Robin Bowers

they/them
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Education

University of Colorado Boulder — Boulder, CO
PhD Student, Computer Science — *2021 – present*

Oberlin College — Oberlin, OH
Bachelor of Arts, Computer Science and Mathematics — *2016 – 2020*

University of Edinburgh — Edinburgh, UK
IFSA-Butler Study Abroad, course credits issued via Butler University — *Spring 2019*

Publications

Matching with Nested and Bundled Pandora Boxes.
Robin Bowers, Bo Waggoner, *Conference on Web and Internet Economics (WINE), 2024 (forthcoming).*

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

Co-Organizer – EC Gender Inclusion Workshop — 2024
Workshop at Conference on Economics and Computation (EC'24) — *New Haven, CT*

- Co-organized second workshop on gender inclusion with Yeganeh Alimohammadi, Natalie Collina, Kate Donahue, Bailey Flanigan, and Maneesha Papireddygari
- Workshop included invited speakers, spotlight talks by graduate students, and discussion groups on issues of gender inclusion in the EC research community

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 course system
- Helped international students adjust to Boulder

Reviewer – EAAMO'24 — 2024
Conference on Equity and Access in Algorithms, Mechanisms, and Optimization 2024 — *San Luis Potosí, Mexico*

Founder/Coordinator – CU Boulder Algorithmic Fairness Reading Group — Fall 2023 – present
University of Colorado Boulder — *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

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*

2020 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

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

Posters & Talks

Matching with Nested and Bundled Pandora Boxes
Robin Bowers, Bo Waggoner, Poster presented at ACM Conference on Economics and Computation (EC), 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-specifc 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