

Robin Bowers

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July, 2025

Research interests: Theoretical computer science, algorithmic economics, mechanism design, information aggregation, auction theory, matching, algorithmic fairness.

EDUCATION

University of Colorado Boulder

PhD Student, Computer Science

Advisors: Bo Waggoner and Rafael Frongillo

Boulder, CO

2021 – present

University of Colorado Boulder

Master of Science, Computer Science

Advisors: Bo Waggoner and Rafael Frongillo

Boulder, CO

2021 – 2024

Oberlin College

Bachelor of Arts, Computer Science and Mathematics

Oberlin, OH

2016 – 2020

University of Edinburgh

IFSA-Butler Study Abroad

Edinburgh, UK

Spring 2019

WORKING PAPERS

Prophet Inequalities for Bandits, Cabinets, and DAGs.

Robin Bowers, Elias Lindgren, Bo Waggoner.

PUBLICATIONS

Authors listed alphabetically unless marked with *.

Polynomial-Time Approximation Schemes via Utility Alignment: Unit-demand Pricing and More.

Robin Bowers, Marius Garbea, Emmanouil Pountourakis, Samuel Taggart, *Symposium on Foundations of Computer Science (FOCS)*, 2025 (forthcoming).

Matching with Nested and Bundled Pandora Boxes.

Robin Bowers, Bo Waggoner, *Conference on Web and Internet Economics (WINE)*, 2024.

High-Welfare Matching Markets via Descending Price.

Robin Bowers, Bo Waggoner, *Conference on Web and Internet Economics (WINE)*, 2023.

Loom Pedals: Retooling Jacquard Weaving for Improvisational Design Workflows.*

Shanel Wu, Xavier A Corr, Xi Gao, Sasha De Koninck, Robin Bowers, Laura Devendorf, *Conference on Tangible and Embedded Interaction (TEI)*, 2024.

Machine Learning Based MIMO Equalizer for High Frequency (HF) Communications.*

S. Spillane, K. H. Jung, Bowers, T. Peken, M. H. Marefat and T. Bose, *2020 International Joint Conference on Neural Networks (IJCNN 2020)*.

PROFESSIONAL ACTIVITIES & SERVICE

Teaching Assistant – Winter School on Data Economics

Moroccan Center for Game Theory, UM6P

January 2025

Rabat, Morocco

- Wrote problem set on value of information and data economics in machine learning
- Lead afternoon workshop session

Co-Organizer – EC Gender Inclusion Workshop

Workshop at Conference on Economics and Computation (EC'24, '25)

Summer 2024, 2025

New Haven, CT; Stanford, CA

- Co-organized 2025 workshop on gender inclusion with Natalie Collina, Mirah Shi, and Kunhe Yang
- Co-organized 2024 workshop on gender inclusion with Yeganeh Alimohammadi, Natalie Collina, Kate Donahue, Bailey Flanigan, and Maneesha Papireddygar

Founder/Coordinator – CU Boulder Algorithmic Fairness Reading Group

University of Colorado Boulder

Fall 2023 – Fall 2024

Boulder, CO

- Wrote a syllabus of papers for each semester, coordinated discussions of papers

Participant – SLMath Summer School

Summer 2023

SLMath

Berkeley, CA

- Participant in the summer school Mathematics and Computer Science of Market and Mechanism Design

Coordinator – Algorithmic Economics Reading Group

2022 – 2023

University of Colorado Boulder

Boulder, CO

- Planned and scheduled reading group meetings

CU Boulder Graduate Peer Mentor

2022 – present

University of Colorado Boulder

Boulder, CO

- Matched with incoming PhD and Master's students through both Graduate School and Computer Science Department mentorship programs
- Helped introduce students to research and the CU Boulder course system
- Helped international students adjust to Boulder

CU Boulder Graduate Prospective Student Mentor

Fall 2022, 2023, 2024

University of Colorado Boulder

Boulder, CO

- Matched to prospective students applying to graduate schools
- Provided feedback on application materials and guidance on CU Boulder's graduate program application process and expectations

Reviewing

EAAMO'25, EC'25, FAccT'25, EAAMO'24

AWARDS

Outstanding Service Award

2024

University of Colorado Boulder, Computer Science Department

Boulder, CO

Outstanding Teaching Assistant Award

2022

University of Colorado Boulder, Computer Science Department

Boulder, CO

Department Research Expo – Work In Progress Award

2022

University of Colorado Boulder, Computer Science Department

Boulder, CO

R.J. Thomas Computer Science Teaching Assistant Award

May 2020

Oberlin College

Oberlin, OH

John F. Oberlin Scholarship

2016 – 2020

Oberlin College

Oberlin, OH

TEACHING

Guest Lecture – Discrete Math

Fall 2024

CU Boulder

Boulder, CO

Professor Bo Waggoner

Two Guest Lectures – Graduate Algorithms

Fall 2024

CU Boulder

Boulder, CO

Professor Sriram Sankaranarayanan

Teaching Assistant – Graduate Algorithms

Fall 2024

University of Colorado Boulder

Boulder, CO

- Contributed to writing homework solutions and grading, held weekly office hours.

Teaching Assistant – Principles of Programming Languages

Fall 2023

University of Colorado Boulder

Boulder, CO

- Led weekly practice sessions on functional programming and programming language construction

Teaching Assistant – Algorithms

Spring 2022

University of Colorado Boulder

Boulder, CO

- Led weekly practice sessions on course topics
- Wrote weekly problem sets and solutions presented in all TA sections
- Received a departmental teaching assistant award for my contributions

Teaching Assistant – Algorithms

2019 – 2020

Oberlin College

Oberlin, OH

- Wrote worksheets for and led weekly practice sessions on course topics
- Transferred problem session material online for distance learning
- Received a departmental teaching assistant award for my contributions

Grader – Discrete Math

Fall 2018, Spring 2020

Oberlin College

Oberlin, OH

- Graded homework and quizzes weekly for class size of 30-80 students for in-person and distance learning classes
- Provided written feedback to students on mathematical reasoning and clarity

INVITED TALKS

Prophet Inequalities for Bandits, Cabinets, and DAGs.

- Boston College Theory Seminar (July 2025)
- UT Austin Theory Seminar (June 2025)

POSTERS & TALKS

Matching with Nested and Bundled Pandora Boxes

Robin Bowers, Bo Waggoner, Poster presented at ACM Conference on Economics and Computation (EC), 2024; Talk presented at WINE 2024.

High-Welfare Matching Markets via Descending Price

Robin Bowers, Bo Waggoner, Poster presented at Marketplace Innovation Workshop, 2023; Simons Institute Workshop on Societal Considerations and Applications, 2022; ACM Conference on Economics and Computation, 2022. Talk presented at WINE 2023.

OTHER EXPERIENCE

Undergraduate Research Assistant

2019 – 2020

Oberlin College

Oberlin, OH

- Conducted research in economic game theory
- Proved setting-specific performance lower-bounds for several auction algorithms
- Obtained complexity results on computing lower bounds for performance of auctions in specific settings

Research Internship – NSF REU

Summer 2019

University of Arizona Department of Electrical and Computer Engineering

Tucson, AZ

- Conducted study on “Machine Learning Based MIMO Equalizer for High Frequency (HF) Communications”
- Created mathematical models of long-range radio systems in MATLAB
- Implemented machine-learning algorithms to dynamically adjust system behavior for best performance
- Communicated professionally with other students to coordinate project and goals

Software Internship

Summer 2018

Blendid

Sunnyvale, CA

- Worked with Universal Robots robotic arm designing and optimizing movement paths in automated food kiosk
- Handled emergency kiosk malfunctions and daily prototype operations