A Comprehensive Overview of Recommender System and Sentiment Analysis).
- 3- Alqaheri, Hameed and Banerjee, Soumya, 2015, (Design and implementation of a policy recommender system towards social innovation: An experience with hybrid machine learning), *Intelligent Data Analysis and Applications VOL. (370)*, Springer International Publishing, p. (237-250).
- 4- BARTOL. Kristijan, Bojanic. David, Petkovic and Pribanic. Tomislav, 2016, (A Review of body measurement using 3D scanning), (VOL. 4) IEEE Access
- 5- Betul Ay, G. Aydin, 2021 " Visual similarity-based fashion recommendation system", *Computer Science Generative Adversarial Networks for Image-to-Image Translation*.
- 6- Chakraborty, Samit, Md. Saiful Hoque, Naimur Rahman Jeem, Manik Chandra Biswas, Deepayan Bardhan, and Edgar Lobaton, 2021, "Fashion Recommendation Systems, Models and Methods: A Review" *Informatics* 8, no. 3: 49.
- 7- Chen, L., Chen, G. & Wang, F., 2015, "Recommender Systems Based on User Reviews: The State of the Art". *User Modeling and User-Adapted Interaction*.
- 8- Congying guan and Shengfeng Qin, 2019, "apparel-based deep learning system design for apparel style recommendation", *international journal of clothing science and technology* vol. 31 no. 3.
- 9- Congying Guan, Shengfeng Qin, Wessie Ling, and Yang Long, 2018 "Enhancing Apparel Data Based on Fashion Theory for Developing a Novel Apparel Style Recommendation System", *School of Design, Northumbria University, Newcastle upon Tyne, UK*.
- 10- Deldjoo, Y., Nazary, F., Ramisa, A., McAuley, J., Pellegrini, G., Bellogín, A., & Noia, T.D, 2022, "A Review of Modern Fashion Recommender Systems." *ArXiv abs/2202.02757*.

- 11- G Mohammed Abdulla and Sumit Borar, 2017, "Size recommendation system for fashion e-commerce", In Workshop on Machine Learning Meets Fashion, KDD.
- 12- Greg Linden, Brent Smith, and Jeremy York, 2003 "Amazon.com recommendations item to item collaborative filtering", Published by the IEEE Computer Society, Internet Computing.
- 13- Jake Frankenfield, 2022, artificial intelligence (AI), <https://www.investopedia.com/terms/a/artificial-intelligence-ai.asp>
- 14- Jia, J. Huang, G. Shen, T. He, Z. Liu, H. Luan, and C. Yan, 2016, Learning to appreciate the aesthetic effects of clothing. In Proc. AAAI Conference on Artificial Intelligence (AAAI). p.p 1216–1222.
- 15- Jianxin WU, 2017, (introduction to convolutional neural networks), LAMDA Group National Key Lab for Novel Software Technology Nanjing University, China.
- 16- Nodari, A. and Ghiringhelli, M. and Zamberletti, A. and Vanetti, M. and Albertini, S. and Gallo, I., 2012, "A mobile visual search application for content-based image retrieval in the fashion domain", 10th International Workshop on Content-Based Multimedia Indexing, IEEE.
- 17- Rajani Chulyadyo, 2016, "A new horizon for the recommendation: Integration of spatial dimensions to aid decision making", PHD thesis, Sciences et technologies de l'information, et mathématiques, université de nantes.
- 18- Ranjbar kermany, Naime & Alizadeh, Sasan, 2017, (A hybrid multi-criteria recommender system using ontology and neuro-fuzzy techniques), Electronic commerce research and applications.
- 19- Robin Burke, Alexander Felfernig, and Mehmet H. Göker, 2011, "Recommender Systems: An Overview", Association for the Advancement of Artificial Intelligence.
- 20- Sun, GL., Cheng, ZQ., Wu, X. et al., 2018, "Personalized clothing recommendation combining user social circle and fashion style consistency" *Multimedia Tools Appl* 77, 17731–17754.
- 21- Phuong, N. A. (2021), "Influence of Recommender System Use on consumer decision making". VAASA: Hanken School of Economics.
- 22- Stankevich, A. (2017). Explaining the Consumer Decision-Making Process: Critical Literature Review. *Journal of International Business Research and*, 7:14.
- 23- <https://3dlook.me/content-hub/size-recommendation-tools/>
- 24- https://dbpedia.org/page/Machine_learning
- 25- <https://encyclopedia.pub/entry/1308>
- 26- <https://mysizeid.com/news/axios-firstlook-smart-mirror-can-guess-your-size/>
- 27- https://www.huffingtonpost.co.uk/entry/asos-size-recommendation_uk_58871c69e4b02085409924c3
- 28- <https://www.ibm.com/cloud/learn/deep-learning>
- 29- <https://www.ibm.com/topics/computer-vision>
- 30- <https://www.theverge.com/2018/3/9/17092834/asos-style-match-visual-search>
- 31- <https://www.iedunote.com/buyer-decision-process>, n.d.

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