

Vishwali Mhasawade

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RESEARCH INTERESTS

I study algorithms, working at the intersection of causal inference, algorithmic fairness, and machine learning. I primarily focus on understanding the drivers of population health inequity and designing fair and equitable machine learning systems for mitigating health disparities.

EDUCATION

Post-doctoral Fellow <i>NYU Grossman School of Medicine, Department of Population Sciences</i>	New York, USA 2024 - Present
New York University <i>Ph.D. in Computer Science. Advisor: Rumi Chunara</i>	New York, USA 2019 - 2024
<i>Master of Science in Computer Science. Advisor: Rumi Chunara</i>	2017 - 2019
Pune University <i>Bachelor of Engineering in Computer Engineering</i>	Pune, India 2013 - 2017

HONORS AND AWARDS

Google PhD Fellowship	2021 - 2024
University of Michigan: Future Leaders Summit	2023
University of Chicago: Rising Star in Data Science	2022
ACM Grad Cohort for Women	2021
New York University: School of Engineering Fellowship	2019 - 2020
New York University: Graduate Scholarship	2017 - 2019

PUBLICATIONS

- Miao Zhang, Salman Rahman, Vishwali Mhasawade, Rumi Chunara.
Utilizing big data without domain knowledge impacts public health decision-making.
Proceedings of the National Academy of Science (PNAS), 2024. [Link]
- Vishwali Mhasawade, Salman Rahman, Zoe Haskell-Craig, Rumi Chunara.
Understanding Disparities in Post Hoc Machine Learning Explanation.
In Proceedings of the ACM Conference on Fairness, Accountability, and Transparency (FAccT), 2024. [Link]
- Vishwali Mhasawade, Alexander D'Amour, Stephen Pfohl.
A Causal Perspective on Label Bias.
In Proceedings of the ACM Conference on Fairness, Accountability, and Transparency (FAccT), 2024
Workshop on Algorithmic Fairness through lens of time at NeurIPS, 2023.
- Vishwali Mhasawade, Rumi Chunara.
Disparate Effect Of Missing Mediators On Transportability of Causal Effects.
American Causal Inference Conference, 2024 [Link]

5. Harvineet Singh, Vishwali Mhasawade, Rumi Chunara.
Generalizability challenges of mortality risk prediction models: A retrospective analysis on a multi-center database.
In PLOS Digital Health, 2022. [Link]
6. Vishwali Mhasawade, Yuan Zhao, Rumi Chunara
Machine learning and algorithmic fairness in public and population health.
In Nature Machine Intelligence, 2021. [Link]
7. Vishwali Mhasawade, Rumi Chunara.
Causal Multi-level Fairness.
In Proceedings of the AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society (AIES), 2021. [Link]
8. Harvineet Singh, Rina Singh, Vishwali Mhasawade, Rumi Chunara.
Fairness Violations and Mitigation under Distribution Shift.
In Proceedings of the ACM Conference on Fairness, Accountability, and Transparency (FAccT), 2021.
Fair ML for Health workshop at NeurIPS, 2019. Spotlight presentation. [Link]
9. Vishwali Mhasawade, Nabeel Abdur Rehman, Rumi Chunara.
Population-aware Hierarchical Bayesian Domain Adaptation via Multi-component Invariant Learning.
In Proceedings of the ACM Conference on Health, Inference and Learning (CHIL), 2020.
Machine Learning for Health (ML4H) Workshop at NeurIPS, 2018. [Link]
10. Vishwali Mhasawade, Anas Elghafari, Dustin Duncan, Rumi Chunara.
Role of the Online and Built Social Environments in the expression of dining on Instagram.
In International Journal of Environmental Research and Public Health, 2020. [Link]

WORKSHOPS, PRE-PRINTS

1. Stephen Pfohl, Natalie Harris, Chirag Nagpal, David Madras, Vishwali Mhasawade, Olawale Salaudeen, Katherine Heller, Sanmi Koyejo, Alexander D'Amour.
Understanding subgroup performance differences of fair predictors using causal models.
Workshop on Distribution Shift at NeurIPS, 2023.
2. Vishwali Mhasawade, Praveen Chandar, Ghazal Fazelnia, Benjamin Carterette.
Understanding User Podcast Consumption Using Sequential Treatment Effect Estimation.
Workshop on Causal Inference Challenges in Sequential Decision Making: Bridging Theory and Practice at NeurIPS, 2021.
3. Vishwali Mhasawade, Rumi Chunara.
Multi-Environment Functional Causal Models using Gaussian Processes.
Workshop on Causal Inference for Decision Making, ICLR, 2020.

4. Gregory W. Johnsen, Ling Lin, Lucia Yu, Andrew Dempsey, Vishwali Mhasawade, Daniel Jaroslawicz, Iddo Drori.
Explainable Musical Phrase Completion.
Joint Workshop on Machine Learning for Music at ICML, 2018. [Link]
5. Vishwali Mhasawade, Ildikó Emese Szabó, Melanie Tosik, Sheng-Fu Wang.
Neural Networks and Quantifier Conservativity : Does Data Distribution affect learnability?
arXiv preprint arXiv:1809.05733, 2018. [Link]

WORK EXPERIENCE

Google Research <i>Research Intern</i> <i>Mentors: Dr. Stephen Pfohl and Dr. Alexander D'Amour</i>	San Francisco, USA 05/2023 - 08/2023
Fiddler AI <i>Applied Research Intern</i> <i>Mentors: Dr. Hima Lakkaraju and Dr. Krishnaram Kenthapadi</i>	California, USA 05/2022 - 08/2022
Spotify <i>Research Scientist Intern</i> <i>Mentors: Dr. Praveen Chandar and Dr. Ghazal Fazelnia</i>	New York, USA 06/2021 - 09/2021
FairFrame Inc. <i>Co-Founder and Machine Learning Head</i> <i>Winner of NYU \$300K Entrepreneurs Challenge, 2018.</i>	New York, USA 02/2018 - 11/2018

POSITIONS OF RESPONSIBILITY

Internship Mentor: ARISE Program <i>Mentored high school students in a STEM research exposure program.</i>	New York University 2019 - 2022
Teaching Assistant <i>Deep Learning (CS-GY 9223)</i>	New York University 2018
Lab instructor <i>Capstone Undergraduate Course</i>	New York University 2021 - 2024

INVITED TALKS

Data Science for Health Equity, Alan Turing Institute	2024
Institute of Artificial Intelligence for Digital Health, Weill Cornell Medicine	2024
Washington University, School of Medicine, St. Louis	2024
Health Policy and Data Science, Stanford University	2023
Machine Learning in Medicine Seminar Series, Cornell University	2023
Doctoral Colloquium, ACM Conference on Health, Inference, and Learning	2023

Doctoral Consortium, ACM Conference on Fairness Accountability and Transparency	2023
Future Leader in Responsible AI, University of Michigan	2023
Rising Stars in Data Science, University of Chicago	2022
Panelist: Data Science Interdisciplinary Research Cluster, University of Toronto <i>Prediction, Machine Learning and Causal Inference: What does it mean for Population Health and Data Science?</i>	2021
Tutorial at ACM Conference on Health Inference and Learning <i>Machine Learning in Population and Public Health.</i>	2020

SERVICE

Organizing Committee

Machine Learning for Health (ML4H), 2024, 2023.

Association for Women in Mathematics, 2021.

Reviewer

ACM FAccT 2024, 2023; ICLR, 2023, 2022; NeurIPS 2022,2021,2020; ICML, 2024, 2023, 2021;

ACM CHIL, 2023, 2021, 2020; Machine Learning for Healthcare, 2023, 2022, 2021.

Machine Learning for Health (ML4H) workshop at NeurIPS, 2019, 2020, 2021.

Student Volunteer

ACM FAccT, 2022; AIES, 2021; WiML, NeurIPS, 2021.

Mentoring

Career Mentor, Machine Learning for Health, 2021.

TECHNICAL SKILLS

Programming Languages: (Proficient) Python; (Familiar) R, C++, Matlab, Javascript.

ML Frameworks: Tensorflow, PyTorch, Keras, Pyro, GPyTorch.

Applications and Tools: LaTeX, git, MS Office, Bash Scripting.