

# Anmol Kabra

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## Education

**Toyota Technological Institute at Chicago**, Chicago, IL 2021 – 2023  
M.S. in Computer Science (Machine Learning), GPA: 3.46/4.0  
Courses: Algorithms, Theory of Machine Learning, Statistical Learning Theory, Fundamentals of Deep Learning

**Cornell University**, Ithaca, NY 2016 – 2020  
B.S. in Computer Science (Honors) and Applied Math, *summa cum laude*, GPA: 4.13/4.3  
Courses: Foundations of Modern Machine Learning, Matrix Computations, Math Foundations of Information Age

## Publications

- [1] Anmol Kabra and Ethan R. Elenberg. Domain Private Transformers for Multi-Domain Dialog Systems. In *Findings of EMNLP*, 2023. arXiv:2305.14208.
- [2] Gene Li, Junbo Li, Anmol Kabra, Nathan Srebro, Zhaoran Wang, and Zhuoran Yang. Exponential Family Model-Based Reinforcement Learning via Score Matching. In *NeurIPS*, 2022. (Oral award). arXiv:2112.14195.
- [3] Johan Björck, Anmol Kabra, Kilian Q. Weinberger, and Carla P. Gomes. Characterizing the Loss Landscape in Non-Negative Matrix Factorization. In *AAAI*, 2021. doi:10.1609/aaai.v35i8.16836.
- [4] Anmol Kabra, Yexiang Xue, and Carla P. Gomes. GPU-Accelerated Principal-Agent Game for Scalable Citizen Science. In *COMPASS*, 2019. doi:10.1145/3314344.3332495.

## Experience

**ASAPP**, New York, NY May 2019 – Aug 2021, Aug 2022 – Sep 2022  
Research Engineer/Research Intern

- Conducted research on differentially-private training for Large Language Models (LLMs).
- Led a pilot project on real-time anomaly detection, interfacing between internal research and client's engineering teams.
- Designed prototypes for dialog similarity visualization and tab-key autocompletion, which was incorporated in the flagship product AutoCompose.

**eCornell**, Ithaca, NY May 2021 – Aug 2021  
Course Facilitator

- Revised Cornell University's online Machine Learning certificate course CIS-53x for industry professionals.

**Computational Sustainability Lab**, Cornell University Jun 2017 – May 2020  
Research Assistant

- Developed neural-network-based models to reduce data sampling bias in eBird, a worldwide citizen science program. The models learned citizens' behavior and optimized incentives >800x faster compared to the previous state-of-the-art on fixed time-budget.

**Dept. of Civil Engineering**, IIT, Guwahati Jul 2013 – Aug 2013  
Research Intern

- Analyzed feasibility of Waste-to-Energy conversion in Patna, India in a group of 5 high school students.
- Project was recognized by India's Prime Minister and state authorities, and was featured in a national event aired live.

## Honors and Scholarships

- Best Poster Award, Annual Student Workshop, TTIC 2022
- Visiting Graduate Student, Simons Institute for the Theory of Computing, University of California, Berkeley 2022  
Attended the summer cluster on Interpretable Machine Learning and Deep Learning Theory.
- Attendee, Princeton Machine Learning Theory Summer School, Princeton University 2022
- Merrill Presidential Scholar, Cornell University 2020  
Awarded university's highest undergraduate honor, given to the top 1% of the graduating class.
- Computer Science Prize for Academic Excellence, Dept. of Computer Science, Cornell University 2020  
Awarded department's highest undergraduate honor for research and academic work.
- Young Researcher, Heidelberg Laureate Forum Foundation, Heidelberg 2019  
Selected among 200 undergraduate and graduate students worldwide in Computer Science and Math to attend the Forum.
- Top 10% Performance Award, ACM Summer School on HPC for AI and Dedicated Applications, Barcelona 2019  
Received scholarship to attend the Summer School; adjudged outstanding among  $\approx 50$  undergraduate and graduate students.
- Statistics Award & Sponsor Award by Air Liquide, BOOM, Dept. of Computer Science, Cornell University 2019  
Received 2 out of 13 awards for undergraduate research project.
- Outstanding Poster Presenter, Ivy League Undergraduate Research Symposium, University of Pennsylvania 2019
- Tau Beta Pi Engineering Honor Society, Cornell University 2018-20
- Telluride Scholarship, Telluride Association 2017-20  
Received room and board scholarship at Cornell University.
- Dean's List, Cornell University 2016-20
- Tata Scholarship, Cornell University 2016-20  
Received scholarship to attend Cornell University, covering all expenses.
- National Talent Search Scholarship, NCERT, Govt. of India 2015-16
- Live video conference with India's Prime Minister, Narendra Modi, Ministry of HRD, Govt. of India 2015  
Selected among 9 students across India to interact with India's Prime Minister.
- Child Scientist, IIT, Kharagpur, Dept. of Science & Technology, Govt. of India 2013  
Project on Waste-to-Energy conversion adjudged among top 20 in 1000+ projects nationwide.

## Teaching and Service

### Journals and Conferences

Reviewer: Journal of Machine Learning Research (2023)

Volunteer: NeurIPS (2021)

### Teaching

Teaching Assistant, Toyota Technological Institute at Chicago

- TTIC 31020: Introduction to Machine Learning (graduate-level) 2022  
Wrote assignments and held recitations/tutorials (in rotation with other Teaching Assistants).

Teaching Assistant, Cornell University

- CS 4850: Mathematical Foundations of the Information Age (Outstanding TA Award) 2019-20  
Managed course logistics, ran exam review sessions, answered student questions, and graded exams and assignments.
- CS 3220: Computational Mathematics for Computer Science 2019  
Answered student questions, evaluated group projects, and graded exams and assignments.
- CS 3110: Data Structures and Functional Programming (Outstanding TA Award) 2019  
Taught biweekly discussion sections, evaluated group projects, and graded exams and assignments.
- CS 2800: Discrete Structures 2017  
Answered student questions, and graded exams and assignments.

## Volunteering

- Math Circles of Chicago: Volunteer 2023-Present  
Assist K-12 students in math problems.
- GirlsWhoCode chapter at Chicago Public Library-Coleman Branch: Facilitator 2023  
Facilitated project-oriented coding sessions for K-12 students in a 10-week program.

## Cornell University

- Association of Computer Science Undergraduates: Research Lead 2017-19  
Managed research initiatives for undergrads, organized general-body meetings, and conducted introductory coding workshops.
- Telluride House: President and Chair of Admissions 2017-20  
Chaired housemeetings, committees, and outreach events in the co-op, and managed the COVID-19 pandemic response.
- Cornell Cup Robotics Team: CS sub-team Lead 2017  
Led the swarm robot sub-team, which was featured by Cornell Engineering in World Maker Faire 2017.