

Minxing Zheng

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Research: uncertainty quantification for machine learning, especially generative models and LLMs; trustworthy AI for high-stakes decisions.

EDUCATION

Carnegie Mellon University, <i>Ph.D. student</i>	2025–present
University of Southern California, <i>M.S., Statistics</i>	2022–2024
University of Wisconsin–Madison, <i>M.S., Statistics</i>	2020–2022
Renmin University of China, <i>B.S., Statistics; B.S., Applied Mathematics</i>	2017–2021

PUBLICATIONS

Conference and Journal Papers

- [C1] **Minxing Zheng** and Shixiang Zhu. Generative conformal prediction with optimized coverage allocation. In *Advances in Neural Information Processing Systems (NeurIPS)*, 2026. [[NeurIPS page](#)] [[project page](#)].
- [J1] **Minxing Zheng**, Xinran Miao, and Kris Sankaran. Interactive visualization and representation analysis applied to glacier segmentation. *ISPRS International Journal of Geo-Information*, 11(8):415, 2022. [doi:10.3390/ijgi11080415](https://doi.org/10.3390/ijgi11080415).

Preprints

- [P1] **Minxing Zheng**, Wenbin Zhou, and Shixiang Zhu. Beyond prediction: Conformal inference for latent distributional parameters. *arXiv preprint [arXiv:2608.03607](https://arxiv.org/abs/2608.03607)*, 2026. Short version accepted at the **NeurIPS 2026 Workshop on ML×OR**.
- [P2] **Minxing Zheng** and Shixiang Zhu. Sample-efficient generative conformal prediction. *arXiv preprint [arXiv:2610.11349](https://arxiv.org/abs/2610.11349)*, 2026.
- [P3] **Minxing Zheng**, Trevor Harris, and Shixiang Zhu. Decision-focused calibration with adaptive conformal predictive distributions. *Preprint*, 2026.
- [P4] **Minxing Zheng**, Holly Wiberg, and Shixiang Zhu. Deciding when to decide: Testing operational suboptimality under distributional shift. *arXiv preprint [arXiv:2608.29465](https://arxiv.org/abs/2608.29465)*, 2026.
- [P5] **Minxing Zheng**, Zewei Deng, Liyan Xie, and Shixiang Zhu. Learning to test: Latent representation learning for dynamic instability detection. *arXiv preprint [arXiv:2604.10967](https://arxiv.org/abs/2604.10967)*, 2026.
- [P6] Xueqi Cheng, **Minxing Zheng**, Shixiang Zhu, and Yushun Dong. MISLEADER: Defending against model extraction with ensembles of distilled models. *arXiv preprint [arXiv:2506.02362](https://arxiv.org/abs/2506.02362)*, 2025.
- [P7] Paromita Dubey and **Minxing Zheng**. Change point inference for non-Euclidean data sequences using distance profiles. *arXiv preprint [arXiv:2311.16025](https://arxiv.org/abs/2311.16025)*, 2023.

INTERNSHIP EXPERIENCE

Argonne National Laboratory, Lemont, IL	May–Jul. 2026
<i>Ph.D. Research Intern, ESI Grid Optimization and Analytics (Mentor: Feng Qiu)</i>	
Developed conformal survival models to predict forced outages of hydropower units from equipment sensor telemetry and outage-event records, in collaboration with the Hydropower Research Institute (HRI). Manuscript in preparation.	

HONORS AND FELLOWSHIPS

Heinz College Dean’s Fellowship, Carnegie Mellon University	2025–2026
Marshall School Fellowship, University of Southern California	2022–2024

SERVICE

Conference Reviewer: NeurIPS, ICLR, ICML, AISTATS, AAAI

TECHNICAL SKILLS

Uncertainty estimation and calibration for generative models · LLM fine-tuning and large-scale sampling · Differentiable optimization for decision-focused learning · Large-scale HPC experiments (Slurm, HTCondor) · Python (PyTorch, JAX), R, C++, MATLAB