

Qinbin Li

National University of Singapore

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EDUCATION

National University of Singapore

Ph.D. - Computer Science

- Advisor: Prof. [Bingsheng He](#)

Huazhong University of Science and Technology

B.Eng. - ACM class, Computer Science

- GPA: 3.93/4.0

Singapore

Aug, 2018 - Present

China

Sep, 2014 - Jun, 2018

RESEARCH INTERESTS

Machine Learning, Federated Learning, Privacy, Systems

PUBLICATIONS

Preprint

A Survey on Federated Learning Systems: Vision, Hype and Reality for Data Privacy and Protection

- **Qinbin Li**, Zeyi Wen, Zhaomin Wu, Sixu Hu, Naibo Wang, Yuan Li, Xu Liu, Bingsheng He
- *arXiv preprint arxiv:1907.09693* 2019.

The OARF Benchmark Suite: Characterization and Implications for Federated Learning Systems

- Sixu Hu, Yuan Li, Xu Liu, **Qinbin Li**, Zhaomin Wu, Bingsheng He
- *arXiv preprint arXiv:2006.07856* 2020.

Federated Learning on Non-IID Data Silos: An Experimental Study

- **Qinbin Li***, Yiqun Diao*, Quan Chen, Bingsheng He (* denotes equal contributions)
- *arXiv preprint arxiv:2102.02079* 2021.

2021

Practical One-Shot Federated Learning for Cross-Silo Setting

- **Qinbin Li**, Bingsheng He, Dawn Song
- *International Joint Conference on Artificial Intelligence IJCAI 2021*.

Challenges and Opportunities of Building Fast GBDT Systems

- Zeyi Wen, **Qinbin Li**, Bingsheng He, Bin Cui
- *International Joint Conference on Artificial Intelligence IJCAI 2021 Survey Track*.

Model-Contrastive Federated Learning

- **Qinbin Li**, Bingsheng He, Dawn Song
- *The Conference on Computer Vision and Pattern Recognition CVPR 2021*.

2020

Practical Federated Gradient Boosting Decision Trees

- Qinbin Li, Zeyi Wen, Bingsheng He
- *Thirty-Fourth AAAI Conference on Artificial Intelligence. AAAI 2020. PREMIA Best Student Paper Gold Award.*

Privacy-Preserving Gradient Boosting Decision Trees

- Qinbin Li, Zhaomin Wu, Zeyi Wen, Bingsheng He
- *Thirty-Fourth AAAI Conference on Artificial Intelligence. AAAI 2020.*

ThunderGBM: Fast GBDTs and Random Forests on GPUs

- Zeyi Wen, Hanfeng Liu, Jiashuai Shi, Qinbin Li, Bingsheng He, Jian Chen
- *Journal of Machine Learning Research. JMLR 2020.*

2019

Adaptive Kernel Value Caching for SVM Training

- Qinbin Li, Zeyi Wen, Bingsheng He
- *IEEE Transactions on Neural Networks and Learning Systems. TNNLS 2019.*

Exploiting GPUs for Efficient Gradient Boosting Decision Tree Training

- Zeyi Wen, Jiashuai Shi, Bingsheng He, Jian Chen, Kotagiri Ramamohanarao, Qinbin Li
- *IEEE Transactions on Parallel and Distributed Systems. TPDS 2019 Best Paper Award.*

2018

ThunderSVM: A Fast SVM Library on GPUs and CPUs

- Zeyi Wen, Jiashuai Shi, Qinbin Li, Bingsheng He, Jian Chen
- *Journal of Machine Learning Research. JMLR 2018.*

SYSTEMS

A leader of **FedTree**.

- An efficient, effective, and secure tree-based federated learning system.
- Version 0.1 is available on [GitHub](#). More features are in development.

A developer of **ThunderSVM**.

- A fast SVM library on GPUs and CPUs.
- Has attracted about 1.3k stars on [GitHub](#).

A developer of **ThunderGBM**.

- A fast GBDTs and random forests library on GPUs.
- Has attracted about 600 stars on [GitHub](#).

HONORS and AWARDS

- PREMIA Best Student Paper Gold Award, 2021.
- Research Achievement Award, School of Computing, National University of Singapore, 2020.
- TPDS Best Paper Award, 2019.
- Outstanding Graduates, Huazhong University of Science and Technology, 2018.
- Samsung Scholarship, 2016

- Outstanding Undergraduates in Term of Academic Performance, Huazhong University of Science and Technology, 2016.
- Excellent Student, Huazhong University of Science and Technology, 2014, 2015.
- National Scholarship, Ministry of Education of P.R.China, 2014.

SERVICES

- Conference reviewer: NeurIPS 2020, AAAI 2021, ICLR 2021, NeurIPS 2021.
- Journal reviewer: ACM Transactions on Intelligent Systems and Technology (TIST).
- Organizer of IJCAI 2020 tutorial “A Tutorial on Federated Learning Systems: Comparative Studies and Hand-on Demonstrations”.