

BURAK VARICI

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EDUCATION	Rensselaer Polytechnic Institute , Troy, NY Ph.D. in Electrical Engineering, Advisor: Dr. Ali Tajer	<i>August 2018 - Present</i> GPA: 3.93/4.0
	Rensselaer Polytechnic Institute , Troy, NY M.Sc. in Electrical Engineering	<i>August 2018 - May 2020</i> GPA: 3.9/4.0
	Bogazici University , Istanbul, Turkey B.Sc. in Electrical & Electronics Engineering	<i>September 2013 - June 2018</i> GPA: 3.43/4.0
	University of Wisconsin-Madison , Madison, WI Exchange Student in Electrical & Computer Engineering	<i>Spring 2016</i> SPA: 3.62/4.0
RESEARCH PROJECTS	RPI Information Sciences Group <i>RPI-AIRC Scholar, Advisor: Dr. Ali Tajer</i>	<i>Troy, NY</i> September 2020 - Present
	Broadly interested in causal inference and interventions on graphical models. Developed consistent algorithms to learn from interventional data in both causally sufficient and insufficient systems. Lead to publications in NeurIPS and UAI conferences. Designed and analyzed causal bandit algorithms with relaxed assumptions (paper is under review). Investigated the identifiability of causal representation learning via interventions (paper is under review).	
	RPI Information Sciences Group <i>Graduate Research Assistant, Advisor: Dr. Ali Tajer</i>	<i>Troy, NY</i> January - October 2020
	Researched on structure learning of shared subgraphs for multiple undirected graphical models. Proposed an algorithm and analyzed its sample and computational complexities. Lead to publication in AISTATS.	
	RPI Intelligent Systems Laboratory <i>Graduate Research Assistant, Advisor: Dr. Qiang Ji</i>	<i>Troy, NY</i> August 2018 - December 2019
	Researched on low-cost eye-gaze tracking systems, utilized probabilistic methods to personalize deep models with limited annotation.	
	Bogazici University Signal and Image Processing Laboratory <i>Senior Design Project, Advisor: Dr. Murat Saraclar</i>	<i>Istanbul, Turkey</i> October 2017 - May 2018
	Investigated neural network based distance metrics for Query-by-example speech (QbE) search on low-resource languages.	
	University of Wisconsin-Madison <i>Undergraduate Research Assistant, Advisor: Dr. Xinyu Zhang</i>	<i>Madison, WI</i> May - July 2016
	Explored tracking the orientation of batteryless objects via RFID tags. Analyzed characteristics of different frequency channels to integrate localization.	
PROFESSIONAL EXPERIENCE	The Rensselaer-IBM AI Research Collaboration <i>AI Horizons Extern, Mentors: Dr. Prasanna Sattigeri, Dr. Karthikeyan Shanmugam</i>	May - August 2020
	Researched on combining the causal discovery process with generative modeling and inducing a latent space representative of the underlying structure.	
	Speech Enabled Smart Technologies	<i>Istanbul, Turkey</i>

Built neural networks for a speaker identity verification system.

PUBLICATIONS	B. Varıcı , E. Acartürk K. Shanmugam, A. Kumar, and A. Tajer, “Score-based Causal Representation Learning with Interventions”, <i>under review</i> .
	B. Varıcı , K. Shanmugam, P. Sattigeri, and A. Tajer, “Causal Bandits for Linear Structural Equation Models”, <i>under review</i> .
	B. Varıcı , K. Shanmugam, P. Sattigeri, and A. Tajer, “Intervention Target Estimation in the Presence of Latent Variables”, <i>The Conference on Uncertainty in Artificial Intelligence (UAI)</i> , 2022.
	B. Varıcı , K. Shanmugam, P. Sattigeri, and A. Tajer, “Scalable Intervention Target Estimation in Linear Models”, <i>Neural Information Processing Systems (NeurIPS)</i> , 2021.
	B. Varıcı , S. Sihag, and A. Tajer, “Learning Shared Subgraphs in Ising Model Pairs”, <i>International Conference on Artificial Intelligence and Statistics (AISTATS)</i> , 2021.
SKILLS AND COURSEWORK	Technical: Python, TensorFlow/Keras, MATLAB
	Relevant Courses: Learning from Data, Deep Learning, Probabilistic Graphical Methods, Distributed Machine Learning, Trustworthy Machine Learning, Bandit Algorithms, Detection and Estimation Theory, Intro. to Optimization, Computational Optimization, Computer Vision, Speech Processing.
AWARDS & HONORS	Jerry Dziuba ECSE Graduate Student Service Award <i>2022</i>
	Belsky Award for Computational Sciences and Engineering <i>2022</i>
	The Rensselaer-IBM AI Research Collaboration Fellowship <i>2020</i>
	Undergraduate Science Fellowship of Government of Turkey <i>2013 - 2018</i>
	University Entrance Exam - Ranked 276 th out of 1.8 million candidates <i>2013</i>
	Turkish National Mathematical Olympiad - Silver Medal <i>2012</i>
	International Balkan Mathematical Olympiad - Silver Medal <i>2012</i>
TEACHING EXPERIENCE	Teaching Assistance, Rensselaer Polytechnic Institute Troy, NY <i>ECSE 2410: Signals and Systems</i> <i>Spring 2020</i>
	Teaching Assistance, Rensselaer Polytechnic Institute Troy, NY <i>ECSE 2610: Computer Components and Operations</i> <i>Spring 2019</i>
	Teaching Assistance, Rensselaer Polytechnic Institute Troy, NY <i>ECSE 1010: Introduction to Electrical, Component and Systems Engineering</i> <i>Fall 2018</i>