Chen Xu

Gaoling School of Artificial Intelligence, Renmin University of China, Beijing, China
- Email: xc_chen@ruc.edu.cn or chenxu0427ruc@gmail.com
- Personal Website: `https://xuchen0427.github.io/`, and Google Scholar
- Phone: (86) 18810562180

EDUCATION

Gaoling School of Artificial Intelligence, Renmin University of China — Beijing, China
Ph.D. in Computer Science supervised by Prof. Jun Xu — *2021 – 2026*

School of Information and Gaoli Academy, Renmin University of China — Beijing, China
Double Bachelors in both **Computer Science and Economics** — *2017 – 2021*

RESEARCH EXPERIENCES

NeXT++ Research Center, National University of Singapore — Singapore
Supervised by Prof. Tat-Seng Chua and Prof. Wenjie Wang — *2023.9 – 2024.7*

IR lab, University of Amsterdam — Netherlands
Supervised by Prof. Maarten de Rijke — *2024.10 – 2025.10*

RESEARCH INTEREST

My research focuses on information retrieval (IR) for good, which aims to transform IR systems into a force for social good. Specifically, I mainly focus on the fairness problem in IR and social science problems (such as user simulation, resource allocation), grounded in economic theory.

HONORS AND AWARDS

- **Best Paper Honorable Mention at SIGIR, 2024 (first author)**
- **Best Paper Nomination (spotlight paper) at TheWebConf, 2023 (first author)**
- **Best Oral & Poster Presentation at NCTIR, 2025**
- National Scholarship, 2023
- National Scholarship, 2024
- Biadu Scholarship, global top-40, 2024
- Dean's Leadership Scholarship, 2025
- BYD Scholarship, 2025
- Young Talents Support Program for PhD Students

TEACHING EXPERIENCES

- TA for Search and Recommendation in the Age of Intelligence
- TA for Artificial Intelligence and Python Programming

PROFESSIONAL SERVICES

- Invited Reviewer for TOIS, TIST, TKDE, JISIST, JIR
- Program Committee Member of CIKM, EMNLP, ACL, KDD, TheWebConf, SIGIR, WSDM

PUBLICATIONS

Tutorials

1. **Chen Xu**, Clara Rus, Yuanna Liu, Marleen de Jonge, Jun Xu, Maarten de Rijke. Fairness in Information Retrieval from an Economic Perspective (SIGIR 2025).
   https://economic-fairness-ir.github.io/
2. Sunhao Dai, **Chen Xu**, Shicheng Xu, Liang Pang, Jun Xu, Zhenhua Dong. New Challenges in the LLM Era: Bias and Unfairness in Information Retrieval Systems (KDD 2024, WSDM 2025).
   https://llm-ir-bias-fairness.github.io/

Articles in Professional Journals

1. **Chen Xu**, Xiaopeng Ye, Jun Xu*, Xiao Zhang, Weiran Shen, Ji-Rong Wen (2024). LTP-MMF: Towards Long-term Provider Max-min Fairness Under Recommendation Feedback Loops (TOIS).
   https://dl.acm.org/doi/10.1145/3695867
2. **Chen Xu**, Jun Xu*, Zhenhua Dong, Ji-Rong Wen (2023). Syntactic-Informed Graph Networks for Sentence Matching. ACM Transactions on Information Systems (TOIS), Vol. 42: Issue 2, Article No.: 38, pp 1–29.
   https://dl.acm.org/doi/10.1145/3609795
3. Weijie Yu , **Chen Xu**, Jun Xu*, Liang Pang, and Ji-Rong Wen (2022). Distribution Distance Regularized Sequence Representation for Text Matching in Asymmetrical Domains. IEEE/ACM Transactions on Audio, Speech, and Language Processing (TASLP), vol. 30, pp. 721-733.
   https://ieeexplore.ieee.org/document/9698977

Conference Proceedings

1. **Chen Xu**, Jujia Zhao, Wenjie Wang, Liang Pang, Jun Xu*, Tat-Seng Chua, and Maarten de Rijke. Understanding Accuracy-Fairness Trade-offs in Re-ranking through Elasticity in Economics. In Proceedings of the 48th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR '25).
   https://doi.org/10.1145/3726302.3730106
2. **Chen Xu**, Zhirui Deng, Clara Rus, Xiaopeng Ye, Yuanna Liu, Jun Xu*, Zhicheng Dou*, Ji-Rong Wen and Maarten de Rijkee (2025). FairDiverse: A Comprehensive Toolkit for Fair and Diverse Information Retrieval Algorithms. In Proceedings of the 48th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR '25).
   https://dl.acm.org/doi/10.1145/3726302.3730280.
3. Jujia Zhao, Wenjie Wang*, **Chen Xu***, See-Kiong Ng, and Tat-Seng Chua. 2025. A Federated Framework for LLM-based Recommendation. In Findings of the Association for Computational Linguistics: NAACL 2025, pages 2852–2865, Albuquerque, New Mexico. Association for Computational Linguistics.
   https://aclanthology.org/2025.findings-naacl.155/

4. **Chen Xu**, Yuxin Li, Wenjie Wang, Liang Pang, Jun Xu*, and Tat-Seng Chua. Bridging Jensen Gap for Max-Min Group Fairness Optimization in Recommendation. In Proceedings of the 13th International Conference on Learning Representations (ICLR '25), 2025.
https://iclr.cc/virtual/2025/poster/31203

5. **Chen Xu**, Wenjie Wang, Yuxin Li, Liang Pang, Jun Xu*, and Tat-Seng Chua. A Study of Implicit Ranking Unfairness in Large Language Models. In Findings of the Association for Computational Linguistics: EMNLP 2024, pages 7957–7970, Miami, Florida, USA. Association for Computational Linguistics.
https://aclanthology.org/2024.findings-emnlp.467/

6. **Chen Xu**, Xiaopeng Ye, Wenjie Wang*, Liang Pang, Jun Xu*, and Tat-Seng Chua. A Taxation Perspective for Fair Re-ranking. In Proceedings of the 47th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR '24), 2024. (Best Paper Honorable Mention)

7. **Chen Xu**, Jun Xu*, Yiming Ding, Xiao Zhang, Qi Qi. FairSync: Ensuring Amortized Group Exposure in Distributed Recommendation Retrieval. In Proceedings of the ACM Web Conference (WWW '24), 2024.
https://dl.acm.org/doi/abs/10.1145/3589334.3645413

8. **Chen Xu**, Sirui Chen, Jun Xu*, Weiran Shen, Xiao Zhang, Gang Wang, Zhenhua Dong. P-MMF: Provider Max-min Fairness Re-ranking in Recommender System. In Proceedings of the ACM Web Conference 2023 (WWW '23), Austin, TX, USA, pp. 3701–3711, 2023. (Spotlight / Best Paper Award Nomination)
https://dl.acm.org/doi/10.1145/3543507.3583296

9. **Chen Xu**, Jun Xu*, Zhenhua Dong, Ji-Rong Wen. Semantic Sentence Matching via Interacting Syntax Graphs. In Proceedings of the 29th International Conference on Computational Linguistics (COLING '22), Gyeongju, Republic of Korea, pp. 938–949, 2022.
https://aclanthology.org/2022.coling-1.78

10. **Chen Xu**, Jun Xu*, Xu Chen, Zhenghua Dong, Ji-Rong Wen. Dually Enhanced Propensity Score Estimation in Sequential Recommendation. In Proceedings of the 31st ACM International Conference on Information and Knowledge Management (CIKM '22), Atlanta, GA, USA, pp. 2260–2269, 2022.
https://dl.acm.org/doi/10.1145/3511808.3557299

11. Zhao, Jujia, Wenjie Wang, **Chen Xu**, Xiuying Chen, Zhaochun Ren, and Suzan Verberne. "Unifying Search and Recommendation: A Generative Paradigm Inspired by Information Theory."
https://arxiv.org/abs/2504.06714

12. Clara Rus, Jasmin Kareem, **Chen Xu**, Yuanna Liu, Zhirui Deng, and Maria Heuss (2025). AMS42 at the NTCIR-18 FairWeb-2 Task. Proceedings of NTCIR-18.
https://doi.org/10.20736/0002002031

13. Xiaopeng Ye, **Chen Xu**, Zhongxiang Sun, Jun Xu, Gang Wang, Zhenhua Dong, and Ji-Rong Wen. LLM-Empowered Creator Simulation for Long-Term Evaluation of Recommender Systems Under Information Asymmetry. In Proceedings of the 48th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR '25).
https://doi.org/10.1145/3726302.3730026

14. Sunhao Dai, Ninglu Shao, Haiyuan Zhao, Weijie Yu, Zihua Si, **Chen Xu**, Zhongxiang Sun, Xiao Zhang, Jun Xu. Uncovering chatgpt's capabilities in recommender systems. In Proceedings of the 17th ACM Conference on Recommender Systems (pp. 1126-1132).
https://dl.acm.org/doi/abs/10.1145/3604915.3610646

15. Xiaopeng Ye, **Chen Xu**, Jun Xu*, Xuyang Xie, Gang Wang, Zhenhua Dong. BankFair: Balancing Accuracy and Fairness under Varying User Traffic in Recommender System. In Proceedings of the 33st ACM International Conference on Information and Knowledge Management (CIKM '24).
https://dl.acm.org/doi/10.1145/3627673.3679590

16. Sunhao Dai, **Chen Xu**, Shicheng Xu, Liang Pang, Zhenhua Dong, and Jun Xu. 2024. Bias and Unfairness in Information Retrieval Systems: New Challenges in the LLM Era. In Proceedings of the 30th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD '24). Association for Computing Machinery, New York, NY, USA, 6437–6447.
https://doi.org/10.1145/3637528.3671458

Software

1. **Chen Xu**, Zhirui Deng, Clara Rus, Xiaopeng Ye, Yuanna Liu, Jun Xu*, Zhicheng Dou*, Ji-Rong Wen and Maarten de Rijke (2025). FairDiverse: A Comprehensive Toolkit for Fair and Diverse Information Retrieval Algorithms.
https://github.com/XuChen0427/FairDiverse.