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

New York University — **New York, USA**
Ph.D. in Computer Science. Advisor: Rumi Chunara — Expected 05/2024
Master of Science in Computer Science. Advisor: Rumi Chunara — 2017 - 2019

Pune University — **Pune, India**
Bachelor of Engineering in Computer Engineering — 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

1. Vishwali Mhasawade, Rumi Chunara.
Disparate Effect Of Missing Mediators On Transportability of Causal Effects
American Causal Inference Conference, 2024 [Link]

2. Harvineet Singh, Vishwali Mhasawade, Rumi Chunara.
Generalizability challenges of mortality risk prediction models: A retrospective analysis on a multi-center database.
PLOS Digital Health, 2022. [Link]

3. Vishwali Mhasawade, Yuan Zhao, Rumi Chunara
Machine learning and algorithmic fairness in public and population health
Nature Machine Intelligence, 2021 [Link]

4. Vishwali Mhasawade, Rumi Chunara.
Causal Multi-level Fairness.
AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society (AIES), 2021. [Link]

5. Harvineet Singh, Rina Singh, Vishwali Mhasawade, Rumi Chunara.
Fairness Violations and Mitigation under Distribution Shift.
ACM FAccT conference, 2021.
Fair ML for Health workshop at NeurIPS, 2019. **Spotlight presentation**. [Link]

6. Vishwali Mhasawade, Nabeel Abdur Rehman, Rumi Chunara.
Population-aware Hierarchical Bayesian Domain Adaptation via Multi-component Invariant Learning.
ACM Conference on Health, Inference and Learning, 2020.
Machine Learning for Health (ML4H) Workshop at NeurIPS, 2018. [Link]

7. Vishwali Mhasawade, Anas Elghafari, Dustin Duncan, Rumi Chunara.
Role of the Online and Built Social Environments in the expression of dining on Instagram.
International Journal of Environmental Research and Public Health, 2020. [Link]

WORKSHOPS, PRE-PRINTS

1. Vishwali Mhasawade, Salman Rahman, Zoe Haskell-Craig, Rumi Chunara.
Understanding Disparities in Post Hoc Machine Learning Explanation
arXiv preprint arXiv:2401.14539, 2024 [Link]

2. Miao Zhang, Salman Rahman, Vishwali Mhasawade, Rumi Chunara.
Impact on Public Health Decision Making by Utilizing Big Data Without Domain Knowledge
arXiv preprint arXiv:2402.06059, 2024 [Link]

3. Vishwali Mhasawade, Alexander D'Amour, Stephen Pfohl.
A Causal Perspective on Label Bias.
Under review

4. 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.

5. 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.

6. Vishwali Mhasawade, Rumi Chunara.
Multi-Environment Functional Causal Models using Gaussian Processes.
Workshop on Causal Inference for Decision Making, ICLR, 2020.

7. 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]

8. 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 — **San Francisco, USA**
Research Intern — 05/2023 - 08/2023
Mentors: Dr. Stephen Pfohl and Dr. Alexander D'Amour

Fiddler AI — **California, USA**
Applied Research Intern — 05/2022 - 08/2022
Mentors: Dr. Hima Lakkaraju and Dr. Krishnaram Kenthapadi

Spotify — **New York, USA**
Research Scientist Intern — 06/2021 - 09/2021
Mentors: Dr. Praveen Chandar and Dr. Ghazal Fazelnia

FairFrame Inc. — **New York, USA**
Co-Founder and Machine Learning Head — 02/2018 - 11/2018
Winner of NYU $300K Entrepreneurs Challenge, 2018.

POSITIONS OF RESPONSIBILITY

Internship Mentor: ARISE Program — **New York University**
Mentored high school students in a STEM research exposure program. — 2019 - 2022

Teaching Assistant — **New York University**
Deep Learning (CS-GY 9223) — 2018

Lab instructor — **New York University**
Capstone Undergraduate Course — 2021 - 2024

INVITED TALKS

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 2021
Prediction, Machine Learning and Causal Inference: What does it mean for Population Health and Data Science?

Tutorial at ACM Conference on Health Inference and Learning 2020
Machine Learning in Population and Public Health.

SERVICE

Organizing Committee
Machine Learning for Health (ML4H), 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.