

Avni Kothari

CURRICULUM VITAE — MAY 2023

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EDUCATION	University of California, San Diego 2021 – PRESENT M.S. in Computer Science GPA: 3.74/4.00 Thesis: Model-Agnostic Recourse Verification Advisors: Berk Ustun & Lily Weng Coursework: ML Algorithms; Recommender Systems; Neural Networks & Pattern Recognition; Convex Optimization; Statistical NLP; Probabilistic Reasoning & Learning
	University of Texas at Austin 2011 – 2016 B.A. in Mathematics & B.A. in Economics GPA: 3.72/4.00 Minor in Computer Science Coursework: Real Analysis; Number Theory; Software Design; Discrete Mathematics; Differential Equations; Linear Algebra & Matrix Theory; Databases; Elements of Programming Languages; Microeconomic Theory; Macroeconomic theory; Introduction to Econometrics; Managerial Economics
RESEARCH INTERESTS	Topics: Machine Learning, Fairness, Recourse, Privacy, Auditing Applications: Consumer Finance, AI Safety
AWARDS	DeepMind Fellow (Article) 2021 – 2023 University Honors 2011 – 2014
PAPERS	Prediction without Preclusion: Recourse Verification with Reachable Sets Avni Kothari, Bogdan Kulynych, Lily Weng, Berk Ustun <i>In Submission</i> , 2023
WORK EXPERIENCE	Edovo JAN. 2020 – MAY 2021 <i>Software Engineer</i> - Chicago, IL <ul style="list-style-type: none">– Designed and architected the education content platform to handle over 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 discuss the best software practices and latest technologies. 8th Light AUG. 2017 – MAR. 2019 <i>Lead Software Engineer</i> - Chicago, IL <ul style="list-style-type: none">– Developed a holistic diabetes management iOS app to connect patients with diabetic nurses.– Engineered applications from inception with Elixir Phoenix, Java, Swift, and React.– Worked on a continuous deployment team writing Java while integrating with internal tools.– Provided frequent mentoring through pair programming and extended code reviews. <i>Resident Apprentice</i> - Chicago, IL JAN. 2017 – AUG. 2017 <ul style="list-style-type: none">– Completed 5 projects with a focus on Test Driven Development and SOLID Design.– Created an HTTP Server in Java without libraries and received feedback from 8 engineers.– Gave talks on “Hashing Functions” and “Fun with Prime Numbers”.
TEACHING EXPERIENCE	Interpretability & Explainability in Machine Learning SEPT. 2022 – DEC. 2022 Course taught by: Berk Ustun <ul style="list-style-type: none">– An in depth overview of the latest advancements in the field and discussed seminal papers.– Met with students to discuss paper presentations and helped organize the classroom logistics.

Differential Calculus Tutor
Austin, TX

MAY 2011 – AUG. 2013

- Met with students weekly for hourly sessions to review and teach homework problems.
- Tutored students on limits, Riemann sum, continuity, derivatives, and differentiation rules.

SERVICE

PenPal for the Incarcerated

SEPT. 2020 – PRESENT

San Diego, CA; Chicago, IL

Correspond biweekly through letters and video chats with an incarcerated individual.

Warren Community Garden

AUG. 2021 – PRESENT

San Diego, CA

Maintain produce and composting through weekly volunteering and donate produce to food pantries.

The Recyclery

AUG. 2018 – MAY 2021

Chicago, IL

Financially planned the budget for the bike shop and helped individuals repair their bikes.

SKILLS &
INTERESTS

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

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

Interests Cycling, Gardening, Knitting, Hiking, Reading, and Swimming