

Avni Kothari

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[Google Scholar](#)

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	Bayesian Concept Bottleneck Models with LLM Priors Jean Feng, Avni Kothari, Lucas Zier, Chandan Singh, Yan Shuo Tan <i>preprint</i> , 2024 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</i> , 2024 * denotes equal contribution Bayesian Priors From Large Language Models Make Clinical Prediction Models More Interpretable Avni Kothari, Daniel J. Bennett, Seth Goldman, Elizabeth Connelly, James D. Marks, Lucas S. Zier, Jean Feng <i>AMIA – American Medical Informatics Association, Podium Abstract</i> , 2024 Implementing a Predictive Model to Reduce Hospital Readmissions in a Safety Net Healthcare System Arturo Gasga, Avni Kothari, Seth Goldman, Jim Marks, Jean Feng, Lucas Zier <i>ML4H Demo Track</i> , 2024
POSTER PRESENTATIONS	UCSF Retreat, AI Convergence: Preparing for the Age of AI ; <i>San Francisco, CA</i> FEB. 2024 ICML Workshop on Data-centric Machine Learning Research ; <i>Honolulu, HI</i> JULY 2023 ICML Workshop on Spurious Correlations, Invariance and Stability ; <i>Honolulu, HI</i> JULY 2023 ICML Workshop on Artificial Intelligence & Human Computer Interaction ; <i>Honolulu, HI</i> JULY 2023
AWARDS	DeepMind Fellow (Article)2021 – 2023 University Honors2011 – 2014
CONTRIBUTED TALKS	Bayesian Priors From LLMs Make Clinical Prediction Models More Interpretable (Scheduled)NOV. 2024 AMIA Annual Symposium
WORK EXPERIENCE	University of California, San Francisco ; <i>San Francisco, CA</i> SEPT. 2023 – PRESENT <i>ML Researcher/ Data Scientist</i> <ul style="list-style-type: none">• Researching and deploying healthcare ML models at San Francisco General Hospital under Jean Feng• Researching and implementing methods with LLMs to align tabular machine learning models with clinical intuition for model interpretability and reliability• Researching and evaluating using LLMs in conjunction with Bayesian methods to extract concepts from clinical notes• Creating, evaluating, and deploying a 30-day all cause readmissions model for use at the hospital

- Building a data pipeline to process electronic health records from thousands of patients to make data compatible with machine learning algorithms

Edovo; Chicago, IL

JAN. 2020 – MAY 2021

Software Engineer

- 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

Lead Software Engineer

- 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

Resident Apprentice

JAN. 2017 – AUG. 2017

- 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

ACADEMIC
SERVICE

Reviewing; JAMA '24

SERVICE

Vision 1948

MAY 2023 – PRESENT

Guest speaker in AI to educate young girls interested in STEM fields

PenPal for the Incarcerated

SEPT. 2020 – PRESENT

Correspond biweekly through letters and video chats with an incarcerated individual

UCSF AI4All

JULY 2024 – JULY 2024

Teaching assistant for machine learning assignments for high school students

The Recyclery; Chicago, IL

AUG. 2018 – MAY 2021

Drafted annual budget for a bike shop with 200+ customers, and assisted with repairs

SKILLS &
INTERESTS

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

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

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