Buxin Su

Curriculum Vitae

Philadelphia, Pennsylvania — subuxin@sas.upenn.edu — Personal Website — Google Scholar

RESEARCH INTERESTS

My research interests primarily lie in **privacy-preserving and trustworthy data science**, with applications to machine learning and the social sciences. I am particularly interested in **improving the quality and reliability of peer review at AI/ML conferences**. Our recent work on using author–reviewer misalignment to flag unreliable or miscalibrated reviews has been incorporated into the *ICML 2026 review process*.

EDUCATION

Ph.D. in Applied Mathematics and Computational Science 2023.09 - 2027.06 (expected)
University of Pennsylvania
Advisors: *Weijie Su* and *Bingxin Zhao*

M.S. in Pure Mathematics 2021.09 - 2023.06
University of Pennsylvania
Advisors: *Bingxin Zhao* and *Robin Pemantle*
Thesis: *The exact risks of reference panel-based regularized estimators*

B.S. in Pure Mathematics & **Applied Mathematics Specialist** 2017.09 - 2021.06
University of Toronto
Graduated with High Distinction

AWARDS AND HONORS

NESS Student Research Awards 2026.05
New England Statistics Symposium

Two Sigma's PhD Fellowship Finalist 2026.01
Two Sigma

Lawrence D. Brown Best Paper Award 2025.10
The Wharton School, University of Pennsylvania

Discussion Paper[1]**, Journal of the American Statistical Association** 2025.08
American Statistical Association

ICSA NSF Travel Award 2025.07
ICSA 2025 Applied Statistics Symposium

Student Best Paper Award, Statistical Learning and Data Science Section 2024.01
American Statistical Association

[1] Equivalent to best paper award

SELECTED PUBLICATIONS

Journal Articles (Published or Accepted)

J1. **Buxin Su**, Jiayao Zhang, Natalie Collina, Yuling Yan, Didong Li, Kyunghyun Cho, Jianqing Fan, Aaron Roth, Weijie Su, "The ICML 2023 Ranking Experiment: Examining Author Self-Assessment in ML/AI Peer Review" *Journal of the American Statistical Association*, 2025. *Link* [**Selected as Discussion Paper**]

J2. **Buxin Su**, Weijie Su, and Chendi Wang, "The 2020 United States Decennial Census Is More Private Than You (Might) Think," *Proceedings of the National Academy of Sciences*, 2025. *Link* [**Featured by *New Scientist***]

J3. **Buxin Su**, Jiayao Zhang, Natalie Collina, Yuling Yan, Didong Li, Kyunghyun Cho, Jianqing Fan, Aaron Roth, and Weijie Su, "Rejoinder: The ICML 2023 Ranking Experiment: Examining Author Self-Assessment in ML/AI Peer Review," *Journal of the American Statistical Association*, 2026. Link

J4. **Buxin Su**, Natalie Collina, Garrett G Wen, Didong Li, Kyunghyun Cho, Jianqing Fan, Bingxin Zhao, Weijie Su, "How to Find Fantastic AI Papers: Self-Rankings as a Powerful Predictor of Scientific Impact Beyond Peer Review," *Nature Computational Science*, 2026. *Link* [**Featured by *Nature Index* and *Wharton AI & Analytics Initiative***]

Conference Proceedings

C1. Chendi Wang*, **Buxin Su*** ($*$ = **equal contribution**), Jiayuan Ye, Reza Shokri, and Weijie Su, "Unified Enhancement of Privacy Bounds for Mixture Mechanisms via f-Differential Privacy," *Neural Information Processing Systems (NeurIPS)*, 2023. *Link*

C2. Xiang Li*, **Buxin Su***, Chendi Wang*, Long Qi, and Weijie Su, "Mitigating the Privacy–Utility Trade-off in Decentralized Federated Learning via f-Differential Privacy," *Neural Information Processing Systems (NeurIPS Spotlight)*, 2025. *Link*

Preprints

P1. **Buxin Su**, Qiang Sun, Xiaochen Yang, and Bingxin Zhao, "The Exact Risks of Reference Panel-Based Regularized Estimators," under revision at *Journal of the American Statistical Association*, 2024. *Link* [**Won the 2024 American Statistical Association Student Best Paper Award, Statistical Learning and Data Science Section**]

P2. **Buxin Su**, Jiaoyang Huang, Jin Jin, and Bingxin Zhao, "On Self-Training of Summary Data with Genetic Applications," *arXiv:2503.12155*, 2025. *Link* [**Won the 2026 New England Statistics Symposium Student Research Awards**]

P3. Garrett G Wen, **Buxin Su**, Natalie Collina, Zhun Deng, Weijie Su, "Recommending Best Paper Awards for ML/AI Conferences via the Isotonic Mechanism," *arXiv:2601.15249*, 2026. *Link*

P4. **Buxin Su**, Bingxuan Li, Cheng Qian, Yiwei Wang, Jin Jin, and Bingxin Zhao, "Supervised Fine-tuning with Synthetic Rationale Data Hurts Real-World Disease Prediction," *arXiv:2606.10279*, 2026. Link

PROFESSIONAL SERVICE

Session Chair *2026.05*
New England Statistics Symposium 2026
Session: "Modern Statistical Learning, Predictive Inference, and Uncertainty Quantification"

Associate Chair *2026.01*
Forty-Third International Conference on Machine Learning (ICML 2026)

Session Chair *2025.08*
Joint Statistical Meetings 2025
Session: "Large Language Models in Biomedical and Statistical Knowledge Discovery"

Journal Manuscript Reviewer
Journal of Machine Learning Research, Journal of Official Statistics

Conference Reviewer
ICLR 2026

INVITED TALKS

On Self-Training of Summary Data with Genetic Applications 2026.05
New England Statistics Symposium 2026

The Three-Year ICML Ranking Experiment: Using Authors' Self-Rankings to Improve Peer Review 2026.01
Two Sigma's PhD Fellowship Finalist Reception 2026

The 2020 U.S. Decennial Census Is More Private Than You Think 2025.10
Lawrence Brown Student Workshop 2025

The 2020 U.S. Decennial Census Is More Private Than You Think 2025.06
ICSA Applied Statistics Symposium 2025

The Exact Risks of Reference Panel-Based Regularized Estimators 2024.08
Joint Statistical Meetings 2024

The ICML 2023 Experiment: Can Authors' Opinions on Their Own Submissions Assist Peer Review? 2023.11
Warren Center Lightning Talks, University of Pennsylvania

The Exact Risks of Reference Panel-Based Regularized Estimators 2023.07
ICSA 2023

PROFESSIONAL SKILLS

Programming
Python (PyTorch), MATLAB

Language Proficiency
Mandarin (native), English (fluent)