

Aditya Mittal

CONTACT	adityamittal03.github.io mittalaa@uci.edu +1 (669) 304-8483		
EDUCATION	University of California, Irvine <i>Sept. 2025 – Present</i> Advisor: Unnat Jain M.S., Computer Science GPA: 3.895/4.00. <i>Expected graduation: June 2027.</i>		
	University of California, Davis <i>June 2021 – June 2025</i> Advisor: Norman Matloff B.S., Statistics (Highest Honors) <i>Minors:</i> Mathematics and Computer Science. GPA: 3.889/4.00.		
RESEARCH EXPERIENCE	University of California, Irvine <i>Sept. 2025 – Present</i> <i>Graduate Research Assistant; Department of Computer Science</i> Advisor: Unnat Jain . <i>Project Overview:</i> GLIDE uses LLM-generated executable guardrails to support data collection and policy deployment on hard-to-demonstrate tasks. My contributions include: • Assembled the tendon driven dexterous CRAFT with PLA links and compliant TPU joints; designed and 3D-printed a YAM Ultra adapter in Fusion 360. • Retargeted Meta Quest hand tracking to CRAFT’s actuators for real-time teleoperation. • Collected bimanual wine-pouring demonstrations and implemented GLIDE command filters for $\pi_{0.5}$ policy deployment. [project blog]		
	Johns Hopkins University, Baltimore, MD <i>June – Aug. 2026</i> <i>Graduate Research Intern; School of Engineering</i> Advisors: Reno Kriz and Dave Doermann . <i>Project Overview:</i> OpenVAU uses VLMs to detect and explain anomalous events in raw, unedited videos without predefined anomaly categories. My contributions include: • Developed a two-stage anomaly detection pipeline. In Stage I, a 32B Qwen reasoning VLM uses normal reference videos and a user persona to generate guiding questions that define context-specific anomaly criteria. • Stage II uses an 8B Qwen VLM to answer these questions on reference and unseen videos, detecting and explaining anomalies through deviations from normal-reference answers.		
	University of California, Davis <i>June 2023 – June 2025</i> <i>Undergraduate Research Assistant; Department of Statistics</i> Advisor: Norman Matloff . <i>Project Overview:</i> TowerDebias improves fairness of black-box machine learning predictions without retraining, using the law of iterated expectations. My contributions include: • Implemented the TowerDebias algorithm using a k-nearest-neighbor approach to average black-box predictions over neighbors matched on non-sensitive features. • Evaluated fairness-accuracy trade-offs across neighborhood sizes and five datasets using linear/logistic regression, KNN, XGBoost, random forests, and neural networks. • Parallelized experiments in R; visualized the effects of TowerDebias debiasing on predictive accuracy versus correlation between predictions and sensitive attributes.		
PUBLICATIONS	1. Learning Beyond What Humans Can Demonstrate Yuchen Song, Aditya Mittal , and Unnat Jain. <i>Conference on Robot Learning (CoRL), 2026.</i> [arXiv] [project]		
PREPRINTS	1. The Surprising Effectiveness of Few-Step Adaptation for Robotic Manipulation Basavasagar Patil, Aditya Mittal , and Unnat Jain. <i>In submission.</i>		

	2. <u>TowerDebias: A Novel Unfairness Removal Method Based on the Tower Property</u> Aditya Mittal and Norman Matloff. <i>arXiv preprint, 2024.</i> [arXiv] [code] 3. <u>dsld: A Socially Relevant Tool for Teaching Statistics</u> Aditya Mittal, Taha Abdullah, Arjun Ashok, Brandon Zarate Estrada, Shubhada Martha, Billy Ouattara, Jonathan Tran, and Norman Matloff. <i>arXiv preprint, 2024.</i> [arXiv] [code]
AWARDS	Citation for Outstanding Performance 2025 UC Davis Department of Statistics. CRA Outstanding Undergraduate Researcher Award (Honorable Mention) 2025 Computing Research Association. Dean's List (Multiple quarters) 2021 – 2025 UC Davis Department of Statistics.
RESEARCH SOFTWARE	dsld: Data Science Looks at Discrimination [code] Package author and current maintainer; project lead: Norman Matloff. - Created R and Python tools for covariate-adjusted group comparisons using linear, logistic, and nonparametric regression, with interaction effects and standard errors. - Built cross-validation and grid-search tools to assess fairness–accuracy trade-offs.
TALKS & POSTERS	Johns Hopkins University (Poster) Aug. 2026 <i>OpenVAU: Open-World Video Anomaly Understanding</i> UC Davis Department of Mathematics (Poster) Dec. 2024 <i>A Mathematical Approach to Algorithmic Fairness</i> Joint Statistical Meetings (Oral) Aug. 2024 <i>Discrimination Analysis in a Box: an R Package</i> UC Davis Undergraduate Research Conference (Oral) Apr. 2024 <i>TowerDebias: A Novel Unfairness Removal Method Based on the Tower Property</i> UC Davis Scholarship of Teaching and Learning (Poster) Dec. 2023 <i>Discrimination Analysis in a Box: a Machine Learning Package for Teaching</i>
MENTORING	Prajacta Bagayatkar (Summer REU student), SJSU undergraduate Summer 2026 Co-mentored research on IMU-based force sensing for the CRAFT hand.
TEACHING	Undergraduate Statistics Reader, UC Davis Jan. – June 2023 Graded homework, exams, and projects and provided feedback for undergraduate statistics courses. Courses: <i>Applied Statistics; Analysis of Variance; Time Series.</i>
INDUSTRY EXPERIENCE	Cisco, San Jose, CA June – Sept. 2023 <i>Data Science Intern; Data, Insights, and Analytics Team</i> - Built Power BI dashboards to consolidate supply-chain metrics for quarterly reviews. - Automated data collection and transformation in Python; cut reporting time by 40%. Cisco, San Jose, CA June – Sept. 2022 <i>Data Science Intern; Global Trade Compliance Team</i> - Centralized trade-compliance requests in Smartsheet, saving \$25,000 annually in licensing; led cross-regional user testing and wrote rollout guides.
TECHNICAL SKILLS	Languages: Python, R, SQL, C/C++, MATLAB, HTML/CSS. Machine Learning & Robotics: PyTorch, TensorFlow, scikit-learn, NumPy, pandas; tidyverse, caret, ggplot2; MuJoCo, Isaac Sim, Fusion 360, Linux/Ubuntu.