# Emma Harvey

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# Research Interests

Practical, interdisciplinary methods for assessing and improving the fairness of sociotechnical systems

## **EDUCATION**

Cornell University Aug. 2023 - present

Aug. 2013 - Dec. 2017

PhD student in Information Science

Advisors: Allison Koenecke and Rene Kizilcec

#### University of Pennsylvania

BA in Computer Science and Philosophy, Politics, & Economics

## Honors and Awards

Best Paper Honorable Mention, CHI Conference on Human Factors in Computing Systems	2024
Honorable Mention, National Science Foundation Graduate Research Fellowship (NSF GRFP)	2024
Summa Cum Laude, University of Pennsylvania (GPA 3.84 / 4.00)	2017

## **PUBLICATIONS**

#### Conference and Journal Publications

stringently peer-reviewed

Jinsook Lee\*, Emma Harvey\*, Joyce Zhou, Nikhil Garg, Thorsten Joachims, and Rene Kizilcec. Algorithms for College Admissions Decision Support: Impacts of Policy Change and Inherent Variability. 2024. Forthcoming at the 4th ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO '24). Preprint available.

Emma Harvey, Michelle Seng Ah Lee, and Jatinder Singh. *Improving Group Fairness Assessments with Proxies*. 2024. Forthcoming in the ACM Journal on Responsible Computing.

Emma Harvey, Hauke Sandhaus, Abigail Z. Jacobs\*, Emanuel Moss\*, and Mona Sloane\*. 2024. The Cadaver in the Machine: The Social Practices of Measurement and Validation in Motion Capture Technology. In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '24). doi.org/10.1145/3613904.3642004. Best Paper Honorable Mention

Sasha Costanza-Chock, **Emma Harvey**, Inioluwa Deborah Raji, Martha Czernuszenko, and Joy Buolamwini. 2022. Who Audits the Auditors? Recommendations from a field scan of the algorithmic auditing ecosystem. In 2022 ACM Conference on Fairness, Accountability, and Transparency (FAccT '22). doi.org/10.1145/3531146.3533213.

## Workshop Publications and Presentations

lightly peer-reviewed

Emma Harvey, Allison Koenecke, and Rene Kizilcec. Towards an Educator-Centered Method for Measuring Bias in Large Language Models. AAAI 2024 Workshop on AI for Education. Poster. Spotlight Presentation

Elena Gray, **Emma Harvey**, Kevin Coltin, and Greg Szwartz. 2022. Creating a Covid-19 risk decision metric with an agent-based simulation model. In 2022 American Public Health Association Annual Meeting and Expo (APHA '22). Abstract.

Rhodri Dierst-Davies, Sarah Godby Vail, Sarah Ayton, Greg Lidrbauch, Jennifer Vargas, Nik Andric, **Emma Harvey**, Greg Szwartz, Miguel Garza, Javier Lozano, Alexandro Arias, Paulina Sosa, Paola Martinez and Jose Reyes. 2019. A Mixed-Methods Approach Integrating Behavioral Insights and Data Analytics to Address Retention at Diabetes Clinics in Mexico: A Guide for Program Development. In 2019 American Public Health Association Annual Meeting and Expo (APHA '19). Abstract.

st denotes equal contribution

<sup>&</sup>lt;sup>1</sup>Due a request from my former employer, my name is not on the version of record. The authors' version is available on arXiv.

Emma Harvey, Nik Andric, Rhodri Dierst-Davies, Sarah Godby Vail, Greg Szwartz, Alexandro Arias, Kevin Coltin, Javier Lozano, Miguel Garza, Sarah Ayton, Greg Lidrbauch, Jose Reyes, Paulina Sosa, and Paola Martinez. *Pathway Analysis for Care Adherence Modeling*. In 2019 American Public Health Association Annual Meeting and Expo (APHA '19). Abstract.

## Working Papers

Emma Harvey, Allison Koenecke, and Rene Kizilcec. An Educator-Centered Taxonomy of Harms from Large Language Models in Education.

# WORK EXPERIENCE

Microsoft Research May 2024 - present

Research Intern, FATE (Fairness, Accountability, Transparency, and Ethics in AI)

Bridging the gap between research and practice in measuring representational harms from large language models under the supervision of Emily Sheng

## New York University

Mar. 2023 - present

Research Assistant, Expanding AI Audits

Auditing the assumptions upon which motion capture systems are based under the supervision of Abigail Jacobs, Emanuel Moss, and Mona Sloane

## University of Cambridge

Jul. 2021 - May 2024

Research Assistant, Compliant and Accountable Systems

Pro Bono Research Consultant, Algorithmic Justice League

Researching practical methods for conducting fairness assessments of decision-making algorithms without access to demographic data under the supervision of Jatinder Singh

#### **Deloitte Consulting**

Feb. 2018 - Aug. 2023

2020 - 2023

Data Scientist, AI & Advanced Analytics

Created Deloitte's first ethical AI toolkit to detect bias in decision-making systems; used to audit algorithms in education, healthcare, and hiring

## Teaching

University of California San Diego	
Co-Instructor, Responsible AI Data Science Capstone, Prof. David Danks	Aug. 2022 - Mar. 2023
Carnegie Mellon University	
Guest Lecturer, Designing Smart and Healthy Systems, Prof. David Steier	Sep. 2019 - Dec. 2021
University of Pennsylvania	
Teaching Assistant, Penn in Washington, Prof. Deirdre Martinez	May 2014 - Dec. 2017
SERVICE	
Academic	
Scheduling Co-Chair, ACM FAccT	2024
Program Committee Member, ACM FAccT	2024
Student Volunteer, ACM FAccT	2024
Student Volunteer, ACM FAccT	2022
Community	
Student Reviewer and Interviewer, Cornell Information Science PhD Admissions	2024
Mentor, Cornell IS Student-Applicant Reading Program (SARP)	2023