

# Wanling CAI

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Kowloon Tong, Kowloon, Hong Kong

## EDUCATION

### Hong Kong Baptist University (HKBU)

Ph.D. Student in Department of Computer Science

Hong Kong, China

September 2018 - Present (Expected in August 2022)

### Shenzhen University (SZU)

B.Eng.(Hons) in Software Engineering at College of Computer Science and Software Engineering

Shenzhen, Guangdong, China

October 2014 - June 2018

## RESEARCH INTERESTS

- Human-Centered AI, Conversational Agents, Recommender Systems, Human-Computer Interaction, Health and Well-Being

## RESEARCH EXPERIENCE

### HCI-RecSys Research Group in Department of Computer Science, HKBU

Ph.D. Candidate (Supervisor: Dr. Li CHEN)

Hong Kong, China

September 2018 - Present

- Research focus: Human-centered design and evaluation of conversational recommender systems
  - \* Investigated how user express their feedback on the recommendation in natural language based on grounded theory. (RecSys 2019 LBR)
  - \* Developed a dedicated intent and satisfaction prediction model in the dialogue-based conversational recommender system using various machine learning methods. (UMAP 2020)
  - \* Investigated how users' personal characteristics influence users' interaction behaviour as well as the perception of the critiquing-based music recommender system with conversational interaction. (CIKM 2019)
  - \* Did a collaborative survey on conversational recommender system, mainly responsible for the section of computational task. (CSUR 2021)
  - \* Designed two kinds of system-suggested critiquing technique: progressive system-suggested critiquing and cascading system-suggested critiquing for facilitating users' exploration of music. (IUI 2021)
  - \* Investigated the effect of task type and critiquing techniques on user perception of and interaction with critiquing-based recommendation chatbots with two task-oriented user studies. (IEEE THMS 2022)
  - \* Investigated how the three types of factors (user-related, system-related, and context-related) influence user trust toward conversational recommender systems. (CHI 2022)

### Big Data Institute at College of Computer Science and Software Engineering, SZU

Research Assistant (Advisor: Dr. Weike PAN, Co-Advisor: Dr. Haiqin YANG)

Shenzhen, Guangdong, China

July 2016 - June 2018

- Research focus: Transfer learning for recommendations

## PUBLICATIONS

- Li Chen, **Wanling Cai**, Dongning Yan and Shlomo Berkovsky. Eye-Tracking based Personality Prediction on Recommendation Interfaces. *User Modeling and User-Adapted Interaction (UMUAI)*, 2022. (Accepted)
- **Wanling Cai**, Yucheng Jin and Li Chen. Impacts of Personal Characteristics on User Trust in Conversational Recommender Systems In: *Proceedings of the 40th ACM Conference on Human Factors in Computing Systems (CHI' 22)*. [**Honourable Mention**]
- **Wanling Cai**, Yucheng Jin and Li Chen. Task-oriented User Evaluation on Critiquing-based Recommendation Chatbots. *IEEE Transactions On Human-Machine Systems (THMS)*, pages 1-13, 2022. (Early Access)
- Yucheng Jin, Li Chen, **Wanling Cai** and Pearl Pu. Key Qualities of Conversational Recommender Systems: From Users Perspective. In: *Proceedings of the 9th International Conference on Human-Agent Interaction (HAI' 21)*, Virtual Event, Japan, November 9-11, 2021.
- **Wanling Cai**, Yucheng Jin and Li Chen. Critiquing for Music Exploration in Conversational Recommender Systems. In: *Proceedings of 26th ACM Conference on Intelligent User Interface (IUI' 21)*, College Station, TX, USA, April 14-17, 2021.
- Jannach, Dietmar, Ahtsham Manzoor, **Wanling Cai**, and Li Chen. A Survey on Conversational Recommender Systems. *ACM Computing Surveys (CSUR)*, 54(5), pages 1-36, 2021.

- **Wanling Cai** and Li Chen. Predicting User Intents and Satisfaction with Dialogue-based Conversational Recommendations. In: *Proceedings of 28th ACM Conference on User Modeling, Adaptation and Personalization (UMAP' 20)*, Genoa, Italy, July 14-17, 2020. [**Best Student Paper Award**]
- **Wanling Cai** and Li Chen. Towards a Taxonomy of User Feedback Intents for Conversational Recommendations. In: *Proceedings of 13th ACM Conference on Recommender Systems (RecSys' 19), Late-Breaking Results*, Copenhagen, Denmark, September 16-20, 2019.
- Yucheng Jin, **Wanling Cai**, Li Chen, Nyi Nyi Htun, and Katrien Verbert. MusicBot: Evaluating Critiquing-based Music Recommenders with Conversational Interaction. In: *Proceedings of 28th ACM International Conference on Information and Knowledge Management (CIKM' 19)*, Beijing, China, November 3-7, 2019. (Acceptance rate: 19.4%)
- **Wanling Cai**, Jiongbao Zheng, Weike Pan, Jing Lin, Lin Li, Li Chen, Xiaogang Peng, and Zhong Ming. Neighborhood-Enhanced Transfer Learning for One-Class Collaborative Filtering. *Neurocomputing* (0925-2312), vol. 341, pages 80-87, 2019.
- Weike Pan, Qiang Yang, **Wanling Cai**, Yaofeng Chen, Qing Zhang, Xiaogang Peng and Zhong Ming. Transfer to Rank for Heterogeneous One-Class Collaborative Filtering. *ACM Transactions on Information Systems (TOIS)* (1046-8188), 37(1):10:1-10:20, January 2019.
- Jixiong Liu, Jiakun Shi, **Wanling Cai**, Bo Liu, Weike Pan, Qiang Yang and Zhong Ming. Transfer Learning from APP Domain to News Domain for Dual Cold-Start Recommendation (Short Paper). In: *Proceedings of the 1st Workshop on Intelligent Recommender Systems by Knowledge Transfer & Learning (RecSysKTL 2017) co-located with the 11th ACM Conference on Recommender Systems (RecSys' 17)*, Como, Italy, August 27-31, 2017.

## INTERNSHIP

### Tencent Holdings Limited

Algorithm Intern (Machine Learning), Mobile Internet Group

Shenzhen, Guangdong, China

March 2018 - May 2018

### Suishou Technology Co., Ltd, Feidee

Intern, Kai Niu Business Group

Shenzhen, Guangdong, China

May 2017 - June 2017

## PROFESSIONAL SERVICES

- Conference Organization
  - Publicity Co-Chair of The 20th International Conference on Mobile and Ubiquitous Multimedia (MUM' 21)
- Conference Reviewer
  - 16th ACM Recommender Systems Conference (RecSys' 22), 2022 (Program Committee)
  - 20th International Conference on Mobile and Ubiquitous Multimedia (MUM' 21), 2021 (Program Committee)
  - The Web Conference (WWW), 2019, (External Reviewer)
- Invited Journal Reviewer
  - ACM Transactions on Interactive Intelligent Systems (TIIS), 2021
  - Journal of Intelligent Information Systems (JIIS), 2021
  - Frontier in Artificial Intelligence, 2021
  - Neurocomputing (NEUCOM), 2020
  - Knowledge-Based Systems (KBS), 2018 & 2020 & 2021
- Invited Talk
  - "Personal Experience in Academic Writing and Presentation", COMP7160 Research Methods at Department of Computer Science, Hong Kong Baptist University, Hong Kong, P.R. China, November 2, 2021.
  - "Design and Evaluation of Conversational Agent", Department of Journalism, Hong Kong Baptist University, Hong Kong, P.R. China, April 21, 2021.
  - "Conversational Agents: Introduction, Design and Evaluation", Department of Journalism, Hong Kong Baptist University, P.R. Hong Kong, China, April 2, 2020
- Book Review
  - Review of book chapter translation: Marco de Gemmis, Pasquale Lops, Cataldo Musto, Fedelucio Narducci, and Giovanni Semeraro. Semantics-Aware Content-Based Recommender Systems. *Chapter 4 of Recommender Systems Handbook (Second Edition)*, Springer, 2015.
  - Review of book chapter translation: Gediminas Adomavicius and YoungOk Kwon. Multi-Criteria Recommender Systems. *Chapter 25 of Recommender Systems Handbook (Second Edition)*, Springer, 2015.

## ACADEMIC HONORS AND AWARDS (SINCE 2018-06)

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- Computer Science Department RPg Performance Award, HKBU-COMP, 2021
- Best Presentation Award, The 24rd Research Postgraduate Symposium (PG Day), HKBU-COMP, 2021
- Computer Science Department RPg Performance Award, HKBU-COMP, 2020
- Best Presentation Award, The 23rd Research Postgraduate Symposium (PG Day), HKBU-COMP, 2020
- The James Chen Best Student Paper Award in ACM UMAP 2020
- Excellent Teaching Assistant Performance Award, HKBU-COMP, 2019 & 2020 & 2021 & 2022
- Teaching Assistant Performance Award, HKBU-COMP, 2020 & 2021
- "Outstanding Graduate" in Shenzhen University, China, 2018

## SKILLS

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- **Languages:** Mandarin (native), English (fluent)
- **Research methods:** User experience (UX) research (e.g., survey, interview), thematic analysis (MAXQDA), statistical analysis (e.g., ANOVA, SEM), machine learning methods (e.g., LR, SVM, XGBoost, CNN)
- **Programming language:** Python (Scikit-Learn, NLTK, Gensim, Numpy, Pandas, PyTorch), R, Java, Javascript, Matlab (ordered by proficiency)
- **Platform and tools:** LaTeX, DialogFlow, MongoDB, Jupyter Notebook

## REFERENCES

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- Dr. Li Chen, Associate Professor, Department of Computer Science, Hong Kong Baptist University  
Email: [lichen@comp.hkbu.edu.hk](mailto:lichen@comp.hkbu.edu.hk)  
Homepage: <http://www.comp.hkbu.edu.hk/~lichen>
- Dr. Yucheng Jin, Research Assistant Professor, Department of Computer Science, Hong Kong Baptist University  
Email: <https://www.comp.hkbu.edu.hk/~yuchengjin/>  
Homepage: <http://www.comp.hkbu.edu.hk/~lichen>
- Dr. Weike Pan, Associate Professor, College of Computer Science and Software Engineering, Shenzhen University  
Email: [panweike@szu.edu.cn](mailto:panweike@szu.edu.cn)  
Homepage: <https://csse.szu.edu.cn/staff/panwk/>

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