

# Mavis Murdock

Computer Science PhD Candidate

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## Education

- Expected 2027 **Tufts University**, *PhD, Computer Science*, Medford, MA.  
Advisor: Elaine Short  
Research Assistant (AABL Lab)
- May 2024 **Tufts University**, *M.S., Computer Science*, Medford, MA.
- May 2022 **Mount Holyoke College**, *B.A. Computer Science and Classics*, South Hadley, MA.  
Leadership Award  
Patricia Ray '75 Endowed Scholarship (Classics)

## Selected Publications

- HRI 2024 Isaac Sheidlower, **Mavis Murdock**, Emma Bethel, Reuben M. Aronson, Elaine Schaertl Short. "Online Behavior Modification for Expressive User Control of RL-Trained Robots". *ACM/IEEE Conference on Human-Robot Interaction (HRI)*, Boulder CO, 2024
- Eva Domschot, Jeffrey Begaye, **Mavis Murdock**, Ramyaa Ramyaa. (In Preparation). "Exploration of Machine Learning Techniques for Botnet Detection"

## Research

- September 2022 - Present **Research Assistant (AABL Lab)**, *Tufts University*, Medford MA.
- June - July 2021 **Research Experience for Undergraduates**, *New Mexico Tech*, Socorro, NM.
  - Conducted research into the efficacy of different machine learning techniques for malware detection
  - At the midterm and final REU presentations, summarized research in oral presentations to professors and other undergraduates
  - Gave presentation on research to high-schoolers
  - Organized final results into a poster and final paper

## Experience

### Teaching/TA/Mentoring

- May - August 2024 **Instructor (Data Structures)**, *Computer Science Department*, Tufts University.
  - Held weekly labs
  - Designed lectures
  - Coordinated grading and office hours among 4 TAs
- January - May 2024 **TA (Robotics Teaching Lab)**, *Computer Science Department*, Tufts University.
  - Held drop-in office hours 3 times per week
  - Created and maintained documentation for the robots
  - Provided support for debugging robots
- September - December 2023 **TA (Intro to Human-Robot Interaction)**, *Computer Science Department*, Tufts University.
  - Presented current research
  - Held twice-weekly drop-in office hours
  - Graded assignments
  - Provided support for debugging robots

January - **TA (Probabilistic Robotics)**, *Computer Science Department*, Tufts University.

- May 2023
- Held twice-weekly drop-in office hours
  - Graded assignments
  - Provided support for debugging robots

January **Computer Science TA/Grader (CS 122, CS 322)**, *Computer Science Department*, Mount Holyoke College.

- 2021-May 2022
- Held twice-weekly drop-in meetings to help students with concepts and assignments
  - Reviewed and ran initial testing on homework assignments

September - **Computer Science Peer Mentor**, *Computer Science Department*, Mount Holyoke College.

- December 2021
- Held once-weekly meetings with 8 mentees (helped with course concepts, discussed strategies for managing workload, recommended future courses)
  - Handled related administrative tasks (scheduling meetings, checking in with instructors)

## Projects

January 2020 **Mr. Meter Machine**, *Classics Department*, Mount Holyoke College.

- <https://rosehairtarantula.github.io/Mr-Meter-Machine/>
- Used NodeJS to build a tool for teaching scansion to students in the college's introductory Greek course
- The site allows users to choose lines from the *Iliad* and practice marking syllables as long and short
- Used feedback from students and the professor to improve the program and make it more user-friendly

## Technical

January 2019 **Senior Web Programmer**, *Library and Technology Services*, Mount Holyoke College.

- May 2022
- Helped the web team handle emerging challenges and maintained existing work
    - Updated log scripts for the college's Shibboleth IdP  
<https://github.com/mtholyoke/idp-utilities>
    - Wrote Python script to find the most recent access/modification dates of legacy websites supported by the college
    - Created functionality for the LITS (Library, Information Technology Services) website to display service desk hours
  - Worked primarily with HTML, CSS, JavaScript, PHP, and Python

## Leadership

September **Social Co-Chair**, *ACM-W*, Tufts University.

- 2023 - Present
- Helped organize social events
  - Communicated and coordinated with other members of the board
  - Recruited new members

February - **Webmaster**, *HackHolyoke 2020*, Mount Holyoke College.

- November 2020
- <https://rosehairtarantula.github.io/HackHolyoke2020/>
  - Built and managed the website for HackHolyoke 2020
  - Created and maintained the discord server for the event
  - Worked with marketing and graphic design to create a comprehensive and cohesive brand

## Participation

April 2023 **Grad Cohort for Women**, *Computing Research Association (CRA-WP)*.

- Participated in a 2-day conference and attended a series of presentations and discussions
- Interacted with senior female computing-related researchers and professionals as well as graduate student peers

July - August 2020 **REBLS (Researchers, Educators, Business Leaders and Students) Summer Leadership Academy**, *University of Massachusetts Amherst*.

- Participated in a 6-week program created with grant from from the Melinda Gates Company Pivotal Ventures
- Was part of a cohort of 54 students (selected from over 100 applicants) from diverse backgrounds
- Spent 120 hours in class and on assignments, hearing from 35 speakers from industry and academia
- Spent 20 hours in interactive negotiation exercises and problem solving around case studies

## Outreach

October 2023 **RoboBoston**, *Annual Block Party*.

- Ran robot demonstration showcasing the lab's current research