Madelyn Gatchel

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EDUCATION

University of Michigan **Ann Arbor, MI**
Ph.D. in Computer Science *September 2021 - Present*
- Advisor: Professor Michael P. Wellman, Strategic Reasoning Group
- Coursework: AI Foundations, Distributed Systems

Davidson College **Davidson, NC**
Bachelor of Science 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
- Relevant coursework: Algorithmic Game Theory, Machine Learning, Deep Learning, Analysis of Algorithms, Graph Theory

RESEARCH EXPERIENCE

Department of Mathematics and Computer Science, Davidson College **Davidson, NC**
Davidson CCD Summer Research Assistant *May 2021 - August 2021*
Honors Thesis Independent Study *August 2020 - May 2021*
Davidson Research Initiative (DRI) Research Assistant *May 2020 - August 2020*
Project: Variable-Player Learning for Simulation-Based Games, advised by Professor Bryce Wiedenbeck
- Generalize "Learning Deviation Payoffs in Simulation-based Games" by Sokota, Ho and Wiedenbeck to approximate equilibria in games where the number of players falls in a specified range
- Extended abstract appeared in AAAI-21 Undergraduate Consortium Proceedings

School of Engineering, Brown University **Providence, RI**
DREU Undergraduate Research Assistant *May 2019 - August 2019*
Project: Multi-SpooNN: A Lightweight Network for Multiple Object Detection, advised by Professor R. Iris Bahar
- Extended network capability of SpooNN, 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 **Davidson, NC**
Computer Science Assistant Teacher *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. **Charlotte, NC**
Innovative Specialist (IT Intern) *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)

SKILLS

- **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)

HONORS & AWARDS

- Davidson College Senior Computer Science Award (Spring 2021)
- Davidson College William Gillespie McGavock Mathematics Award (Spring 2021)
- AAAI-21 Undergraduate Consortium Scholar (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)

LEADERSHIP

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