MCFR'22: 1st Workshop on Multimedia Computing towards Fashion Recommendation

Xuemeng Song
Shandong University
Qingdao, China
sxmustc@gmail.com

Jingjing Chen
Fudan University
Shanghai, China
chenjingjing@fudan.edu.cn

Federico Becattini
University of Florence
Florence, Italy
federico.becattini@unifi.it

Weili Guan
Monash University
Melbourne, Australia
weili.guan@monash.edu

Yibing Zhan
JD Explore Academy
Beijing, China
zhanyibing@jd.com

Tat-Seng Chua
National University of Singapore
Singapore
chuats@comp.nus.edu.sg

ABSTRACT

With the proliferation of online shopping, fashion recommendation, which aims to provide suitable suggestions to support the consumer's purchase in e-commerce platforms, has gained increasing research attention from both academia and industry. Although existing efforts have achieved great progress, they focus on the visual modality, lacking the exploration of other modalities of items, *e.g.,* , the textual descriptions and attributes of items. Accordingly, this workshop targets calling for a coordinated effort to promote the multimedia computing towards fashion recommendation. This workshop will showcase the innovative methodologies and ideas on new yet challenging research problems, including (not limited to) fashion recommendation, interactive fashion recommendation, interactive garment retrieval, and outfit compatibility modeling.

CCS CONCEPTS

• **Information systems** → **Retrieval tasks and goals**; *World Wide Web.*

KEYWORDS

Fashion Recommendation; Multimedia Computing; Outfit Compatibility Modeling

ACM Reference Format:
Xuemeng Song, Jingjing Chen, Federico Becattini, Weili Guan, Yibing Zhan, and Tat-Seng Chua. 2022. MCFR'22: 1st Workshop on Multimedia Computing towards Fashion Recommendation. In *Proceedings of the 30th ACM International Conference on Multimedia (MM '22), October 10–14, 2022, Lisboa, Portugal.* ACM, New York, NY, USA, 2 pages. https://doi.org/10.1145/3503161.3554765

1 INTRODUCTION

Thanks to the flourishing of e-commerce platforms, people prefer to buy garments online due to its great convenience. Nevertheless, the numerous online fashion garments always get users overwhelmed. Besides, not all people have a good sense of aesthetics and can choose compatible garments to make proper outfits. In light of this, to improve the users' consumption experience and the e-commerce platform's sales, fashion recommendation that aims to provide suitable suggestions to support the consumer's purchase has gained increasing research attention from both academia and industry recently. Existing methods [1–3] focus on exploring the garment's visual modality, *i.e.,* the image, but seldom make full use of the garment's other modalities, like textual description, and semantic attributes. In fact, different modalities could emphasize the different aspects of the same item. For example, the visual modality is more likely to reveal the color and pattern of the item, while the textual modality tends to deliver its material and brand. Meanwhile, the semantic attributes of items could be loose, namely, some attribute labels can be missing. Therefore, it is highly desirable to develop more advanced multimedia computing methodologies to effectively mine the multiple modalities of garments and hence enhance the performance of garment recommendation. The goal of this workshop is to call for a coordinated effort to promote multimedia computing towards fashion recommendation, showcase innovative methodologies and ideas, introduce large scale real systems or applications, as well as propose new real-world datasets and discuss future directions. We solicit manuscripts in all fields that shed light on multimedia computing towards fashion recommendation.

2 SCOPE AND TOPICS

This workshop will offer a timely collection of research updates on multimedia computing towards fashion recommendation. We believe this workshop can benefit the researchers and practitioners working in the broad fields ranging from information retrieval, multimedia to machine learning. To this end, we solicit original research and survey papers addressing the topics listed below (but not limited to):

- Complementary and compatible garment recommendation
- Complementary and compatible garment synthesis
- Outfit composition/generation
- Personalized garment/outfit recommendation
- Interactive garment retrieval
- Fashion-oriented dialogue system
- Outfit try-on analysis
- Explainable garment/outfit recommendation

MM '22, October 10–14, 2022, Lisboa, Portugal

ACM ISBN 978-1-4503-9203-7/22/10.
https://doi.org/10.1145/3503161.3554765

- Efficient garment/outfit recommendation
- Interfaces for garment recommendation systems
- Datasets for garment/outfit recommendation

3 PROGRAM & ORGANIZATION

MCFR is held entirely virtually with half a day. It begins with a brief short introduction by the workshop organizers. Then one invited keynote talk and four talks of accepted papers are given.

3.1 Invited Keynote Speaker

Wen-Huang Cheng received the B.S. and M.S. degrees in computer science and information engineering from National Taiwan University, Taipei, Taiwan (R.O.C.), in 2002 and 2004, respectively, where he received the Ph.D. degree from the Graduate Institute of Networking and Multimedia in 2008. He is a Distinguished Professor with the Institute of Electronics, National Yang Ming Chiao Tung University (NYCU), Hsinchu, Taiwan, where he is the Founding Director with the Artificial Intelligence and Multimedia Laboratory (AIMMLab). Before joining NYCU, he led the Multimedia Computing Research Group at the Research Center for Information Technology Innovation (CITI), Academia Sinica, Taipei, Taiwan, from 2010 to 2018. His research interest includes multimedia, artificial intelligence, computer vision, machine learning, social media, and financial technology.

3.2 Organizers

Xuemeng Song is currently an Associate Professor with Shandong University, China. She received the B.E. degree from the University of Science and Technology of China, in 2012, and the Ph.D. degree from the National University of Singapore, in 2016. She has published more than 50 papers in the top venues (e.g., IEEE TIP, IEEE TMM, ACM SIGIR, ACM MM, and ACM TOIS) and 3 books. Her research interests include information retrieval and multimedia analysis. She is an editorial board member of the Information Processing & Management. She is also the program committee member of several top conferences (e.g., ACM SIGIR and MM), and reviewers for top journals (e.g., IEEE TMM, IEEE TIP, and IEEE TKDE). She won the AI 2000 Most Influential Scholar Award Honorable Mention (in the field of Multimedia) by AMiner in 2022.

Jingjing Chen is now an associate professor at the School of Computer Science, Fudan University. Before that, she was a postdoc research fellow at the School of Computing in National University of Singapore, working with Prof. Tat-Seng Chua. She received her Ph.D. degree in Computer Science from City University of Hong Kong in July 2018, supervised by Prof. Chong-Wah Ngo. Her research interest lies in the areas of robust AI, multimedia content analysis, and deep learning. Dr. Chen won Best Student Paper Awards in ACM Multimedia 2016 and Multimedia Modeling 2017. In 2020, she was selected to the Shanghai Pujiang Talent Program.

Federico Becattini is a Postdoctoral Researcher and Adjunct Professor at the University of Florence. His research interests mostly focus on Autonomous Driving, Human Behavior understanding and Fashion Recommendation, also working with international academic and industrial partners. He has co-authored more than 20 scientific papers in journals and international conferences. He also serves as reviewer for top-tier conferences and journals in multimedia and computer vision. Recently, he has also co-organized the workshop "Facial and Body Expressions" at ICPR2020 and "Towards a Complete Analysis of People: From Face and Body to Clothes (T-CAP)". at ICIAP2022.

Weili Guan received the master degree from National University of Singapore. After that, she joined Hewlett Packard Enterprise in Singapore as a Software Engineer and worked there for around five years. She is currently a PhD student with the Faculty of Information Technology, Monash University (Clayton Campus), Australia. Her research interests are multimedia computing and information retrieval. She has published more than 20 papers at the first-tier conferences and journals, like ACM MM, SIGIR, and IEEE TIP.

Yibing Zhan obtained his bachelor's degree and doctor's degree from the information science and technology school at the University of Science and Technology of China in 2012 and 2018. After graduating with a doctor's degree, from 2018 to 2020, Yibing Zhan served as an associate researcher in the school of computer science of Hangzhou Dianzi University. Now, Yibing Zhan works in the JD Explore Academy as an algorithm scientist and head of graph neural networks. He mainly explores graph models and multimodal learning tasks, such as cross-modal retrieval, scene graph generation, and graph neural networks. He has published many scientific papers in top conferences and journals, including CVPR, ACM mm, AAAI, IJCV, and IEEE TMM.

Tat-Seng Chua is the KITHCT Chair Professor at the School of Computing, National University of Singapore. He was the Founding Dean of the School from 1998-2000. His main research interest is in multimedia information retrieval and social media analytics. In particular, his research focuses on the extraction, retrieval and question-answering of text, video and live media arising from the Web and social networks. He is also the Director of a joint research Center between NUS and Tsinghua (NExT) to research into big unstructured multi-source multimodal data analytics. He was the recipient of ACM SIGMM Technical Achievement Award 2015. He has also organized and served as program committee member of numerous international conferences in the areas of computer graphics, multimedia and text processing. Amongst others, he is the chair of the steering committee of ACM ICMR and Multimedia Modeling conference series.

4 ACKNOWLEDGMENTS

This work is supported by the Major Science and Technology Innovation 2030 "New Generation Artificial Intelligence" key project (No. 2021ZD0111700), the National Natural Science Foundation of China, No. 62002090, as well as the European Commission under European Horizon 2020 Programme, grant number 951911 - AI4Media.

REFERENCES

[1] Xingchen Li, Xiang Wang, Xiangnan He, Long Chen, Jun Xiao, and Tat-Seng Chua. 2020. Hierarchical Fashion Graph Network for Personalized Outfit Recommendation. In *SIGIR*. ACM, 159–168.
[2] Yusan Lin, Maryam Moosaei, and Hao Yang. 2020. OutfitNet: Fashion Outfit Recommendation with Attention-Based Multiple Instance Learning. In *WWW*. ACM, 77–87.
[3] Tianyu Su, Xuemeng Song, Na Zheng, Weili Guan, Yan Li, and Liqiang Nie. 2021. Complementary Factorization towards Outfit Compatibility Modeling. In *MM*. ACM, 4073–4081.