

## Research Interests

Explainable Recommendation, Conversational Recommender Systems, Trip Planning, Large Language Models

## 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

## Experiences

### 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 Publications

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- Large Language Models for Generative Recommendation: A Survey and Visionary Discussions  
**Lei Li**, Yongfeng Zhang, Dugang Liu, Li Chen  
**COLING'24**: Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation, pages 10146-10159, 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
- 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
- Towards Controllable Explanation Generation for Recommender Systems via Neural Template  
**Lei Li**, Li Chen, Yongfeng Zhang  
**WWW'20 Demo**: Companion Proceedings of the Web Conference 2020, pages 198-202, Taipei, Taiwan, April 20–24, 2020

## Research Proposals

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- 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

## Talks & Tutorial

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<b>Large Language Models for Generative Recommendation</b>	April 2024
ConsumerBG AI Workshop Hong Kong	Huawei Hong Kong Research Center
<b>Large Language Models for Generative Recommendation</b>	April 2024
Huawei Computing Youth Forum	Hangzhou
<b>Large Language Models for Recommendation</b>	September 2023
Tutorial at RecSys'23	Singapore
Attracted hundreds of audience	
<b>Generating Recommendation Explanations with Transformer and Pre-trained Model</b>	March 2023
Data Science Lab	Korea Advanced Institute of Science & Technology (Online)
<b>Improving Personalized Explanation Generation through Visualization</b>	December 2022
Department of Computer Science	University of Luxembourg (Online)
<b>How to Come up with Ideas and Do Research: Experience Sharing</b>	October 2021
COMP7160 Research Methods in Computer Science	Hong Kong Baptist University

## Academic Services

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- **Guest Editor:** ACM Transactions on Recommender Systems (TORS) special issue on “Large Language Models for Recommender Systems”, 2023
- **Workshop Organizer:** “EARL: Workshop on Evaluating and Applying Recommendation Systems with Large Language Models”. RecSys'24
- **Session Chair:** CIKM'23 (Recommendation 9), WWW'23 (Multi-behavior Recommendation & Self-supervised Learning)
- **Program Committee Member:** RecSys'24, 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
  - International Journal of Human-Computer Studies (IJHCS), 2024
  - ACM Transactions on Interactive Intelligent Systems (TiiS), 2021
  - Neurocomputing (NEUCOM), 2018, 2024
  - Knowledge-based Systems (KNOSYS), 2018
  - Journal of Intelligent Information Systems (JIIS), 2021
- **External Reviewer:** CIKM'24, SIGIR'21, WWW'21, WWW'19
- **Student Volunteer:** EMNLP'19

## Awards & Honors

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

### *Technical Skills*

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

### *Languages*

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<b>Mandarin</b>	Native
<b>English</b>	Working proficiency
<b>Cantonese</b>	Elementary

Last update: August 17, 2024