

# Madelyn Gatchel

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## EDUCATION

### University of Michigan

*Ph.D. in Computer Science & Engineering*

**Ann Arbor, MI**

*September 2021 - Present*

- Advisor: Professor Michael P. Wellman, Strategic Reasoning Group
- Advanced to candidacy in Spring 2023

*M.S. in Computer Science & Engineering*

*August 2023*

- Coursework (GPA: 4.0): Advanced Game Theory, Machine Learning, AI Foundations, Advanced AI, Reinforcement Learning, Distributed Systems

### Davidson College

**Davidson, NC**

*B.S. in Computer Science (High Honors) and Mathematics, Magna Cum Laude*

*May 2021*

- GPA: 3.990; Computer Science Major GPA: 4.000; Mathematics Major GPA: 3.970
- Coursework: Algorithmic Game Theory, Machine Learning, Deep Learning, Analysis of Algorithms, Graph Theory
- Honors Thesis: "Variable-Player Learning for Simulation-Based Games," advised by Professor Bryce Wiedenbeck

## RESEARCH EXPERIENCE

### Division of Computer Science & Engineering, University of Michigan

**Ann Arbor, MI**

*Graduate Student Research Assistant – Strategic Reasoning Group*

*August 2021 - Present*

### Department of Mathematics & Computer Science, Davidson College

**Davidson, NC**

*Undergraduate Research Assistant*

*May 2020 - August 2021*

### Department of Computer Science, Brown University

**Providence, RI**

*DREU Undergraduate Research Assistant for Prof. R. Iris Bahar*

*May 2019 - August 2019*

## PUBLICATIONS

1. Madelyn Gatchel and Bryce Wiedenbeck. Learning Parameterized Families of Games. In *Proceedings of the International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, May 2023. 1044–1052.
2. Madelyn Gatchel. Analyzing Games with a Variable Number of Players (Extended Abstract). *Proceedings of the AAAI Conference on Artificial Intelligence: Student Papers and Demonstrations*, May 2021. Vol. 35, No. 18, 15960-15961.

## SHORT TALKS & POSTERS

1. Madelyn Gatchel. "Learning Parameterized Families of Games." *CRA-WP Grad Cohort for Women*, April 2022. Poster.
2. Madelyn Gatchel. "Variable-Player Learning for Simulation-Based Games." *Davidson College Verna Miller Case Symposium*, April 2021. Short Talk.
3. Madelyn Gatchel. "Multi-SpoNN: A Lightweight Network for Multiple Object Detection." *Brown Summer Undergraduate Research Symposium*, August 2019. *Grace Hopper Celebration*, October 2019. Poster.

## DEPARTMENT LEADERSHIP

### CSE PhD Admissions Committee, University of Michigan

**Ann Arbor, MI**

*Student Representative*

*December 2021 - Present*

- Provide input from a student perspective at the weekly CSE PhD admissions committee meetings
- Assist the committee and the Graduate Programs Office in planning the virtual and in-person recruitment weekends
- Served as a greeter, driver, current student panel member, dinner host, and current student representative at various sessions during the 2022 and 2023 in-person recruitment visit (20+ hours each year)
- Recruited and helped train ~50 total Ph.D. student volunteers to evaluate AI applications (Dec 2022, Dec 2023)
- Conducted thorough evaluations of ~25 total AI applications for 2021-2022 and 2022-2023 application cycles
- UM CSE Explore Graduate Studies current student panelist (Fall 2022, Fall 2023) and moderator (Fall 2023)
- Volunteered for the UM CSE booth at Tapia conference (Fall 2023)
- Evaluated ~20 AI applications for potential fellowship nomination during 2023-2024 application cycle

**CSE Division Chair Search Committee, University of Michigan****Ann Arbor, MI***Student Representative**July 2023 - December 2023*

- Attended committee meetings and helped conduct first- and second-round interviews
- Organized meetings for graduate students to meet with each second-round chair candidate
- Volunteered over 50 hours for this position

**CSE Graduate Student Organization, University of Michigan****Ann Arbor, MI***Recruitment Chair**August 2022 - May 2023*

- Organized a program which paired current Ph.D. students with 15 Ph.D. applicants from diverse backgrounds to provide feedback on their Statements of Purpose (SoP)
- Recruited, scheduled, and managed nearly 50 current student volunteers for virtual and in-person recruitment visits
- UM College of Engineering EMERGE program volunteer

**AI Lab, University of Michigan****Ann Arbor, MI***AI Tea Co-Coordinator**December 2021 - May 2023*

- Planned and facilitated monthly AI discussions with co-coordinator for 25+ AI lab graduate students and faculty

**Women in Computer Science (WiCS), Davidson College****Davidson, NC***Vice President**August 2019 - May 2021*

- Assisted with organizing weekly meetings and coordinated event logistics with outside speakers and groups
- Mentored first-year and sophomore women and non-binary students exploring computer science

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**TEACHING EXPERIENCE****Division of Computer Science & Engineering, University of Michigan****Ann Arbor, MI***Graduate Student Instructor**January 2024 - May 2024*

- EECS 592 Artificial Intelligence Foundations

**Department of Mathematics & Computer Science, Davidson College****Davidson, NC***Computer Science Assistant Teacher**August 2019 - May 2021*

- CSC 121 Programming and Problem Solving (Python): Fall 2019, Spring 2020, Fall 2020 (60-90 students per semester)
- CSC/MAT 220 Discrete Structures (introductory proofs course): Spring 2021 (25 students)
- Led 2-3 weekly sessions for 5-25 students to review coursework and class concepts
- Spring 2020: Taught three lectures (string manipulation, return statements, file I/O) in professor's absence
- Fall 2020: Reformatted quiz handouts, skeleton files, solutions, and autograders to align with restructured course

*Computer Science Grader**August 2018 - May 2019*

- CSC 121 Programming and Problem Solving (Python): Fall 2018, Spring 2019 (20-40 students per semester)

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**HONORS & AWARDS**

- CRA-WP Grad Cohort for Women Scholar (Spring 2022)
- AAAI-21 Undergraduate Consortium Scholar (Spring 2021)
- Davidson College Senior Computer Science Award (Spring 2021)
- Davidson College William Gillespie McGavock Mathematics Award (Spring 2021)
- Honor Societies: Phi Beta Kappa (Fall 2020), Omicron Delta Kappa (Spring 2020)
- Davidson College Bernard Society of Mathematics Sophomore Computer Science Award (Fall 2019)
- CRA-WP Grace Hopper Celebration Research Scholar (Fall 2019)

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**PROFESSIONAL SERVICE & VOLUNTEERING**

- CSE DEI Discussions – Presenter and Discussion Co-Moderator (October 2023)
- UM Provost Advisory Committee Meeting – Student Panelist (September 2023)
- AAMAS-23 student volunteer (May 2023)
- UM Computing CARES Failing Forward – Student Panelist (February 2023)
- EECS 601: Introduction to CSE Graduate Research – Student Panelist (November 2022)
- Mentor for EECS 110 Discover Computer Science (Winter 2022, Fall 2022)
- Student interviewer for UM College of Engineering Director of Graduate Initiatives position (April 2022)