Kathleen Cachel

P.h.D. Candidate Data Science
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Research Interests

Fair ML · Responsible AI · Information Retrieval · Ranking Systems · Social Choice Theory

Education

2020-2025 (expected) ***Ph.D. Data Science, Worcester Polytechnic Institute***, Worcester, MA.
Advisor: Elke Rundensteiner. Grade Point Average (GPA): 4.0

August 2016 - July 2020 ***B.S. Computer Science, Tufts University***, Medford, MA.

Research & Work Experience

Jan. 2021 - May 2025 (expected) ***Research Assistant - Responsible AI, WPI, Worcester, MA.***
Lead researcher on rank-based algorithmic fairness (i.e, fairML) decision-making project. Building fair and flexible algorithmic systems for ranking, preference aggregation, and information retrieval. Designing fairness auditing and human-in-the-loop bias mitigation technologies.

August 2016 - July 2020 ***Program Manager I & Program Manager II, Microsoft, Cambridge, MA.***
Shipped Office collaboration feature improvements informed by key user metrics, data mining of customer-feedback, A/B testing, and experimentation. Developed internal KPI and analytics pipeline for business decision-making.

Publications

Hilson Shrestha, Kathleen Cachel, Mallak Alkhathlan, Elke Rundensteiner and Lane Harrison. **"FairFuse: Interactive Visual Support for Fair Consensus Rankings."** 2022 IEEE VIS. ⿻

Kathleen Cachel, and Elke Rundensteiner. **"FINS Auditing Framework: Group Fairness for Subset Selections."** In *Proceedings of the 2022 AAAI/ACM Conference on AI, Ethics, and Society (AIES)*. ⿻

Kathleen Cachel, Elke Rundensteiner, and Lane Harrison. **"Mani-Rank: Multiple Attribute and Intersectional Group Fairness For Consensus Ranking."** *2022 IEEE 38th International Conference on Data Engineering (ICDE)*. ⿻

Teaching & Mentorship

Teaching Assistant: Graduate Introduction to Data Science (Fall 2020), Graduate Machine Learning (Spring 2021)

Summer NSF REU Project Advisor (Summer 2022): Scoped project and advised team of 3 undergraduates and a junior PhD student on project: **"Is it (still) Fair? Fairness in Learning to Ranking Under Demographic Uncertainty".**

Professional Service

Program Committee: Women in Data Science (WiDS) Central Massachusetts. (2021, 2022)

Reviewer: Workshop on Human and Machine Decision @ NeurIP (2021)

Student Volunteer: ACM FAcct. (2022)