Anna P. Meyer

Ph.D. Candidate, University of Wisconsin - Madison

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Education

2020-2025	**Ph.D.**, Computer Sciences, University of Wisconsin - Madison
	Advisors: Aws Albarghouthi and Loris D'Antoni
	Thesis: Robustness to Multiplicity in the Machine Learning Pipeline
2020-2023	**M.S.**, Computer Sciences, University of Wisconsin - Madison
2014-2018	**B.A.**, Mathematics, Carleton College (*Magna Cum Laude*)

Publications

† → Equal contribution

[C1] **Anna P. Meyer**, Yea-Seul Kim, Aws Albarghouthi, and Loris D'Antoni. "Perceptions of the Fairness Impacts of Multiplicity in Machine Learning". In: *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems*. CHI '25. Yokohama, Japan, 2025. URL: https://arxiv.org/abs/2409.12332.

[C2] **Anna P. Meyer**, Aws Albarghouthi, and Loris D'Antoni. "The Dataset Multiplicity Problem: How Unreliable Data Impacts Predictions". In: *Proceedings of the 2023 ACM Conference on Fairness, Accountability, and Transparency*. FAccT '23. Chicago, IL, USA: Association for Computing Machinery, June 2023, pp. 193–204. ISBN: 9798400701924. URL: https://doi.org/10.1145/3593013.3593988.

[C3] **Anna P. Meyer**[†], Dan Ley[†], Suraj Srinivas, and Hima Lakkaraju. "On Minimizing the Impact of Dataset Shifts on Actionable Explanations". In: *Proceedings of the Thirty-Ninth Conference on Uncertainty in Artificial Intelligence*. Vol. 216. Proceedings of Machine Learning Research. PMLR, July 2023, pp. 1434–1444. URL: https://proceedings.mlr.press/v216/meyer23a.html.
🏆 *Selected for an oral presentation (top 3% of submissions).*

[C4] **Anna P. Meyer**, Aws Albarghouthi, and Loris D'Antoni. "Certifying Robustness to Programmable Data Bias in Decision Trees". In: *Advances in Neural Information Processing Systems*. Vol. 34. Curran Associates, Inc., 2021, pp. 26276–26288. URL: https://proceedings.neurips.cc/paper/2021/file/dcf531edc9b229acfe0f4b87e1e278dd-Paper.pdf.

Preprints and Non-Archival Papers

[P1] **Anna P. Meyer**[†], Yuhao Zhang[†], Aws Albarghouthi, and Loris D'Antoni. *Verified Training for Counterfactual Explanation Robustness under Data Shift*. DMLR (Data-centric Machine Learning Research) workshop at ICLR (International Conference on Machine Learning), Vienna, Austria. 2024. URL: https://arxiv.org/abs/2403.03773.

Teaching and Mentoring Experience

University of Wisconsin - Madison

2023–2024   Workshop Developer and Instructor, Data Science Hub
Developed a workshop on fair machine learning
Co-taught the workshop's pilot iteration in Dec. 2024

2023   Instructor, CS 220: Data Programming I
Sole instructor of record for summer 2023 course offering
Managed a team of one TA and one undergraduate peer mentor

2020   Teaching Assistant, CS/Math 240: Introduction to Discrete Mathematics

Carleton College

2016-2018   Tutor, Grader, and Teaching Assistant

Undergraduate student mentoring at University of Wisconsin - Madison

2023-2024   Nikhil Kruthiventi
2022   Layal Khreis
2022   Praise Osinloye

Research Funding

2024-2027   NSF SHF Medium Grant ($1,200,000)
Title: Reasoning about Multiplicity in the Machine Learning Pipeline
PIs: Aws Albarghouthi and Loris D'Antoni
Led the grant ideation and writing process as a graduate student

Research Experience

2020–   Graduate Research Assistant, University of Wisconsin - Madison
2022   Research Assistant, Harvard Business School
With Professor Hima Lakkaraju, culminating in UAI publication [C3]
2017   Research Assistant, Carleton College
With Professor Jed Yang

Invited Talks

[T1] *Multiplicity in the Machine Learning Pipeline: Robustness and Fairness*. Statistical and Data Science Department Seminar (Smith College). Nov. 2024.

[T2] *Multiplicity in the Machine Learning Pipeline: Robustness and Fairness*. CS Bits & Bytes Seminar (Carleton College). Oct. 2024.

[T3] *The Dataset Multiplicity Problem: How Unreliable Data Impacts Predictions*. <u>INFORMS Annual Meeting</u> (Seattle, WA). Oct. 2024.

[T4] *Verified Training for Counterfactual Explanation Robustness under Data Shift (Poster)*. <u>Midwest Machine Learning Symposium</u> (Minneapolis, MN). May 2024.

[T5] *Certifying Robustness to Programmable Data Bias in Decision Tree Learning*. <u>UW-Madison CS Research Symposium</u> (Madison, WI). Apr. 2022.

Service

Conference Reviewing

2025	FAccT
2024	AIES, FAccT, SaTML
2023	NeurIPS

Department Service at University of Wisconsin - Madison

2020-2023	Founding Member, **Graduate Student Advisory Committee** *Meet monthly with department chair and admin staff to discuss issues facing graduate students and work towards solutions*

Professional Development

2024	Research Mentor Training (The Delta Program at the University of Wisconsin - Madison)
2023	STEM Public Service Fellowship Program (University of Wisconsin - Madison) *Three-semester program that teaches scientists about civil engagement and public service in STEM. Completed a practicum (developing a workshop on fair machine learning) with the Data Science Hub at University of Wisconsin - Madison.*

Work Experience

2018-2020	Software Developer, Epic Systems, Verona, WI

Honors

2024	Poster Award (Midwest Machine Learning Symposium) *Awarded to top ~13% of poster presentations*
2023	Oral presentation (Conference on Uncertainty in Artificial Intelligence) *Top 3% of submissions*
2023	STEM Public Service Fellow (University of Wisconsin - Madison)
2018	Phi Beta Kappa (Carleton College)
2015	Dean's List (Carleton College)

Last updated: January 23, 2025