Xinbao Qiao

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Education

The Chinese University of Hong Kong — Hong Kong, China
PhD student in Information Engineering — 2026–present

Zhejiang University — Hangzhou, China
M.Sc. in Artificial Intelligence — 2022–2025

- Major GPA: 90/100; rank: 3/25.
- Selected coursework: AI Algorithms and Systems (100), Secure Artificial Intelligence (97).

Shandong University — Jinan, China
B.Eng. in Communication Engineering — 2018–2022

- Major GPA: 82.47/100.
- Third-class Academic Award, 2018–2019.

Research Interests

AI and networks; distributed Wasserstein barycenter computation; trustworthy AI; data-centric machine learning; machine unlearning; synthetic-data evaluation and model collapse.

Publications

[1] When Sample Selection Bias Precipitates Model Collapse.
Xinbao Qiao, Xianglong Du, Wei Liu, Jingqi Zhang, Peihua Mai, Meng Zhang, Yan Pang. *ICML, 2026.*

[2] Beyond Binary Erasure: Soft-Weighted Unlearning for Fairness and Robustness.
Xinbao Qiao, Ningning Ding, Yushi Cheng, Meng Zhang. *AAAI, 2026.*

[3] Hessian-Free Online Certified Unlearning.
Xinbao Qiao, Meng Zhang, Ming Tang, Ermin Wei. *ICLR, 2025.*

[4] DynFrs: An Efficient Framework for Machine Unlearning in Random Forest.
Shurong Wang, Zhuoyang Shen, **Xinbao Qiao**, Tongning Zhang, Meng Zhang. *ICLR, 2025.*

[5] Learn What Matters: Data Pruning for Efficient Decentralized Learning.
Xinbao Qiao, Xunhao Jiang, Zuozhu Liu, Peng Sun, Meng Zhang. Under review.

Research Experience

The Chinese University of Hong Kong — Hong Kong, China
PhD student and Research Assistant — 2026–present

- Study AI and networks, with emphasis on distributed computation, communication-aware learning, and reliable evaluation under decentralized data access.
- Current focus: distributed Wasserstein barycenter computation for collaborative distributional references across local empirical measures.

National University of Singapore Research Institute (Chongqing) — Chongqing, China
Full-time Research Intern; advisor: Yan Pang — 2025

- Worked on trustworthy LLM systems and synthetic-data evaluation.
- Developed collaborative Wasserstein-geometry methods for evaluating recursive synthetic-data training under local sample-selection bias.

Zhejiang University — Hangzhou, China
M.Sc. researcher; advisor: Meng Zhang — 2023–2025

- Studied data influence attribution, certified data removal, and machine unlearning.
- Developed methods that examine trade-offs among fairness, robustness, privacy, and utility in data-centric learning systems.

Selected Academic Projects

- **AI and networks**: study distributed computation and collaborative evaluation for learning systems whose data and evidence are spread across networked parties.
- **Synthetic-data model collapse**: analyzed how locally biased sample selection can accelerate model collapse, and proposed collaborative Wasserstein proxy references for distributed evaluation.
- **Machine unlearning**: designed Hessian-free certified unlearning and soft-weighted unlearning methods for privacy, fairness, and robustness settings.

Skills

Programming: Python, PyTorch, TensorFlow, MATLAB, C/C++, SQL, Linux, Docker, Git, LaTeX.
Languages: Mandarin Chinese (native), English.