Aahlad Manas Puli

Email: aahlad@nyu.edu   **GitHub**: aahladmanas   **G-Scholar**: link   **Phone**: (929) 312-7360

Interests Out-of-distribution Generalization, ML for health, Causality, Survival Analysis

Education

Courant Institute, New York University   New York City, USA
PhD in Computer Science   September 2018 – Present
Advisor: Rajesh Ranganath

Courant Institute, New York University   New York City, USA
MS in Computer Science   September 2015 – May 2017
Advisors: David Sontag and Uri Shalit

Indian Institute of Technology, Madras   Chennai, India
BTech + MTech in Electrical Engineering   August 2010 – July 2015

Awards

Apple Scholars in AI/ML PhD fellowship   2022
Rising Star, the Trustworthy ML Initiative   2021
MacCracken Doctoral Fellowship (New York University)   2018
MS Thesis Fellowship (New York University)   2017

Talks

NYU Center for Data Science Lunch Seminar   October, 2023
Title: Don't blame Dataset Shift! Shortcut Learning due to Gradients and Cross Entropy

INFORMS Annual Meeting 2023, Community Committee Choice Session   October, 2023
Title: Out-of-distribution generalization in Health

Rising Star Seminar Series, Trustworthy ML Initiative   October, 2021
Title: Predictive modeling in the presence of nuisance-induced spurious correlations

Selected Publications

Don't blame Dataset Shift! Shortcut Learning due to Gradients and Cross Entropy
Aahlad Puli, Lily Zhang, Yoav Wald, Rajesh Ranganath
NeurIPS, 2023

New-Onset Diabetes Assessment Using Artificial Intelligence-Enhanced Electro-cardiography
Lior Jankelson, Neil Jethani, **Aahlad Puli**, Hao hang, Leonid Garber, Yindalon Aphinyanaphongs, Rajesh Ranganath
Clinical Abstract, Heart Rhythm, 2023

New-Onset Diabetes Assessment Using Artificial Intelligence-Enhanced Electro-cardiography

Neil Jethani, **Aahlad Puli**, Hao Zhang, Leonid Garber, Lior Jankelson, Yindalon Aphinyanaphongs, Rajesh Ranganath

Preprint

DIET: Conditional independence testing with marginal dependence measures of residual information

Mukund Sudarshan*, **Aahlad Puli***, Wesley Tansey, Rajesh Ranganath

AISTATS, 2023

OOD Generalization in the Presence of Nuisance-Induced Spurious Correlations

Aahlad Puli, Lily Zhang, Eric Oermann, Rajesh Ranganath.

ICLR, 2022

Causal Estimation with Functional Confounders

Aahlad Puli, Adler J Perotte, Rajesh Ranganath.

NeurIPS, 2020.

General Control Functions for Causal Effect Estimation from IVs

Aahlad Puli, Rajesh Ranganath.

NeurIPS, 2020.

X-CAL: Explicit calibration for survival analysis

Mark Goldstein*, Xintian Han*, **Aahlad Puli***, Adler J Perotte, Rajesh Ranganath.

NeurIPS, 2020.

All Publications   **Don't blame Dataset Shift! Shortcut Learning due to Gradients and Cross Entropy**

Aahlad Puli, Lily Zhang, Yoav Wald, Rajesh Ranganath

NeurIPS, 2023

Beyond Distribution Shift: Spurious Features Through the Lens of Training Dynamics

Nihal Murali, **Aahlad Puli**, Ke Yu, Rajesh Ranganath, Kayhan Batmanghelich

TMLR, 2023

New-Onset Diabetes Assessment Using Artificial Intelligence-Enhanced Electrocardiography

Lior Jankelson, Neil Jethani, **Aahlad Puli**, Hao hang, Leonid Garber, Yindalon Aphinyanaphongs, Rajesh Ranganath

Heart Rhythm, 2023

When More is Less: Incorporating Additional Datasets Can Hurt Performance By Introducing Spurious Correlations

Rhys Compton, Lily Zhang, **Aahlad Puli**, Rajesh Ranganath

MLHC, 2023

DIET: Conditional independence testing with marginal dependence measures of residual information

Mukund Sudarshan*, **Aahlad Puli***, Wesley Tansey, Rajesh Ranganath

AISTATS, 2023

Nuisances via Negativa: Adjusting for Spurious Correlations via Data Augmentation

Aahlad Puli , Nitish Joshi, Yoav Wald, He He, Rajesh Ranganath

Preprint

OOD Generalization in the Presence of Nuisance-Induced Spurious Correlations

Aahlad Puli, Lily Zhang, Eric Oermann, Rajesh Ranganath.

ICLR, 2022

Learning invariant representations with missing data

Mark Goldstein, Jörn-Henrik Jacobsen, Olina Chau, Adriel Saporta, **Aahlad Puli**, Rajesh Ranganath, Andrew Miller

CLeaR, 2022

Individual treatment effect estimation in the presence of unobserved confounding using proxies: a cohort study in stage III non-small cell lung cancer

Wouter AC van Amsterdam, Joost JC Verhoeff, Netanja I Harlianto, Gijs A Bartholomeus,**Aahlad Puli**, Pim A de Jong, Tim Leiner, Anne SR van Lindert, Marinus JC Eijkemans, Rajesh Ranganath

Nature Scientific Reports, 2022

CONTRA: Contrarian statistics for controlled variable selection

Mukund Sudarshan, **Aahlad Puli**, Lakshmi Subramanian, Sriram Sankararaman, Rajesh Ranganath.

AISTATS, 2021.

Inverse-Weighted Survival Games

Mark Goldstein, Xintian Han, **Aahlad Puli**, Thomas Wies, Adler Perotte, Rajesh Ranganath

NeurIPS, 2020.

Causal Estimation with Functional Confounders

Aahlad Puli, Adler J Perotte, Rajesh Ranganath.

NeurIPS, 2020.

General Control Functions for Causal Effect Estimation from IVs

Aahlad Puli, Rajesh Ranganath.

NeurIPS, 2020.

X-CAL: Explicit calibration for survival analysis
Mark Goldstein*, Xintian Han*, **Aahlad Puli***, Adler J Perotte, Rajesh Ranganath.
NeurIPS, 2020.

Removing hidden confounding by experimental grounding
Nathan Kallus, **Aahlad Puli**, Uri Shalit.
NeurIPS, 2018.

Teaching	**Teaching Assistant, Data Science, NYU**	Fall 2020, 2023

DS-GA.3001: Special Topics in Data Science: Machine Learning for Healthcare
- Lead recitations for a seminar course on ML for healthcare that covers, modeling for various modalities of healthcare data, causal inference, k-shot learning, time series models, and fairness.
- Average student rating: 4.83/5.

	Grader, Computer Science, NYU	Fall 2019, Spring 2021

CSCI-GA-2565: Machine Learning

Work	**Adobe Research,** Data Science Lab	San Jose, USA
	Research internship	Summer 2019
	Biomedical Informatics, Columbia University	New York City, USA
	Software Developer	July 2017 - June 2018
Service	**Reviewing for Conferences**	

Reviewed for NeurIPS, UAI, ICLR, ICML, AISTATS, TMLR, and MLHC in 2019 - 2023.
Top reviewer (UAI 2022)   2022