ANANYA UPPAL

ananya.uppal09@gmail.com

EMPLOYMENT

University of Texas, Austin
Postdoctoral Fellow, Institute for the Foundations of Machine Learning — July 2021 - Current

University of California, Berkeley
Postdoctoral Fellow, Simons Institute for the Theory of Computing — January 2022 - May 2022

EDUCATION

Carnegie Mellon University — G.P.A. 3.83/4.00
Doctor of Philosophy, Algorithms, Combinatorics and Optimization — May 2021

Carnegie Mellon University — G.P.A. 3.83/4.00
Master of Science, Algorithms, Combinatorics and Optimization — December 2019

University of Illinois at Urbana-Champaign (UIUC) — G.P.A. 3.88/4.00
Bachelor of Science, Computer Science and Mathematics — May 2015

PUBLICATIONS & PREPRINTS

Learning a 1-layer Conditional Generative Model in Total Variation — NeurIPS 2023
Ajil Jalal, Justin Kang, **Ananya Uppal**, Kannan Ramchandran, Eric Price
Advances in Neural Information Processing Systems 2023
Acceptance Rate: 26.1%

Lovasz Theta Contrastive Learning [PDF] — December 2022
Georgios Smyrnis, Matt Jordan, **Ananya Uppal**, Giannis Daras, Alex Dimakis
Advances in Neural Information Processing Systems 2022
Workshop: Self-Supervised Learning - Theory and Practice

Robust Density Estimation under Besov IPMs [PDF] — NeurIPS 2020
Ananya Uppal, Shashank Singh, Barnabas Poczos
Advances in Neural Information Processing Systems 2020: ***Spotlight***
Acceptance Rate: 2.96%

Nonparametric Density Estimation and Convergence of GANs under Besov IPM Losses [PDF] — NeurIPS 2019
Ananya Uppal, Shashank Singh, Barnabas Poczos
Advances in Neural Information Processing Systems 2019: ***Oral***
Acceptance Rate: 0.053%
Outstanding Paper Award Honorable Mention: 3 of 6743 Submissions

Nonparametric Density Estimation under Adversarial Losses [PDF] — NeurIPS 2018
Shashank Singh, **Ananya Uppal**, Boyue Li, Chun-Liang Li, Manzil Zaheer, Barnabas Poczos
Advances in Neural Information Processing Systems 2018
Acceptance Rate: 20.8%

HONORS & AWARDS

NeurIPS 2019 Honorable Mention for Outstanding Paper Award — 2019
Most Outstanding Major Award in Mathematics and Computer Science — 2015
Edmund J. James Scholar at UIUC — 2011 - 2014

TECHNICAL SKILLS

Python, Pytorch, C++

EXPERIENCE

Research Mentor (Mentored undergraduate research project on tracking bond indices.) Summer 2019
Principal Financial Group

Reviewer for Journals and Conferences

Annals of Statistics	2020, 2022
Journal of Machine Learning Research	2020, 2021
IEEE Transactions on Information Theory	2019
Advances in Neural Information Processing Systems (NeurIPS)	2018, 2019, 2021
International Conference on Machine Learning (ICML)	2020, 2022
International Conference on Learning Representations (ICLR)	2020

Survey of Distribution Regression Methods Spring 2018
Studied and summarized the state of the art algorithms for distribution regression. Statistical Machine Learning Course Project, Prof. Larry Wasserman

Lead NetMath Mentor (UIUC) Spring 2014, Fall 2014
Help manage administrative duties such as training new mentors, helping improve the experience of students taking courses at NetMath.

RELEVENT COURSEWORK

Machine Learning	**Mathematics**	**Algorithms**
Intermediate Statistics	Differential Geometry	Graduate Algorithms
Statistical Machine Learning	Convex Optimization	Integer Programming

Graduate Teaching Assistant
Carnegie Mellon University

Computational Finance	Spring 2019-2021
Optimization	Fall 2017 - Fall 2018
Operations Research	Spring 2017
Linear Algebra	Spring 2016
Integration and Approximation	Fall 2015

PROJECTS

Survey of Distribution Regression Methods Spring 2018
Statistical Machine Learning Course Project, Prof. Larry Wasserman

- Studied and summarized the state of the art algorithms for distribution regression.

Research on Random Discrete Sets Fall 2013, Spring 2014, Fall 2014
Illinois Geometry Lab (UIUC)

- Observed that gap distributions in subsets obtained by sampling the Farey sequence with Bernoulli trials are exponential and verified similar results, both numerically and theoretically, for other equi-distributed sequences.

Research on Outer Billiards in Hyperbolic Plane Summer 2013
Institute for Computational and Experimental Research in Mathematics - Brown University

- Visualized periodicity of points around a convex polygonal table in hyperbolic plane under the outer billiards map and studied the behavior of these orbits.

Presented Research on n-dimensional Integrals at Conferences

- Mathematics Association of America MathFest August 2013
- Young Mathematicians Conference August 2013
  Ohio State University, Columbus, OH
- Undergraduate Topology and Geometry Conference February 2013
  University of Texas at Austin, Austin, Texas
- Public Engagement Symposium February 2013