

I am passionate about data integration, automation, and optimization. I like to bring together recent and proven technologies for solutions that create value.

Education

University of California, Los Angeles	2019-2021
MS in Operations Management - Decisions, Operations, and Technology Management <i>Ph.D. group at Anderson School of Management. GPA 3.94</i>	
Pomona College	2010-2014
<i>Mathematics BA, Computer Science minor. GPA 3.63</i>	
Indian Institute of Technology, Kanpur	Spring 2013
<i>Mathematics Department.</i>	

Technical Skills

<i>Code</i> · Python · Node · Java · C++	<i>Container</i> · Docker · Kubernetes · Helm	<i>Optimization</i> · Pyomo · COIN-OR · GUROBI
<i>Frontend</i> · JS · Angular · HTML	<i>Cloud</i> · GCP · AWS · Heroku	<i>Computation</i> · R · MATLAB · Mathematica
<i>Backend</i> · Flask · Django · ExpressJS	<i>Database</i> · PSQL · SQLAlchemy · Spark	<i>Presentation</i> · LaTeX · Markdown · Jupyter

Freelance Software Development

Sinai Temple	2018,2019 - recurring
Automated and optimized scheduling Bar/Bar Mitzvah dates for ~130 students via mixed-integer linear programming.	
GroupThere	May 2017 - present
Launched a carpool optimization tool at grouphtherenow.com. Minimizes drive-time across groups of 2-100. Configured for activist organizations. "Bee Swarm for Cars".	
LA Community Action Network	2017
Implemented LAPD's "hotspot"-generation algorithm. Compared hotspots to historical arrest, citation, and crime report data from the City of Los Angeles. Contributed results the community-generated report "Predictive Policing in Los Angeles".	
FactoryOfEverything	August 2016 - March 2017
Developed a model for purchasing, production, shipping, and holding over a factory-warehouse-retail system. Forecasting using classical signal processing, regression, and machine learning. Implemented MVP in MATLAB.	

Professional Experience

MBA Teaching Assistant	Anderson School of Management, UCLA	2020-2021
Taught Data and Analytics to students in the full-time and fully-employed MBA programs.		
Mathematics Tutor	Tutor Me LA	June 2016 - September 2019
Provided private tutoring for undergraduate UCLA students as part of the UCLA Guardian Scholars scholarship.		
Computer Science Instructor	PlanetBravo	June - August 2018
Taught introductory and intermediate computer science courses for young children.		
Tutor for Incarcerated Youth	M&I Education Consulting	March 2015 - October 2017
Provided Math and CS tutoring for incarcerated and foster youth in El Monte and Long Beach, CA.		

Research

Pandemic Mitigation Optimization	2021
<i>Anderson School of Management, UCLA</i>	
Optimizes decisions that affect compartment flow parameters in discrete-time SIRD disease progression model.	
Fairness, Efficiency, and Feature-Awareness in the Allocation of Public Goods	2020
<i>Anderson School of Management, UCLA</i>	
Extends strategies for algorithmic fairness from the machine learning community to a resource-allocation optimization setting.	
Generative Models and Sparse Coding	2014
<i>Department of Mathematics, Pomona College</i>	
Formalized connections between the Boltzmann Machine Distribution and unsupervised learning based on sparse coding.	
Anomaly Detection Using Dictionary Learning	2013
<i>University of Minnesota, Minneapolis</i>	
Unsupervised anomaly detection in video data using dictionary learning and sparse coding. An NSF-funded REU.	
Aquatic Insect Populations' Response To Time-Varying Reproductive Rates	2012
<i>Oregon State University</i>	
Modeled insect populations in MATLAB using partial differential equations. An NSF-funded REU.	
Zero-Sum Flows of the Linear Lattice	2012
<i>Department of Mathematics, Pomona College</i>	
Proved conditions for bounds on network flows in a generalization of the boolean lattice	

Honors

Outstanding Presentation Award	2014
<i>Joint Mathematics Meeting, Baltimore, MD</i>	
Awarded to 15% of undergraduate research groups presenting work at JMM. For summer 2013 research.	
Llewellyn Bixby Mathematics Prize	2012
<i>Department of Mathematics, Pomona College</i>	
Awarded annually to the student with highest achievement within the department.	