Haolun Wu

Ph.D. student, Computer Science
McGill University & MILA - Quebec AI Institute
https://mila.quebec/en/person/haolun-wu/

Room - 305, Mcconnell Engineering Building
School of Computer Science, McGill University
✉ *haolun.wu@mail.mcgill.ca; haolun.wu@mila.quebec*

Research Interests

Recommender System · Information Retrieval · Fairness in ML · Causal Reasoning

Academic Studies & Diplomas

2021-present	**Ph.D. Computer Science**, *McGill University & MILA*, Montreal, Canada. Advisor: Xue (Steve) Liu. (William Dawson Professor, FCAE, FIEEE, ACM SIGBED Chair). Thesis Committee: Fernando Diaz, Mark Coates, Benjamin Fung.
2019-2021	**M.Sc. Computer Science**, *McGill University & MILA*, Montreal, Canada. Advisor: Xue (Steve) Liu. Thesis title: Balancing Fairness in Multi-stakeholder Recommendation via Multi-Objective Optimization
2018-2018	**International Exchange**, *University of California, San Diego (UCSD)*, San Diego, USA.
2015-2019	**B.E. Computer Science and Engineering**, *Northeastern University (NEU)*, Shenyang, China. Excellent Graduation Thesis. Outstanding Graduate. Outstanding Student for all years.

Publications

Conference Proceedings

SIGIR 2022	Haolun Wu, Bhaskar Mitra, Chen Ma, Fernando Diaz, and Xue Liu. **"Joint Multisided Exposure Fairness for Recommendation"**. In the 45rd International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR 2022, acceptance rate: 161/794 = 20%), Madrid, Spain, Jul. 2022.
AAAI 2021	Chen Ma, Liheng Ma, Yingxue Zhang, Haolun Wu, Xue Liu, and Mark Coates. **"Knowledge-Enhanced Top-K Recommendation in Poincaré Ball"**. In the 35th AAAI Conference on Artificial Intelligence (AAAI 2021, acceptance rate: 1692/7911 = 21.4%), Virtual, Feb. 2021.

Patents

IP Australia 2017	Haolun Wu, Haodong Lai, Yutao Liu, Wentao Zhou, and Qinlai Li. **"A Method For Real-Time Image Style Transfer Based On Conditional Generative Adversarial Networks "**.

In Submission or Under Review

Conference Proceedings

CIKM 2022 Under Review — Haolun Wu, Chen Ma, Yingxue Zhang, Xue Liu, and Mark Coates. **"Adapting Triplet Importance of Implicit Feedback for Personalized Recommendation"**. For the 31st ACM International Conference on Information and Knowledge Management (CIKM 2022).

CIKM 2022 Under Review — Haolun Wu, Chen Ma, Yingxue Zhang, Xue Liu, and Mark Coates. **"Self-supervised Contrastive Alignment for Tag-enhanced Recommendation"**. For the 31st ACM International Conference on Information and Knowledge Management (CIKM 2022).

Journal Articles

TOIS 2022 Under Revision — Haolun Wu, Chen Ma, Bhaskar Mitra, Fernando Diaz, and Xue Liu. **"Multi-stakeholder Fairness-aware Recommendation via Multi-objective Optimizatio"**. ACM Transactions on Information Systems (TOIS).

Relevant Industrial Experience

Jun.2021-Jun.2022 — **Support Researcher, PhD Intern**, *Huawei Noah's Ark Lab*, Montreal, Canada.

Mentor: Yingxue Zhang
- Conduct one project on efficiently training the implicit feedback data for recommendation through adaptively learning the data importance.
- Conduct one project on efficiently utilizing auxiliary information in recommendation through self-supervised learning and contrastive alignment.

Grants & Fellowships

2022 — MITACS Accelerate Fellowship *($90,000, share 50%)*

Lead PI: Xue (Steve) Liu; Industrial Mentor: Shuo Wang

Title: Fairness-aware Matching for Dynamic Predictive Behavior Matching

Funding Body: Bell Canada, MITACS

2020 — MSR-MILA Collaboration Grant *($55,000, share 50%)*

Lead PI: Xue (Steve) Liu; Industrial Mentor: Fernando Diaz

Title: Two-sided Recommendation with Fairness

Funding Body: Microsoft Research

Honors & Awards

2021 — Apple Scholars PhD Fellowship Nominee (1 out of 3 students at *McGill University*)

2020 — Grad Excellence Award *($12,600)*, *McGill University*

2019 — Excellent Graduation Thesis, *Northeastern University*

2016-2019 — Outstanding Student *($2,400)*, *Northeastern University*

2017 — HUAWEI Scholarship *($1,000)*, *Huawei Technologies Co., Ltd.*

2017 — Second Prize, *CUMCM (Contemporary Undergraduate Mathematical Contest in Modelling)*

2017   MCM/ICM Honorable Prize, *COMAP (Consortium for Mathematics and Its Application)*

2016   Yao Tianshun Scholarship *($1,000, 2 out of 250 students)*, *Northeastern University*

2014   First Prize (rank 18th in Sichuan Province), *CMS (Chinese Mathematical Association)*

Professional Service

○ **Reviewer**
  - AAAI 2022
  - SIGIR 2022
  - TKDD 2022

Teaching & Mentorship

○ **Giving Guest Lecture or Teaching**
  - Applications of Machine Learning in Real World Systems (COMP 597, McGill. Head: Xue (Steve) Liu. Winter 2021, Winter 2022.)
  - Multi-FR: A Multi-Objective Optimization Method for Achieving Two-sided Fairness in E-commerce Recommendation (Talk at Microsoft Bing. Head: Nick Craswell. Oct. 2021.)

○ Mentored / Collaborated with several undergraduate and junior graduate students. (2022-)
  - Dun Yuan (McGill)
  - Yansen Zhang (CityU of Hong Kong)

References

○ Xue (Steve) Liu (Ph.D. Advisor)
  Professor, School of Computer Science
  McGill University, Montreal, Canada
  xue.liu@mcgill.ca

○ Fernando Diaz
  Research Scientist
  Google Research, Montreal, Canada
  diazf@acm.org

○ Bhaskar Mitra
  Principal Applied Scientist
  Microsoft, Montreal, Canada
  bhaskar.mitra@microsoft.com