

Omar Ibrahim

CURRICULUM VITAE

I'm interested in pursuing teaching roles teaching introductory programming and theoretical computer science. I'm experienced with teaching introductory programming at large scale, and smaller course offerings of discrete mathematics courses. I want to explore how CS educators can make difficult topics approachable, build support and scaffolding to attract and retain students to computing, and support computing education needs of non-majors.

EDUCATION

M.S. Computer Science, University of Washington 2021 – Present (expected March 2023)

- Thesis: *Spoof-It: Correcting incorrect proofs as a method to learn proof-writing*
- Advised by Lauren Bricker, Robbie Weber

B.S. Computer Science, University of Washington 2017 – 2021

- Minor in Informatics

TEACHING EXPERIENCE (UNIVERSITY OF WASHINGTON)

Instructional Lecturer

CSE 190Y: CSE 12X Direct Admit Workshop

[AUTUMN '22](#)

- 20 students
- Managed 6 TAs
- Designed workshop course structure and content for new introductory CSE course series

CSE 390Z: Mathematics for Computation Workshop

[SPRING '22, WINTER '22, AUTUMN '21](#)

- 25-50 students
- Managed 4 TAs
- Designed & wrote new exercises, assignments, and course resources to provide student support for learning proof-writing skills
- Designed and implemented a specifications based grading system to better support student learning and motivation

CSE 142: Computer Programming I

[SUMMER '21](#)

- 195 students
- Managed 12 TAs
- Restructured course to replace focus on graphics with increased focus on program structure and design
- Designed/wrote new exercises, assessments, exams, and infrastructure for assessing student work and content mastery
- Managed and mentored undergraduate TA staff in course administration, teaching techniques, and student support

Teaching Assistant

CSE 142: Computer Programming I

[22su, 21sp, 20au, 20wi, 19au, 19sp, 18au, 18sp](#)

- Managed, advised, and trained course TA staff of 30-45 TAs (19au, 20wi, 20au, 21sp)
- Gave 2-3 guest lectures per quarter filling in for course instructors (20au, 21sp)
- Managed, developed, and updated course infrastructure and curricular materials (20au, 21sp)
- Managed course transition to a new grading system and infrastructure (20au)
- Led development of new homework assignments (20wi, 20au, 21sp)
- Organized, held, and gave talks to intro CS students on computing- and industry-related topics (19au, 20wi)
- Taught weekly quiz sections to 20-30 students

CSE 143: Computer Programming II

[22wi, 19wi](#)

- Taught weekly quiz sections to 20-30 students

CSE 341: Programming Languages

[20sp](#)

- Taught weekly quiz sections to 20-30 students

RESEARCH/TALKS

- Spoof-It: Correcting incorrect proofs as a method to learn proof-writing. M.S. Thesis, University of Washington, expected 2022. Pre-print forthcoming.
- Guest lecture on "What is a Computer?", University of Washington CSE 142. 2021, 2022.
- Guest lecture on "Programming Languages", University of Washington CSE 142. 2021.

VOLUNTEER SERVICE

Mentor, STEM League | 2020

- Mentored middle- and high-school students through an 8-week program learning introductory web and data programming skills with HTML, CSS, JS, and Python

Volunteer Tutor, East African Community Services | 2017

- Tutored under-serviced K-5 students in South Seattle weekly
- Worked with students to build skills and comprehension in math, reading, and writing
- Worked with a representative from the Boy Scouts to provide learning and teamwork exercises for the kids

OTHER RESEARCH EXPERIENCE

Taskar Center for Accessible Technology, University of Washington | 2021

- Advised by Dr. Anat Capsi
- Conducted research on non-visual localization communication techniques
- Wrote policies and plans for research/testing

Pacific Northwest National Laboratory | 2016 - 2017

- Tested new mass spectrometry data analysis application developed to ensure reproducible and accurate measurements

PROFESSIONAL DEVELOPMENT

- Attended CS education reading group (CSE 590E, since Autumn 2019)
- Attended ACM SIGCSE 2021, 2022
- Completed CSE 14X TA Training Spring 2018
- Completed (optional) TA Training Spring 2020

OTHER PROFESSIONAL EXPERIENCE

Amazon Web Services	<i>Software Development Engineer Intern 2020</i>
Citrix Systems	<i>Software Development Intern 2019</i>
Washington River Protection Solutions	<i>Undergrad Intern - Technical 2018</i>

ACADEMIC ACTIVITIES & SERVICE

- **UW GENI** (UW CSE's first-generation student organization); Member (2020 - Present)
 - **ACM-W**; Member (2019 - Present)
 - **UW Arab Student Association**; Member (2019 - Present)
 - **UW Q++** (UW CSE's LGBTQ+ student organization); Member (2018 - Present)
 - **UW Concert Band**; Saxophone Player (2018)
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