Zhibing Zhao

Ph.D. in Computer Science

Research Scientist at Meta
Bellevue, WA, US
✉ *zhaozb08@gmail.com*
zhaozb08.github.io

Research Interests

- Machine Learning
- Time Series
- Search and Recommendation
- Natural Language Processing

Experience

2025–Present **Research Scientist**, Meta, Bellevue, WA, US.

2022–2025 **Research Scientist**, ByteDance, Bellevue, WA, US.
- SQL query optimization: novel learning-to-rank approach to achieve 6x speedup;
- Time series: ensemble learning for storage usage forecasting, saving 10% storage.

2020–2022 **Data & Applied Scientist**, Microsoft, Bellevue, WA, US.
Hybrid ranking models for search and page recommendation:
- Built hybrid ranking model with 3.0% gain in NDCG@3 for page recommendation;
- Built compressed MEB model that has 3.2% gain in NDCG@1 for search.

2015–2020 **Research Assistant**, Rensselaer Polytechnic Institute, Troy, NY, US.
Preference learning and aggregation from rank data.

2019 Summer **Data and Applied Scientist Intern**, Microsoft, Bellevue, WA, US.

2018 Summer **Research Intern**, Microsoft Research Asia, Beijing, China.
Award of Excellence

2012–2014 **Research Assistant**, University of Connecticut, Storrs, CT, US.

Education

2015–2020 **Ph.D., Computer Science**, *Rensselaer Polytechnic Institute*, Troy, NY, US.

2012–2014 **M.S., Electrical Engineering**, *University of Connecticut*, Storrs, CT, US.

2008–2012 **B.Eng., Electrical Engineering**, *Tsinghua University*, Beijing, China.

Selected Publications

- Xianghong Xu, **Zhibing Zhao**, Tieying Zhang, Rong Kang, Luming Sun, and Jianjun Chen, "COOOL: A Learning-To-Rank Approach for SQL Hint Recommendations". In 5th International Workshop on Applied AI for Database Systems and Applications **(AIDB 2023).**
- Luming Sun, Shijin Gong, Tieying Zhang, Fuxin Jiang, **Zhibing Zhao**, Jianjun Chen, and Xinyu Zhang, "SUFS: A Generic Storage Usage Forecasting Service Through Adaptive Ensemble Learning". In Proceedings of the 39th IEEE International Conference on Data Engineering **(ICDE 2023).**

- **Zhibing Zhao**, Ao Liu, and Lirong Xia, "Learning Mixtures of Random Utility Models with Features from Top-l Orders". In Proceedings of International Joint Conference on Artificial Intelligence **(IJCAI-22)**.
- **Zhibing Zhao**, Yingce Xia, Tao Qin, Lirong Xia, and Tie-Yan Liu, "Dual Learning: Theoretical Study and an Algorithmic Extension", **SN Computer Science, 2021**.
- **Zhibing Zhao**, Yingce Xia, Tao Qin, Lirong Xia, and Tie-Yan Liu, "Dual Learning: Theoretical Study and an Algorithmic Extension", in *Proceedings of the 12th Asian Conference on Machine Learning* **(ACML-20)**, superceded by the paper above.
- **Zhibing Zhao** and Lirong Xia, "Learning Mixtures of Plackett-Luce Models from Structured Partial Orders", in *Proceedings of 33rd Conference on Neural Information Processing Systems* **(NeurIPS-19)**.
- Ao Liu, **Zhibing Zhao**, Chao Liao, Pinyan Lu and Lirong Xia, "Learning Plackett-Luce Mixtures from Partial Preferences", in *Proceedings of 33rd AAAI Conference on Artificial Intelligence* **(AAAI-19)**.
- Jun Wang, Sujoy Sikdar, Tyler Shepherd, **Zhibing Zhao**, Chunheng Jiang and Lirong Xia, "Practical Algorithms for STV and Ranked Pairs with Parallel Universes Tiebreaking", in *Proceedings of 33rd AAAI Conference on Artificial Intelligence* **(AAAI-19)**.
- **Zhibing Zhao** Haoming Li, Junming Wang, Jeffrey Kephart, Nicholas Mattei, Hui Su, and Lirong Xia, "A Cost-Effective Framework for Preference Elicitation and Aggregation", in *Proceedings of the 34th Conference on Uncertainty in Artificial Intelligence* **(UAI-18)**.
- **Zhibing Zhao** and Lirong Xia, "Composite Marginal Likelihood Methods for Random Utility Models", in *Proceedings of the 35th International Conference on Machine Learning* **(ICML-18)**.
- **Zhibing Zhao**, Tristan Villamil, and Lirong Xia, "Learning Mixtures of Random Utility Models", in *Proceedings of the 32nd AAAI Conference on Artificial Intelligence* **(AAAI-18)**.
- **Zhibing Zhao**, Peter Piech, and Lirong Xia, "Learning Mixtures of Plackett-Luce Models", in *Proceedings of the 33rd International Conference on Machine Learning* **(ICML-16)**.
- Taofeek Orekan, **Zhibing Zhao**, Peng Zhang, Jian Zhang, Shengli Zhou, and Jun-Hong Cui, "Maximum Lifecycle Tracking for Tidal Energy Generation System", *Electric Power Components and Systems*, 2015.
- Gengfeng Li, Peng Zhang, Peter B. Luh, Wenyuan Li, Zhaohong Bie, Camilo Serna, and **Zhibing Zhao**, "Risk Analysis for Distribution Systems in the Northeast U. S. Under Wind Storms", *IEEE Transactions on Power Systems*, 2014.

Professional Service

Reviewer for ICML-2020, NeurIPS-2020, PC member for AAAI-19, 20, reviewed multiple papers for Journal of Machine Learning Research, Int. J. of Renewable Energy Technology, etc.