Abhishek Sharma

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PRINCIPAL INTERESTS

My goal is to develop methods which are robust to misspecification, to understand the conditions where machine models work (and where they fail), and to help individuals take decisions using their machine learning models.

EDUCATION

Harvard University, Cambridge, MA   2020 - Present
Ph.D. in Computer Science
Advisor: Finale Doshi-Velez
Research focus: Task-focused modeling in machine learning.
Select coursework: Probability I (STAT 210), Spectral Graph Theory (CS 229R), Bayesian Modeling Inference (MIT 6.435)

University of Massachusetts, Amherst (**UMass**), Amherst, MA   2018 - 2020
M.S. in Computer Science
Focus areas: probabilistic machine learning and reinforcement learning.
Select coursework: Reinforcement Learning (CS 687), Probabilistic Graphical Models (CS 688), Simulation (CS 590M), Machine Learning (CS 589), Advanced Algorithms (CS 611), Optimization for Computer Science (CS 690OP)

Indian Institute of Technology Madras (**IIT Madras**), India   2011 - 2016
B.Tech in Engineering
Select coursework: Fundamentals of Operations Research, Differential Equations, Multivariable Calculus

PREPRINTS

1. **Abhishek Sharma**, Catherine Zeng, Sanjana Narayanan, Sonali Parbhoo, Finale Doshi-Velez. On Learning Prediction-Focused Mixtures. *In ArXiv*, October 2021

CONFERENCE AND JOURNAL PROCEEDINGS

1. Nandan Sudarsanam, Nishanth Kumar, **Abhishek Sharma**, Balaraman Ravindran. Rate of Change Analysis for Interestingness Measures. *In Knowledge and Information Systems*, March 2019

WORKSHOPS

3. Sanjana Narayanan*, **Abhishek Sharma***, Catherine Zeng, Finale Doshi-Velez. Prediction-focused Mixture Models. *In Information-Theoretic Methods for Rigorous, Responsible, and Reliable Machine Learning, ICML*, June 2021

2. Sneha Aenugu, **Abhishek Sharma**, Sasikiran Yelamarthi, Hananel Hazan, Philip S. Thomas, Robert Kozma. Reinforcement learning with a network of spiking agents *Real Neurons & Hidden Units Workshop, NeurIPS*, December 2019

1. **Abhishek Sharma***, Aritra Ghosh*, Madalina Fiterau. Generative Sequential Stochastic Model for Marked Point Processes. *Time Series Workshop, ICML*, June 2019

TEACHING EXPERIENCE	**Teaching Fellow**, SEAS, Harvard	Fall 2021
	COMPSCI 282R: Topics in Machine Learning: Task-focused Generative Models and Inference (Finale Doshi-Velez)	
	Course Assistant, CICS, UMass Amherst	Spring 2020
	COMPSCI 690OP: Optimization for Computer Science (Madalina Fiterau)	
	Grader, CICS, UMass Amherst	Fall 2019
	COMPSCI 687: Reinforcement Learning (Philip S. Thomas)	

INDUSTRY EXPERIENCE	**Qualcomm**, San Diego	2019
	Machine Learning Intern. Investigating coreset selection to improve generalization of deep learning models while keeping training cheap	
	IIT Madras, India	2017 - 2018
	Research Associate. Research in Association Rule Mining. Applied projects on experimental design and anomaly detection.	
	Blaffer, India	2015 - 2016
	Co-founder and CEO. Created interactive Virtual Reality walk-throughs.	
	Sony, Tokyo	2014
	R&D Intern. Developed the firmware and designed experiments to study dependence of Galvanic Skin Response on emotions	

SERVICE AND LEADERSHIP	**Women in Data Science (WiDS) Datathon**	2021
	Mentor	
	Engineers without Borders, IIT Madras Chapter	2013 - 2015
	Founder and President	
	International and Alumni Relations, IIT Madras	2015 - 2016
	Student Head	