

# ADITHYA BHASKARA

Boulder, CO

[officialadithya.github.io](https://github.com/officialadithya)

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References available upon request.

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[Google Scholar](#)

## EDUCATION

### • University of Colorado Boulder

B.S. Computer Science; B.A. Mathematics

Boulder, Colorado

August, 2022 - May, 2026 (Expected)

Major GPA: 4.000, Cumulative GPA: 3.991 (as of May. 2025) [Transcript](#).

**Thesis Work:** Tradeoffs Between Randomness, Robust Alternate Selection, and Other Desiderata for Sortition (Title TBD)  
Advised by [Bailey Flanigan, Ph. D.](#) (MIT) and [Rafael Frongillo, Ph. D.](#)

**Relevant Coursework:** 8 Graduate Courses Including Linear and Integer Programming, Algebra 1, Theory of Computation, Design and Analysis of Algorithms, Advanced Algorithms, Algorithmic Economics, Advanced Convex Optimization, Measure-Theoretic Probability (In Progress), Complexity Theory (Audit)

## RESEARCH EXPERIENCE

### University of Colorado Boulder

Research interests include topics in (broadly) theoretical computer science, especially computational social choice theory, algorithmic economics, matrix multiplication, and (fine-grained) complexity theory.

Advised by [Bailey Flanigan, Ph. D.](#)

Undergraduate Researcher

August, 2023 - Present

- Studying the tradeoffs between randomness and other desiderata for sortition algorithms.
- Proving integrality gaps and other theoretical results for an associated convex optimization problem.
- Interested in how to select alternate panelists robust to agents' misreports of their features.
- Attended Social Choice: Theory and Computation, An Interdisciplinary Conference on Voting, Representation, and Districting

Advised by [Rafael Frongillo, Ph. D.](#)

May, 2023 - Present

- Seeking to understand and characterize the design spaces of liquidity provisioning and transaction fee protocols in prediction markets and decentralized exchanges.
- Captured liquidity provisioning as several automated market makers operating in parallel and resulting implications.
- Assisted Rafael Frongillo with reviewing two submissions to SODA'25 and Management Science (2023).
- Regular attendee and presenter in the algorithmic economics reading group.
- Attended EC'24, EC'25.

Advised by [Huck Bennett, Ph. D.](#)

February, 2025 - Present

- Sought to develop algorithms for special cases of the MATRIXMULTIPLICATIONVERIFICATION problem using Lee metric codes, rank metric codes, and other techniques from coding theory.
- Hoped to take advantage of the structure of the matrices to create better algorithms; project joint with [Noah Stephens-Davidowitz, Ph. D.](#) (Cornell).
- Surveying the fine-grained complexity of linear algebraic problems by studying fine-grained reductions.
- Attended STOC'25

## PREPRINTS

1. Adithya Bhaskara, Rafael Frongillo, and Maneesha Papireddygari. A general theory of liquidity provisioning for prediction markets. [arXiv preprint arXiv:2311.08725](https://arxiv.org/abs/2311.08725), 2025

## TALKS

1. Adithya Bhaskara, Rafael Frongillo, and Maneesha Papireddygari. A general theory of liquidity provisioning for automated market makers, 2024. Workshop on Blockchains and Decentralized Finance at the 25th ACM Conference on Economics and Computation (EC'24), [Recording](#).

## HONORS AND AWARDS

- Endorsed by the University of Colorado Boulder as a candidate for the [Churchill Scholarship](#) September, 2025
- Admitted to [The Cornell, Maryland, Max Planck Pre-doctoral Research School in Computer Science](#) March, 2025
- Awarded a Boettcher Foundation Educational Enrichment Grant to Attend STOC'25 March, 2025
- Awarded the Marlene Massaro Pratto and David Pratto Scholarship in Mathematics June, 2024
- Awarded the [Western Digital We.care Scholarship](#) (Declined) May, 2022
- Awarded the [Boettcher Scholarship](#) (Undergraduate Merit-Based Full Ride) April, 2022
- University of Colorado Boulder [Engineering Honors](#) Student February, 2022
- Recognized as a [National Merit Finalist](#) February, 2022
- Awarded the Horace M. Hale Esteemed Scholarship January, 2022
- Awarded the Colorado School of Mines Medal of Achievement in Mathematics and Science May, 2021

## SCHOLARLY SERVICE & ADDITIONAL RESEARCH ACTIVITY

- Engineering Honors Program Admissions Reviewer *University of Colorado Boulder, 2024, 2025*
    - Executive Committee Member *2024*
  - **Norlin Scholarship** Admissions Reviewer *University of Colorado Boulder, 2023, 2024, 2025*
  - Boettcher Scholarship Recruitment & Alumni Ambassador *Boettcher Foundation, 2025*
  - Engineering Honors Program First-Year Seminar Recitation Leader *University of Colorado Boulder, 2024*
  - Semi-technical blog on topics in mathematics and theoretical computer science at  
<https://officialadithya.github.io/blog/>

## TEACHING EXPERIENCE

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University of Colorado Boulder

- CSCI 3104: Algorithms, Spring 2024, Fall 2025. Course Assistant.
  - CSCI 3155: Principles of Programming Languages, Spring 2025. Course Assistant.
  - MATH 1300: Calculus I, Spring 2023. Learning Assistant.
  - Scribed [course notes](#) while taking MATH 2135: Linear Algebra for Mathematics Majors in Fall 2022.

Silver Creek High School

- Instructional Student Assistant (ISA) Program Director, Fall 2021-Spring 2022. Oversaw 7 ISAs.
  - College-Preparatory Physics, Spring, Fall 2021-Spring 2022. Instructional Student Assistant.
  - High School Algebra I, Fall 2020. Instructional Student Assistant.
  - High School Algebra II, Spring 2020. Instructional Student Assistant.

Innovation Center of St. Vrain Valley Schools

- Advanced Cybersecurity with Python Programming, Summer 2023. (Intensive 7-Hour/Day Weeklong Course). Instructor.
  - Fundamentals of Cybersecurity, Summers 2019-2022. (Intensive 7-Hour/Day Weeklong Course). Instructor.

## REFERENCES

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- [1] Adithya Bhaskara, Rafael Frongillo, and Maneesha Papireddygari. A general theory of liquidity provisioning for automated market makers, 2024. Workshop on Blockchains and Decentralized Finance at the 25th ACM Conference on Economics and Computation (EC'24).
- [2] Adithya Bhaskara, Rafael Frongillo, and Maneesha Papireddygari. A general theory of liquidity provisioning for prediction markets. *arXiv preprint arXiv:2311.08725*, 2025.