

# Anmol Kabra

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## Education

**Cornell University**, Ithaca, NY

Expected May 2020

B.S. in Computer Science, Honors Candidate, GPA: 4.2/4.0

Academic Interests: Applied Math with a focus on Machine Learning and Optimization; Sustainability

Coursework: Machine Learning, Matrix Computations (Graduate), Algorithms, Numerical Analysis, Unix Tools & Scripting

Course Staff: Functional Programming (Course Staff Award for outstanding work), Discrete Math

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## Experience

**Computational Sustainability Lab**, Cornell University

Jun 2017 – Present

Research Assistant

- Design machine learning models to reduce bias in citizen-science datasets, improving datasets' suitability for scientific modeling.
- Sped up optimization models for understanding user behavior and incentive distribution by 72x using GPUs and neural networks, allowing scalable model deployment in eBird dataset.
- Work with Prof. Carla Gomes and 10+ graduate students to devise new techniques for optimization problems with parallel computing.

**Cornell Cup Robotics Team**, Cornell University

Feb 2017 – Dec 2017

CS Sub-team Lead for SwarmBot-MiniBot

- Spearheaded the SwarmBot concept in a team of 5 and MiniBot project in a team of 30+ students, employing graduate- and professional-level Systems Engineering tools. SwarmBot-MiniBot was featured by Cornell Engineering in World Maker Faire 2017.
  - Negotiated high-priority, med-priority, and optional features in MiniBot concept with product client, and co-implemented design frameworks with 3 CS Sub-team leads.
  - Iteratively built robots with inter-robot networking, vision tracking, and discoverability features. Designed and implemented network protocols on top of TCP/IP and UDP protocols using ZeroMQ library; modified robots' startup code to improve user-side accessibility.
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## Projects

**Free Two-way Caller**, ECE 3140 Final Project

Apr 2018 – May 2018

Access: [youtu.be/CrvAqq5a0OA](https://youtu.be/CrvAqq5a0OA)

- Built a two-way low-level calling device using ARM-based microcontroller development boards in a team of 2.
- Programmed call states and inter-board communication using SPI, and integrated voice data transfer with call states to emulate voice calls.

**Term-monopoly**, CS 3110 Final Project

Oct 2017 – Dec 2017

Access: [github.com/anmolkabra/term-monopoly](https://github.com/anmolkabra/term-monopoly)

- Created a Unix/Linux terminal-based customizable framework in a team of 4 for playing Monopoly.
- Co-designed the central interface to the framework in OCaml: iteratively integrated model and controller with view in MVC design, and programmed user events and class abstractions.

**Solving the Avicaching Game Faster and Better**, Submitted to ACM COMPASS 2018

Jun 2017 – Aug 2017

Access: [anmolkabra.com/docs/avicaching-summ17-report.pdf](https://anmolkabra.com/docs/avicaching-summ17-report.pdf) • [github.com/anmolkabra/avicaching-summ17](https://github.com/anmolkabra/avicaching-summ17)

- Worked with senior PhD student on incentivizing users to reduce bias in scientific observations in citizen-science projects.
  - Designed learning models with neural networks and linear programming, focusing on exploiting parallel computing on GPUs.
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## Honors

2018-	Tau Beta Pi Engineering Honor Society
2017-18	Telluride Scholar (room and board scholarship)
2016-18	Dean's List (all semesters), Cornell University
2016-20	Tata Scholar (full-ride to Cornell)
2015	Live video conference with Indian Prime Minister

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## Skills

Domains: Machine Learning, Non-linear Optimization, Linear Algebra

Languages: Python, Unix/Linux Shell, Java, C/C++,  $\LaTeX$ , JavaScript

[anmolkabra.com/docs/resume-anmolkabra.pdf](https://anmolkabra.com/docs/resume-anmolkabra.pdf)

## Activities

Housemember of the Telluride House

- Lead Admissions Committee, overseeing meeting and readings.
- Automated tabulation in Telluride Association's summer program application management system, saving more than 100 hrs of annual manpower.

Research Lead at Association of CS Undergraduates

- Manage research initiatives for undergrads at Cornell CS Dept., working with faculty, staff, and 10+ ACSU officers.
- Organize general-body meetings, faculty lunches, and introductory CS workshops.

Updated December 18, 2018