Melissa Hovik

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EDUCATION

University of Washington, Seattle WA
B.S. Computer Science *2013-2018*

University of Washington, Seattle WA
M.S. Computer Science *2018-2020*

TEACHING

CSE 154: Web Development

Class structure: 60-200 undergrads (mixed majors), 5-20 TA's

Instructor *Summer 2019*
Co-Instructor *Autumn 2018, Spring 2019*
Head Teaching Assistant *Spring/Autumn 2017, Spring 2018*
Teaching Assistant *Winter/Spring 2016*

Held multiple teaching roles for class of ~100-200 undergraduate students in the CSE Web Programming course, supporting staff sizes of 5-15 TAs and updating curriculum to teach modern web development foundations with a focus on accessibility and approaches to learning new technologies in a growing ecosystem of frameworks and libraries. Introduced curriculum updates including course Modules and various active learning activities, as well as new/updated homework assignments and updated lecture/section/exam material each quarter. Additionally introduced new code quality guide for HTML/CSS/JS/PHP/SQL.

In Summer 2019, implemented a significant update to the course's 4-week server-side content to teach RESTful API's with Node.js/Express.js, replacing PHP material, and restructured client-side JS Module to go deeper into asynchronous programming to support the change. With this change, I also introduced the course's first semi-structured Final Project, cumulating the learning objectives across all Modules into a full-stack website.

CSE 484: Computer Security

Class structure: ~200 upper-level CS undergrads (40 students/section), 5 TA's
Teaching Assistant *Autumn 2019*

Organized and led weekly sections covering computer security topics (security mindset, buffer overflows, cryptography, web security, IOT security, etc.). Introduced two new exercises on browser threat modeling and GDPR. Additionally graded team projects and HW.

CSE 341: Programming Languages

Class structure: ~200 CS undergrads (30 students/section), 6 TA's
Teaching Assistant *Winter 2019, Winter 2020*

Organized and led weekly sections covering PL foundations in SML, Racket, Ruby, and Java. Additionally graded weekly HW and contributed to section planning and exam-writing.

CSE 490H: History of Computing Seminar
Class structure: ~40 CS undergrads
Course Designer and Co-Instructor *Winter 2019*

Proposed and taught the first undergrad History of Computing seminar, featuring weekly sessions on historical foundations of different topics in CS. Organized guest speakers from academia and industry and created an online "Historical Artifact Exhibit" showcasing student final projects at the end of the quarter.

CSE 143: Computer Programming II
Class structure: ~300-800 CS undergrads (15-25 students/section), ~10-30 TA's
Head Teaching Assistant *Winter 2018, Summer 2018*
Teaching Assistant *Spring/Summer/Autumn 2015, Winter/Summer/Autumn 2016*

Supported large introductory course teaching programming fundamentals in Java with 2 sections/week. Graded weekly homework assignments. In Head TA roles, contributed to writing section and exam exercises, grading rubrics, led occasional review sessions, and supported course planning.

CSE 332: Data Structures and Parallelism
Class structure: ~200 CS undergrads (30 students/section), ~10 TA's
Teaching Assistant *Winter 2017*

Led weekly sections covering data structures and parallelism in Java. Additionally supported and graded 3 large team projects throughout the quarter.

CSE 190A: Women in Computing Seminar
Class structure: ~40 CS undergrads
Co-Instructor *Autumn 2016, Winter 2017*

Co-taught a weekly seminar with an academic CS advisor, covering a range of topics in diversity in CS aimed at supporting new female CS students in a successful trajectory in their degree and the field afterwards.

CSE 311: Foundations to Computing
Class structure: ~200 CS undergrads (30 students/section), ~10 TA's
Teaching Assistant *Spring 2016*

Led weekly sections covering mathematical foundations in CS to first-year CS students. Contributed to section and exam material and graded weekly written homework assignments, and helped with development and incorporation of a new web-based proof IDE to support students in writing formal proofs.

AWARDS

SIGCSE Conference Scholarship Recipient *2017-19*

UW CSE Service Award Recipient *2017-18*

UW Husky 100 Alum *2017-18*

CSE Research Poster 1st Place Awardee (Protein Structure Web Visualizer) *2018*

Grace Hopper Diversity Conference Scholarship Recipient *2016, 2018*

Denice Dee Denton CSE Endowment Recipient *2016-17*

WA State Research Fellow *2016-17*

Bob Bandes Teaching Award in Computer Science *2016*

WORK EXPERIENCE

Expedia, Inc. | Bellevue, WA *2017*
Software Development Intern

BuzzBee | Seattle, WA *2015-16*
Technology Marketing Intern

PureHome.com | Seattle, WA *2013-15*
Copywriting Intern and Marketing Assistant

SERVICE

UW ACM-W - Officer and Webmaster *2018-20*
Plan and organize 6-10 quarterly events relating to diversity in computing, community development, and academic/professional support. Additionally manage website and blog for UW chapter.

CS Course BVI Scribe *Winter/Spring 2019*
Took notes and organized key concepts for blind CS graduate student and presented alternative explanations and formats for lecture material that was often fundamentally visual (e.g. graph data structures) in graduate Solver-Aided Programming and Program Analysis courses.

Data Science Tutoring *2018-19*
Weekly tutoring sessions with a HS student to introduce programming fundamentals to support a Python-integrated math course and UW athletic data science research (Python, R, MySQL).

CodeStepByStep/Practice-It - Content Creator and Developer *2015-19*
Implemented a variety of front-end and back-end features for the Practice-It/CodeStepByStep educational programming tools. Added support for HTML/CSS, JavaScript, and PHP problems and authoring 250+ exercises tailored towards web development courses. I have also helped add new exercises for functional languages (ML, Racket/Scheme) and regular expressions to support other courses.

RESEARCH

FoldIt Protein Data Visualizer - UW CSE Capstone Project *Spring 2018*
Integrated interests in computational biology, data visualization, and educational technology to create a researcher-focused tool to help analyze player data for FoldIt crowd-sourced protein-folding game.

PLSE Research — UW CSE Undergraduate Research *2016*
Developed G-Code parser/modeler with analysis programs to help analyze and optimize commercial 3D printing technology. Contributions included design and development of a G-Code Analyzer written in Java, as well as a dashboard web application for test results.

Judgement-Based Grading Tool — UW CSE Undergraduate Research *2016*
Worked with a UW CSE instructor and 3 other students implementing a Chrome extension to improve the quality of grading proof assignments. This tool integrates with the current grading platform but aims at providing more comprehensive student feedback as well as consistency between different graders on assignments.