

# Ruoqi Liu

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🌐 [ruoqi-liu.github.io](https://github.com/ruoqi-liu)

## EDUCATION

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**The Ohio State University (OSU)**

*Ph.D. in Computer Science*

Advisor: Prof. [Ping Zhang](#)

**Columbus, OH**

2019 - present

**The Ohio State University (OSU)**

*M.S. in Computer Science*

**Columbus, OH**

2018 - 2019

**Wuhan University (WHU)**

*B.Eng. in Computer Science*

GPA: 3.78/4, Outstanding Graduate Award

Thesis: *Gene-Disease Associations Mining based on Recommendation System*

**Wuhan, China**

2014 - 2018

## RESEARCH INTERESTS

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My research interests focus on **data mining** and **machine learning**. Particularly, I'm interested in applying **causal inference** and machine learning technologies to real-world **healthcare** problems for improving personalized medicine.

## PUBLICATIONS

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\* indicates equal contributions

- [1] **Ruoqi Liu**, Lai Wei, Ping Zhang, "A deep learning framework for drug repurposing via emulating clinical trials on real world patient data", *Nature Machine Intelligence* 3:68-75, 2021.
- [2] **Ruoqi Liu**, Katherine H. Buck, Jeffrey M. Caterino, Ping Zhang, "Estimating Trustworthy Treatment Effects for Antibiotic Stewardship in Sepsis", *Nature Machine Intelligence* (under review).
- [3] **Ruoqi Liu**, Changchang Yin, Ping Zhang, "Estimating Individual Treatment Effects with Time-Varying Confounders", *IEEE International Conference on Data Mining (ICDM)*, 2020 (Acceptance rate: 91/930 = 9.8%, regular paper, oral presentation).
- [4] Changchang Yin, **Ruoqi Liu**, Dongdong Zhang, Ping Zhang, "Identifying sepsis subphenotypes via time-aware multi-modal auto-encoder", *ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*, 2020 (Acceptance rate: 216/1279 = 16.9%, research track, oral presentation).
- [5] Qianlong Wen\*, **Ruoqi Liu\***, Ping Zhang, "Clinical connectivity map for drug repurposing: using laboratory results to bridge drugs and diseases", *BMC Medical Informatics and Decision Making*, 2021 (to appear).
- [6] **Ruoqi Liu**, Ping Zhang, "Towards early detection of adverse drug reactions: combining pre-clinical drug structures and post-market safety reports", *BMC Medical Informatics and Decision Making* 19:279, 2019.
- [7] Wen Zhang, Xiang Yue, Feng Huang, **Ruoqi Liu**, Yanlin Chen, FengHuang, Chunyang Ruan, "Predicting drug-disease associations and their therapeutic function based on the drug-disease associationbipartite network", *Methods* 145:51-59, 2018

- [8] Wen Zhang, Xiang Yue, Weiran Lin, Wenjian Wu, **Ruoqi Liu**, Feng Huang, Feng Liu, "Predicting drug-disease associations by using similarity constrained matrix factorization", *BMC Bioinformatics* 19:233, 2018

## SERVICES

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- Conference sub reviewer: KDD, IJCAI, AAAI, ICML, ICLR, ICDM, SDM.
- Journal sub reviewer: Patterns, Nature Communication, BMC Bioinformatics.
- Conference reviewer: AMIA.
- Journal reviewer: BMC Medical Informatics and Decision Making

## HONORS & AWARDS

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- Outstanding Graduates, WHU (top 10%) 2018
- Excellent Graduation Thesis Award, WHU (top 5%) 2018
- The First Prize Scholarship, three times, WHU 2015-2018

## TECHNICAL SKILLS

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GitHub: <https://github.com/ruoqi-liu>

- **Computer Languages:** Python, MATLAB, JAVA, HTML/CSS/JS
- **Library & Package:** PyTorch, TensorFlow, NumPy, Pandas, Scikit-learn,
- **Databases:** MySQL, MongoDB, SQLite
- **Tools:** Git