

Robbie Weber

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Teaching Interests

My interests are in teaching theoretical computer science courses: across the curriculum (from introductory to advanced theory courses) and to different audiences (including non-majors courses). I am also interested in teaching core courses with theoretical components (especially data structures).

Education

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| University of Washington Seattle, WA | 2015-present |
| <ul style="list-style-type: none">– Ph.D. Candidate (Graduation expected June 2020)– Advisors: Anna Karlin and Shayan Oveis Gharan– M.S. awarded December 2017 | |
| University of Illinois Urbana-Champaign, IL | 2011–2015 |
| <ul style="list-style-type: none">– B.S. LAS in Math and Computer Science | |

Teaching Experience

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| Instructor: Data Structures and Algorithms (non-majors) | Summer 2019 |
| <ul style="list-style-type: none">– 95 students and 9 TAs– Overhauled coverage of algorithmic analysis to emphasize best/worst case and remove unnecessary technical distinctions between types of practical analyses.– Explicitly incorporated problem-solving process in graph modeling problems. | |
| Instructor: CSE 373 Data Structures and Parallelism (CSE majors) | Summer 2018 |
| <ul style="list-style-type: none">– 30 students and 2 TAs– Designed new exercises for theoretical aspects of course.– Introduced reductions as a connection between data structures content and P/NP discussion. | |
| Teaching Assistant: CSE 446 Machine Learning | Spring 2019 |
| <ul style="list-style-type: none">– Led design of discussion section materials (from scratch) shared by all teaching assistants.– Managed course logistics | |
| Teaching Assistant: CSE 373 Data Structures (non-majors) | Spring 2018, Autumn 2018, Winter 2019 |
| <ul style="list-style-type: none">– Improved existing section materials (as part of varying two-or-three person teams)– Designed new homework problems (Autumn 18)– Led course for one week while instructor was out of town (including three guest lectures) (Spring 18) | |
| Other Teaching Assistant Roles | |
| In reverse chronological order | |
| <ul style="list-style-type: none">– At UW:<ul style="list-style-type: none">– Theory of Computation (CSE 431)– Undergraduate Algorithms (CSE 421)– Graduate Algorithms (CSE 521)– Algorithms for non-majors (CSE 417)– Foundations of Computing I (CSE 311)– At Illinois:<ul style="list-style-type: none">– Algorithms and Models of Computation (1 semester)– Discrete Mathematics (4 semesters)– Intro to Computer Science (2 semesters) | |

Research

- A Strategy-Proof Alternative to Round-Robin Subtournaments
With Nick Liu, Jainul Vagharia, and Sierra Wang
Pre-print forthcoming
- A Simply Exponential Upper Bound on the Maximum Number of Stable Matchings
With Anna Karlin and Shayan Oveis Gharan
STOC 2018. <https://arxiv.org/abs/1711.01032>
- Embedded-Width: A Variant of Treewidth for Plane Graphs
With Glencora Borradaile, Jeff Erickson, and Hung Le
Pre-print. <https://arxiv.org/abs/1703.07532>

Talks

- Guest lectures for theory of computation (Autumn 2019), undergraduate algorithms (Winter 2019, Autumn 2019), graduate algorithms (Autumn 2018), and data structures (Spring 2018, Autumn 2019, Winter 2019).
- Invited talk at Highlights of Algorithms Conference (2019)
- Twelve minute Research talks at UW CSE colloquia
 - 2018 “A Simply Exponential Upper Bound on the Maximum Number of Stable Matchings” video
 - 2019 “A Strategy-Proof Alternative to Round-Robin Subtournaments” video

Mentoring

- Led research project with three undergraduates (Winter, Spring 2019)
 - Pre-print based on work forthcoming.
 - First research experience for all three undergraduates.
 - Two of the three undergraduates are now applying for graduate school.
- Led workshops on running office hours and leading discussion sections for new graduate students at university-wide TA conference (September 2019)
- Panelist for new CSE Ph.D. student orientation (Fall 2019)

Service

- Organizer for October 3, 2019 CSE colloquium
- Reader for Ph.D. student applications (2019)
- Scheduler for prospective Ph.D. student Visit Days (2017,2018)
- Organizer for theory group student reading group (Winter-Spring 2017)
- Volunteer tutor for CSE tutoring program (five quarters: Winter 2016 to Spring 2017)
- Student host for two faculty interviews (organized student attendance for meeting with faculty candidate and moderated discussion)
- Organizer for CSE intramural softball team

Awards

UW CSE Bob Bandes TA Award (2018-19)

- One of three winners in 2019.
- First Ph.D. student honoree since 2015.