

Avni Kothari

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EDUCATION	University of California, San Diego 2021 – 2023 M.S. in Computer Science Thesis: Foundations for Model-Agnostic Recourse Verification Advisors: Berk Ustun & Lily Weng Coursework: Machine Learning; Recommender Systems; Neural Networks & Pattern Recognition; Convex Optimization; Statistical NLP; Probabilistic Reasoning & Learning; Networking Systems
	University of Texas at Austin 2011 – 2016 B.A. in Mathematics & B.A. in Economics Minor in Computer Science Coursework: Databases; Programming Languages; Software Design; Real Analysis; Number Theory; Discrete Mathematics; Differential Equations; Linear Algebra & Matrix Theory; Econometrics
RESEARCH INTERESTS	Machine Learning, Algorithmic Fairness, Algorithmic Recourse, Interpretability, Natural Language Processing, Deep Learning, ML for Healthcare, Responsibly Deploying ML models in Safety Critical Settings
PAPERS	Prediction without Preclusion: Recourse Verification with Reachable Sets Avni Kothari*, Bogdan Kulynych*, Lily Weng, Berk Ustun <i>ICLR – International Conference on Learning Representations, Top 5% among submissions, 2024</i> * denotes equal contribution
POSTER PRESENTATIONS	UCSF Retreat, AI Convergence: Preparing for the Age of AI; San Francisco, CA FEB 2024 ICML Workshop on Data-centric Machine Learning Research; Honolulu, HI JULY 2023 ICML Workshop on Spurious Correlations, Invariance and Stability; Honolulu, HI JULY 2023 ICML Workshop on Artificial Intelligence & Human Computer Interaction; Honolulu, HI JULY 2023
AWARDS	DeepMind Fellow (Article) 2021 – 2023 University Honors 2011 – 2014
WORK EXPERIENCE	UCSF; San Francisco, CA SEPT. 2023 – PRESENT <i>Data Scientist</i> <ul style="list-style-type: none">• Researching and deploying healthcare ML models at Zuckerberg San Francisco General Hospital under Jean Feng• Creating and evaluating a 30-day all cause readmissions model for deployment at the hospital• Building a data pipeline to process electronic health records from thousands of patients to make data compatible with machine learning algorithms• Researching and implementing methods with large language models to align tabular machine learning models with clinical intuition for model interpretability and reliability Edovo; Chicago, IL JAN. 2020 – MAY 2021 <i>Software Engineer</i> <ul style="list-style-type: none">• Designed and developed an educational content platform to handle 700K+ requests per day• Created a pipeline and nightly job to merge 4 billion rows of user event data in PostgreSQL• Spearheaded team sessions to improve software development practices and adopt new frameworks 8th Light; Chicago, IL AUG. 2017 – MAR. 2019 <i>Lead Software Engineer</i> <ul style="list-style-type: none">• Developed a diabetes management iOS app to connect patients with diabetic nurse specialists• Enhanced a Java-based continuous deployment pipeline, seamlessly integrating with internal tools• Mentored peers and residents through pair programming sessions and code reviews <i>Resident Apprentice</i> JAN. 2017 – AUG. 2017 <ul style="list-style-type: none">• Created games and applications with a focus on Test Driven Development and SOLID Design• Created an HTTP Server in Java without libraries for app deployment

- Gave company-wide talks on “Hashing Functions” and “Fun with Prime Numbers”

TEACHING
EXPERIENCE

Interpretability & Explainability in Machine Learning; *UC San Diego* SEPT. 2022 – DEC. 2022

Course taught by: [Berk Ustun](#)

Supported instruction for 30+ MS/PhD students in an introductory research course

Differential Calculus Tutor; *UT Austin*

MAY 2011 – AUG. 2013

Tutored undergraduates on limits, Riemann sum, continuity, derivatives, and differentiation rules

SKILLS &
INTERESTS

Software: Python, Java, Swift, Javascript, AWS, Elasticsearch, Elixir, SQL, Terraform

Libraries: Pytorch, CPLEX, Numpy, Pandas, Sklearn, Redux, React

Interests: Cycling, Gardening, Knitting, Hiking, Swimming, Fiction