

# LEI LI 李磊

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## 🔗 RESEARCH INTERESTS

Explainable Recommendation, Recommender Systems, Natural Language Processing, Bias & Fairness

## 🎓 EDUCATION

**Hong Kong Baptist University (HKBU)**, Hong Kong, China Aug. 2017 – Jul. 2022

*Ph.D.* in Computer Science

Thesis: *Natural Language Explanation for Recommendations and Beyond*

**Shenzhen University (SZU)**, Shenzhen, China Sep. 2013 – Jun. 2017

*B.Eng.* in Computer Science & *B.Sc.* in Mathematics

## 👥 EXPERIENCES

**Department of Computer Science (CSD), HKBU**, Hong Kong, China Aug. 2022 – Present

*Post-doctoral Research Fellow* Advisor: Dr. Li Chen, Mentor: Dr. Yongfeng Zhang

- Research on pre-trained language models as recommender systems

**Department of Computer Science, HKBU**, Hong Kong, China Aug. 2017 – Jul. 2022

*Ph.D. Student* Advisor: Dr. Li Chen, Mentors: Dr. Yongfeng Zhang & Dr. Ruihai Dong

- Research on explainable recommendation

- *Output*:

- Submitted 1 paper on *Natural Language Explanation Generation* to TOIS
- Published 1 co-author paper on *Unexpected Recommendation* at WISE'22 Short
- Published 1 co-author paper on *Legal Judgment Prediction* at COLING'22
- Published 1 co-author paper on *Visual Explanation Generation* at ACL'22
- Published 1 co-author paper on *User Survey on Explanation* at Frontiers in Big Data
- Published 2 papers on *Explanation Ranking* at SIGIR'21 Resource & TIST
- Published 3 papers on *Natural Language Explanation Generation* at WWW'20 Demo & CIKM'20 & ACL'21
- Published 1 paper on *Context-aware Explanation* at JIIS
- Published 1 paper on *Context-aware Recommendation* at ICDE'19 Workshop

**Inspir.ai**, Beijing, China Jun. 2019 – Aug. 2019

*Intern* Mentor: Dr. Peng Peng

- Research on explaining the decision-making process of reinforcement learning (RL) agents

- Visualization of the replay data of a computer game StarCraft II

**Big Data Institute, SZU**, Shenzhen, China Jul. 2016 – Aug. 2017

*Undergraduate Research Assistant* Advisor: Dr. Weike Pan

- Research on recommendation algorithms, especially collaborative filtering and matrix factorization

- *Output*: published one paper on *Recommendation Algorithm* at ICWS'18

**Department of Computer Science, HKBU**, Hong Kong, China Mar. 2017 – Jun. 2017

*Research Exchange Student* Advisor: Dr. Li Chen

- Research on personality for recommender systems

Intern Advisor: Dr. Weike Pan

- Utilize machine learning tools (Liblinear and XGBoost) to mine potential customers for personalized advertising
- *Output*: increased the company's revenue on financial products by 4 times

## PUBLICATIONS

- **Lei Li**, Yongfeng Zhang, Li Chen. Personalized Prompt Learning for Explainable Recommendation. ACM Transactions on Information Systems (**TOIS**), volume \* (\*), article \*, pages \*-\*, 2022. [*minor revision*]
- **Lei Li**, Yongfeng Zhang, Li Chen. On the Relationship between Explanation and Recommendation: Learning to Rank Explanations for Improved Performance. ACM Transactions on Intelligent Systems and Technology (**TIST**), volume \* (\*), article \*, pages \*-\*, 2022.
- Yongxin Ni, Ningxia Wang<sup>✉</sup>, Li Chen, Rui Chen, **Lei Li**. TUR: Utilizing Temporal Information to Make Unexpected E-commerce Recommendations. 23rd International Conference on Web Information Systems Engineering (**WISE'22 Short**), pages \*-\*, Biarritz, France, October 31–November 3, 2022.
- Dugang Liu, Weihao Du, **Lei Li**, Weike Pan<sup>✉</sup>, Zhong Ming<sup>✉</sup>. Augmenting Legal Judgment Prediction with Contrastive Case Relations. Proceedings of the 29th International Conference on Computational Linguistics (**COLING'22**), pages 2658-2667, Gyeongju, Republic of Korea, October 12–17, 2022.
- Shijie Geng, Zuohui Fu, Yingqiang Ge, **Lei Li**, Gerard de Melo, Yongfeng Zhang. Improving Personalized Explanation Generation through Visualization. Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics (**ACL'22**), pages 244-255, Dublin, Ireland, May 22–27, 2022.
- Zhirun Zhang<sup>✉</sup>, Li Chen, Tonglin Jiang<sup>✉</sup>, Yutong Li, **Lei Li**. Effects of Feature-based Explanation and Its Output Modality on User Satisfaction with Service Recommender Systems. Frontiers in Big Data, volume 5, article 897381, pages 1-17, May 2022.
- **Lei Li**, Yongfeng Zhang, Li Chen. Personalized Transformer for Explainable Recommendation. Proceedings of the 59th Annual Meeting of the Association for Computational Linguistics (**ACL'21**), pages 4947-4957, Online, Thailand, August 1–6, 2021. (**oral paper**)
- **Lei Li**, Li Chen, Ruihai Dong. CAESAR: Context-Aware Explanation based on Supervised Attention for Service Recommendations. Journal of Intelligent Information Systems (**JIS**), volume 57 (1), pages 147-170, August 2021.
- **Lei Li**, Yongfeng Zhang, Li Chen. EXTRA: Explanation Ranking Datasets for Explainable Recommendation. Proceedings of the 44th International ACM SIGIR Conference on Research and Development in Information Retrieval (**SIGIR'21 Resource**), pages 2463-2469, Virtual Event, Canada, July 11–15, 2021.
- **Lei Li**, Yongfeng Zhang, Li Chen. Generate Neural Template Explanations for Recommendation. Proceedings of the 29th ACM International Conference on Information & Knowledge Management (**CIKM'20**), pages 755-764, Virtual Event, Ireland, October 19–23, 2020.
- **Lei Li**, Li Chen, Yongfeng Zhang. Towards Controllable Explanation Generation for Recommender Systems via Neural Template. Companion Proceedings of the Web Conference 2020 (**WWW'20 Demo**), pages 198-202, Taipei, Taiwan, April 20–24, 2020.
- **Lei Li**, Ruihai Dong, Li Chen. Context-aware Co-Attention Neural Network for Service Recommendations. 2019 IEEE 35th International Conference on Data Engineering Workshops (**ICDE'19 Workshop**), pages 201-208, Macao, China, April 8–12, 2019.
- **Lei Li**, Weike Pan<sup>✉</sup>, Li Chen, Zhong Ming<sup>✉</sup>. RLT: Residual-Loop Training in Collaborative Filtering for Combining Factorization and Global-Local Neighborhood. 25th International Conference on Web Services (**ICWS'18**), pages 326-336, Seattle, USA, June 25–30, 2018.

✉ denotes corresponding author.

## PROPOSAL WRITING (OR PARTLY)

- 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
  - Principal Investigator: Dr. Li Chen
  - Funded by General Research Fund (GRF) in 2020

- Engaging the Audience with AI-powered News Chatbot
  - Principal Investigator: Dr. Li Chen
  - Funded by HKBU IRCMS Project in 2019

## ACADEMIC SERVICES

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- *Topic Coordinator*: Frontiers in Big Data special issue “Natural Language Processing for Recommender Systems”
- *Program Committee Member*: WWW’23, RecSys’22, SocInfo’22, SAC’22 & SAC’21 RS Track
- *Reviewer*:
  - ACM Transactions on Information Systems (TOIS)
  - ACM Transactions on Interactive Intelligent Systems (TiiS)
  - IEEE Transactions on Big Data (TBD)
  - Neurocomputing (NEUCOM)
  - Knowledge-based Systems (KNOSYS)
  - Journal of Intelligent Information Systems (JIIS)
  - Frontiers in Big Data
- *External Reviewer*: SIGIR’21, WWW’21, WWW’19, ImpactRS’20, CARS’19
- *Student Volunteer*: EMNLP’19

## AWARDS & HONORS

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| • <i>RGC Postdoctoral Fellowship Scheme (PDFS)</i> , RGC, Hong Kong                      | Aug. 2022 – Present     |
| • <i>RPg Performance Award</i> , CSD, HKBU   | Sep. 2021               |
| • <i>Research Postgraduate Studentship</i> , HKBU  | Aug. 2017 – Aug. 2021   |
| • <i>Student Travel Grant (Virtual)</i> , SIGIR’21                                       | Jul. 2021               |
| • <i>Research Excellence Award</i> , Postgraduate Research Symposium (PG Day), CSD, HKBU | Jun. 2021               |
| • <i>Student Travel Grant (Virtual)</i> , CIKM’20  | Oct. 2020               |
| • <i>Best Presentation Award</i> , Postgraduate Research Symposium (PG Day), CSD, HKBU   | Jun. 2020               |
| • <i>Excellent Teaching Assistant Performance Award</i> , CSD, HKBU                      | Jun. 2018 & 2019 & 2020 |
| • <i>Teaching Assistant Performance Award</i> , CSD, HKBU                                | Feb. 2020               |
| • <i>Outstanding Graduate</i> , SZU  | Jun. 2017               |
| • <i>Excellent Student of Academic Performance (2nd Prize)</i> , SZU                     | Oct. 2016               |
| • <i>Excellent Student Leader (2nd Prize)</i> , SZU                                      | Oct. 2015               |
| • <i>Song Shan Hu Scholarship</i> , SZU  | Oct. 2014               |
| • <i>National Motivational Scholarship</i> , SZU   | Oct. 2014               |

## IT SKILLS

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- Programming language: Python, Java, Matlab, C++ (ordered by proficiency)
- Platform and tools: Linux, PyTorch, TensorFlow, L<sup>A</sup>T<sub>E</sub>X, Scikit-learn, MongoDB, Django, XGBoost, Lib-linear, Git

## MISCELLANEOUS

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- Language: Mandarin (native), English (fluent), Cantonese (elementary)
- Google Scholar: citations (140+), h-index (6), h10-index (4)
- Github: stars (200+)

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