Aahlad Manas Puli

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Research interests

Causal Inference, Generalization in ML, Survival Analysis, ML for health

Education

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

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

Honors and scholarships

MacCracken Doctoral Fellowship (New York University) 2018
MS Thesis Fellowship (New York University) 2017

Publications

CONTRA: Contrarian statistics for controlled variable selection
Mukund Sudarshan, **Aahlad Puli**, Lakshmi Subramanian, Sriram Sankararaman, Rajesh Ranganath.
AISTATS, 2021.

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.

Research experience

Doctoral Research
Advisor: Rajesh Ranganath (NYU) September 2018 – Present
- Using insights from causal identification to develop algorithms with improved generalization guarantees for flexible models like deep neural networks.
- Developing theory and methodology for non-parametric causal effect estimation under violations of common assumptions like ignorability and overlap/positivity.
- Developing algorithms to improve calibration of models for survival analysis.

Learning Response-Regions, Master's Thesis + Research
Advisors: David Sontag and Uri Shalit (NYU) June 2016 - Dec 2018
- Developed a semi-supervised learning algorithm, COLORR, to detect strong response-regions via surrogate errors.

Protein Folding with Neural Networks
Advisors: Rob Fergus and Alex Rives (NYU) Spring 2017
- Worked on neural networks to predict protein configurations. Built a protein simulator in C++/Python to compute distance-gradients w.r.t. dihedral angles.

Teaching experience

Grader, Computer Science, NYU Fall 2019, Spring 2021
CSCI-GA-2565: Machine Learning
- Create and grade assignments for this course which covers ML methods including linear models, trees and forests, causal inference, and reinforcement learning.

Teaching Assistant, Data Science, NYU Fall 2020
DS-GA.3001: Special Topics in Data Science: Machine Learning for Healthcare
- Created and lead recitation sessions for this seminar course on ML for healthcare including causal inference, k-shot learning, time series models, and fairness.
- Average student rating: 4.83/5.

Work experience

Adobe Research, Data Science Lab San Jose, USA
Research internship Summer 2019
- Developed new bayesian attribution models for time-series advertising data.

Biomedical Informatics, Columbia University New York City, USA
Software Developer July 2017 - June 2018
- Developed Columbia's data-pipeline for the All of Us project on Google Cloud.

Service

Reviewing for Conferences
NeurIPS 2019-2020; ICML 2019, 2021; UAI 2019-2021; ICLR 2020, 2021; AISTATS 2020, 2021; MLHC 2020, 2021;

Other interests

Biking, Hiking, Dungeons and Dragons.