

Research Interests

Explainable Recommendation, Recommender Systems, Large Language Models, Natural Language Processing

Education

Ph.D. of Computer Science

Hong Kong Baptist University (HKBU)

Advisor: [Prof. Li Chen](#), Mentors: [Dr. Yongfeng Zhang](#) & [Dr. Ruihai Dong](#)

August 2017 – July 2022

Thesis: *Natural Language Explanation for Recommendations and Beyond*

Studied recurrent neural networks (RNN), Transformer, large language models (LLM) for natural language explanation generation for recommender systems, and published 3 papers at CIKM'20, ACL'21 and TOIS

Major research outcome integrated into a small eco-system [NLG4RS](#) for recommender systems-based natural language generation, which includes benchmark datasets, evaluation metrics and representative models

B.Eng. of Computer Science & B.Sc. of Mathematics

Shenzhen University (SZU)

Advisor: [Prof. Weike Pan](#)

September 2013 – June 2017

Research on recommendation algorithms, especially collaborative filtering and matrix factorization

Experience

Hong Kong Baptist University

August 2022 – Present

Post-doctoral Research Fellow Advisor: [Prof. Li Chen](#), Mentor: [Dr. Yongfeng Zhang](#)

Hong Kong, China

- Supported by Hong Kong Research Grants Council (RGC)
- Research on large language models (LLM)-based recommendation
- Published a survey at COLING'24, where how LLM would shape recommender systems from multi-stage filtering to single-stage filtering is discussed

Rutgers University

February 2023 – June 2023

Visiting Researcher Advisor: [Dr. Yongfeng Zhang](#)

New Brunswick, USA

- Published 1 paper about efficient LLM-based recommendation at CIKM'23

Inspir.ai

June 2019 – August 2019

Intern Mentor: [Dr. Peng Peng](#)

Beijing, China

- Research on explaining the decision-making process of reinforcement learning (RL) agents
- Visualization of the replay data of the computer game StarCraft II

Hong Kong Baptist University

March 2017 – June 2017

Research Exchange Student Advisor: [Prof. Li Chen](#)

Hong Kong, China

- Research on personality for recommender systems

Suishou Technology

August 2016 – November 2016

Intern Advisor: [Prof. Weike Pan](#)

Shenzhen, China

- Utilized machine learning tools (such as Liblinear and XGBoost) to mine potential customers for personalized advertising
- Increased the company's sales of financial products by 4 times during an online test

Selected Publication

- Large Language Models for Generative Recommendation: A Survey and Visionary Discussions
Lei Li, Yongfeng Zhang, Dugang Liu, Li Chen
COLING'24: The 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation, pages *-*, Turin, Italy, May 20–25, 2024
- Prompt Distillation for Efficient LLM-based Recommendation
Lei Li, Yongfeng Zhang, Li Chen
CIKM'23: Proceedings of the 32nd ACM International Conference on Information and Knowledge Management, pages 1348-1357, Birmingham, United Kingdom, October 21–25, 2023
- Personalized Prompt Learning for Explainable Recommendation
Lei Li, Yongfeng Zhang, Li Chen
TOIS: ACM Transactions on Information Systems, volume 41 (4), article 103, pages 1-26, March 2023
- On the Relationship between Explanation and Recommendation: Learning to Rank Explanations for Improved Performance
Lei Li, Yongfeng Zhang, Li Chen
TIST: ACM Transactions on Intelligent Systems and Technology, volume 14 (2), article 21, pages 1-24, February 2023
- Augmenting Legal Judgment Prediction with Contrastive Case Relations
Dugang Liu, Weihao Du, **Lei Li**, Weike Pan, Zhong Ming
COLING'22: Proceedings of the 29th International Conference on Computational Linguistics, pages 2658-2667, Gyeongju, Republic of Korea, October 12–17, 2022
- Improving Personalized Explanation Generation through Visualization
Shijie Geng, Zuohui Fu, Yingqiang Ge, **Lei Li**, Gerard de Melo, Yongfeng Zhang
ACL'22: Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics, pages 244-255, Dublin, Ireland, May 22–27, 2022
- Personalized Transformer for Explainable Recommendation
Lei Li, Yongfeng Zhang, Li Chen
ACL'21 (oral): Proceedings of the 59th Annual Meeting of the Association for Computational Linguistics and the 11th International Joint Conference on Natural Language Processing, pages 4947-4957, Online, Thailand, August 1–6, 2021
- EXTRA: Explanation Ranking Datasets for Explainable Recommendation
Lei Li, Yongfeng Zhang, Li Chen
SIGIR'21: Proceedings of the 44th International ACM SIGIR Conference on Research and Development in Information Retrieval, pages 2463-2469, Virtual Event, Canada, July 11–15, 2021
- Generate Neural Template Explanations for Recommendation
Lei Li, Yongfeng Zhang, Li Chen
CIKM'20: Proceedings of the 29th ACM International Conference on Information & Knowledge Management, pages 755-764, Virtual Event, Ireland, October 19–23, 2020

Research Proposal

- Causal Inference for Natural Language Processing in Recommender Systems
Awarded RGC Postdoctoral Fellowship Scheme (PDFS) in 2022
- Research on Generating Explainable Serendipity-Oriented Recommendations based on Knowledge Graph
Partly involved Principal Investigator: [Prof. Li Chen](#)
Funded by General Research Fund (GRF) in 2020

- Engaging the Audience with AI-powered News Chatbot
Partly involved Principal Investigator: [Prof. Li Chen](#)
Funded by HKBU IRCMS Project in 2019

Talk & Tutorial

Large Language Models for Recommendation

September 2023

Tutorial at RecSys'23

Singapore

Attracted hundreds of audience

Generating Recommendation Explanations with Transformer and Pre-trained Model

April 2023

COMP4135 & COMP7240 Recommender Systems

Hong Kong Baptist University (Online)

Generating Recommendation Explanations with Transformer and Pre-trained Model

March 2023

Data Science Lab

Korea Advanced Institute of Science & Technology (Online)

Improving Personalized Explanation Generation through Visualization

December 2022

Department of Computer Science

University of Luxembourg (Online)

How to Come up with Ideas and Do Research: Experience Sharing

October 2021

COMP7160 Research Methods in Computer Science

Hong Kong Baptist University

Academic Services

- **Guest Editor:** ACM Transactions on Recommender Systems (TORS) special issue on “Large Language Models for Recommender Systems”, 2023
- **Topic Coordinator:** Frontiers in Big Data special issue on “Natural Language Processing for Recommender Systems”, 2023
- **Session Chair:** CIKM'23 (Recommendation 9), WWW'23 (Multi-behavior Recommendation & Self-supervised Learning)
- **Program Committee Member:** WWW'23, RecSys'22
- **Invited Reviewer:**
 - IEEE Transactions on Knowledge and Data Engineering (TKDE), 2023, 2024
 - ACM Transactions on Information Systems (TOIS), 2020, 2022, 2024
 - ACM Transactions on Recommender Systems (TORS), 2023
 - IEEE Transactions on Big Data (TBD), 2022
 - ACM Transactions on Interactive Intelligent Systems (TiiS), 2021
 - Neurocomputing (NEUCOM), 2018
 - Knowledge-based Systems (KNOSYS), 2018
 - Journal of Intelligent Information Systems (JIIS), 2021
- **External Reviewer:** SIGIR'21, WWW'21, WWW'19
- **Student Volunteer:** EMNLP'19

Awards & Honors

RGC Postdoctoral Fellowship Scheme	Hong Kong RGC	<i>August 2022 – Present</i>
RPg Performance Award	HKBU	<i>September 2021</i>
Research Postgraduate Studentship	HKBU	<i>August 2017 – August 2021</i>
Student Travel Grant (Virtual)	SIGIR’21	<i>July 2021</i>
Research Excellence Award	PG Day, HKBU	<i>June 2021</i>
Student Travel Grant (Virtual)	CIKM’20	<i>October 2020</i>
Best Presentation Award	PG Day, HKBU	<i>June 2020</i>
Excellent Teaching Assistant Performance Award	HKBU	<i>June 2018, 2019, 2020</i>
Teaching Assistant Performance Award	HKBU	<i>February 2020</i>
Outstanding Graduate	SZU	<i>June 2017</i>

Technical Skill

Programming Language	Python, Java, Matlab, C++ (ordered by proficiency)
Platform and Tool	PyTorch, TensorFlow, Scikit-learn, MongoDB, Django, XGBoost, Liblinear

Language

Mandarin	Native
English	Working proficiency
Cantonese	Elementary

Last update: February 20, 2024