

# Madelyn Gatchel

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## EDUCATION

### University of Michigan

*Ph.D. in Computer Science*

**Ann Arbor, MI**

*September 2021 - Present*

- Advisor: Professor Michael P. Wellman, Strategic Reasoning Group
- Coursework: Machine Learning, AI Foundations, Advanced AI, Distributed Systems

### Davidson College

*Bachelor of Science in Computer Science (High Honors) and Mathematics, Magna Cum Laude*

**Davidson, NC**

*May 2021*

- GPA: 3.990; Computer Science Major GPA: 4.000; Mathematics Major GPA: 3.970
- Relevant coursework: Algorithmic Game Theory, Machine Learning, Deep Learning, Analysis of Algorithms, Graph Theory

## RESEARCH EXPERIENCE

### Strategic Reasoning Group, University of Michigan

*Graduate Student Research Assistant (GSRA)*

**Ann Arbor, MI**

*August 2021 - Present*

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

*Davidson CCD Summer Research Assistant*

**Davidson, NC**

*May 2021 - August 2021*

*Honors Thesis Independent Study*

*August 2020 - May 2021*

*Davidson Research Initiative (DRI) Research Assistant*

*May 2020 - August 2020*

**Project:** Learning Parameterized Families of Games, advised by Professor Bryce Wiedenbeck

- Honors Thesis: "Variable-Player Learning for Simulation-Based Games"
- Extended abstract appeared in AAAI-21 Undergraduate Consortium Proceedings

### School of Engineering, Brown University

*DREU Undergraduate Research Assistant*

**Providence, RI**

*May 2019 - August 2019*

**Project:** Multi-SpoNN: A Lightweight Network for Multiple Object Detection, advised by Professor R. Iris Bahar

- Extended network capability of SpoNN, a lightweight CNN for object detection on FPGAs, to detect and classify multiple objects
- Evaluated network performance on various datasets appropriate for autonomous robots
- Presented research at Brown's Summer Undergraduate Research Symposium and at Grace Hopper Celebration in October 2019

## RELATED EXPERIENCE

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

*Computer Science Assistant Teacher*

**Davidson, NC**

*August 2019 - May 2021*

- CSC 121 Programming and Problem Solving (Python): Fall 2019, Spring 2020, Fall 2020
- CSC/MAT 220 Discrete Structures (introductory proofs course): Spring 2021
- Led 2-3 weekly sessions for 5-25 students to review coursework and class concepts, assisting 60-90 total students each semester
- Created personalized practice problems for students struggling with a particular concept or skill to resolve points of confusion
- Spring 2020: Taught three lectures (string manipulation, return statements, file I/O) independently in professor's absence
- Fall 2020: Reformatted quiz handouts, skeleton files, solutions, and Gradescope autograders to align with restructured course

*Computer Science Grader*

*August 2018 - May 2019*

- CSC 121 Programming and Problem Solving (Python): Fall 2018, Spring 2019
- Analyzed and evaluated coding assignments for 20-40 students per semester
- Identified areas of improvement and suggested concrete means to address the areas
- Communicated detailed results and observations from assignments with professor

### Rodgers Builders, Inc.

*Innovative Specialist (IT Intern)*

**Charlotte, NC**

*May 2018 - August 2018*

- Collaborated with fellow intern to resolve Salesforce implementation gaps such as syncing email replies to case tickets
- Implemented an asset management process for devices and inputted data into Salesforce; generated reports in Salesforce
- Analyzed current IT Help Desk processes on Service Cloud and customized features for improved efficiency and organization
- Assisted the CIO in outlining, creating, and preparing his presentation for the Charlotte CIO Forum
- Trailhead by Salesforce: Ranger rank, the highest achievable rank (100+ badges)

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## LEADERSHIP & SERVICE

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### CSE PhD Admissions Committee, University of Michigan

Ann Arbor, MI

Student Representative

December 2021 - April 2021

- Provided input from student perspective at the weekly CSE PhD admissions committee meetings
- Assisted the committee and the Graduate Programs Office in planning the in-person recruitment weekend
- Served as a greeter, driver, DEI panel member, dinner host, and current student representative at various sessions during the 2021 in-person recruitment visit (~20 hours)
- Conducted thorough evaluations of 10+ AI applications for 2021 application cycle

### AI Lab, University of Michigan

Ann Arbor, MI

AI Tea Co-Coordinator

December 2021 - Present

- Plan and facilitate monthly AI discussions with co-coordinator for 20+ AI lab graduate students and faculty

### Women in Computer Science (WiCS)

Davidson, NC

Vice President

August 2019 - May 2021

- Assisted with organizing and leading weekly meetings and coordinated event logistics with outside speakers and groups
- Encouraged, supported, and mentored first-year and sophomore women and non-binary students to explore computer science

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## HONORS & AWARDS

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- 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 GHC Research Scholar (Fall 2019)
- Davidson College Chidsey Leadership Fellow (Spring 2018)

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## SKILLS

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- **Programming Languages:** Proficient in Python, C, MATLAB, Java; Experience using Julia, HTML, SML, Racket, Mathematica
- **Salesforce:** Admin and Developer experience using Lightning Experience with Service Console and Sales Console
- **Language:** Intermediate proficiency in Spanish (5 total years)