EMMA HOGAN

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EDUCATION

PhD Computer Science — Expected Graduation: June 2025
University of California, San Diego
Computing Education Research Lab
GPA: 3.76

BS Siena College, Computer Science — May 2021
Standish Honors Program Scholar
Minored in Writing and Communication
Overall GPA: 3.96

GRANTS AND FELLOWSHIPS

Ford Foundation Predoctoral Fellowship 2023
Funding Period: 3 years
Description: Award provides funding for three years to support doctoral studies. Recognized for commitment to utilizing diversity as a valuable asset to enrich educational experiences for all students.

National Science Foundation BPC-DP Award 2315909 ($300,000 | 2 years) 2023
Project Title: *Improving Computing Education for Incarcerated College Students*
Project Role: Lead PhD Student
Project Team: Leo Porter (PI), William Griswold (Co-PI), Gerald Soosai Raj (Co-PI)
Project Duration: October 2023 - September 2025
Description: Aiming to enhance computer science education in prison settings, addressing academic preparation, needs of adult learners, and challenges posed by limited resources.

Jacobs School of Engineering Fellowship 2021
Funding Period: First year of doctoral program
Description: Granted an elevated funding package for the initial year of the doctoral program, with additional assurance of funding for the first summer, demonstrating academic merit and commitment to the field of engineering.

Honors and Awards

Computer Science Major Field Award 2021
Awarded to one student in the department for excellence in the field upon graduation

Standish Honors Program Scholar, *Siena College* 2021
Requirements included an independent research culminating in an honors thesis, 100 hours of community service, and 24 honors credits

Summa Cum Laude, *Siena College* 2021
Graduated with highest possible distinction

President's List, *Siena College* 2018 to 2021
Maintained an overall GPA of 3.9 or above all semesters

Research Experience

Improving Computing Education for Incarcerated Students 2021 - present
University of California, San Diego, La Jolla, California

- Received Broadening Participation in Computing (BPC) grant from NSF
- Executing a new research initiative to improve computing education in prisons
- Teaching Introductory Programming courses in Fall quarters 2022-2024 at Richard J. Donovan prison, through the UC Irvine LIFTED program

Experiences of Non-CS majors in Introductory CS Courses 2022
University of California, San Diego, La Jolla, California

- Designed and executed a mixed-methods research study on the fears and changes in confidence levels amongst non-major students in two introductory CS courses
- Led grounded theory research to identify major categories of students' fears through qualitative coding of open-ended survey responses

The Role of Technology in Inclusive Correctional Education 2021
Undergraduate Honors Thesis Research
Siena College, Loudonville, New York
Advisor: Dr. Anne L. Rody-Wright

- Designed and conducted independent multidisciplinary research project on the role of technology in supporting the unique needs of incarcerated students with literacy issues, learning disabilities, and other barriers to traditional classroom settings
- Created a working digitalized version of the standard GED preparation classes, to be used on the tablets at Albany County Jail

- Conducted an anonymous survey of inmates at Albany County Jail comparing their educational experience in person and on the tablets, analyzed and disseminated findings as part of my culminating thesis paper

Group Dynamics of Successful Cybersecurity Teams 2020
Carnegie Mellon University, Pittsburgh, Pennsylvania

- Identified successful strategies of high-performing cybersecurity competition teams and its relevance to cybersecurity teams in the industry
- Transcribed, coded, and analyzed data collected from interviews with focus groups of top ranking teams from 2019 picoCTF competition hosted by Carnegie Mellon University
- Presented findings at the 2020 CyLab Partners Conference in a poster session

PUBLICATIONS

Conference Papers

(Submitted) **E. Hogan**, J. Driscoll, Soosai Raj, A., L. Porter, W. Griswold. "Uncovering Meaningful Computing Contexts for Incarcerated College Students," ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE), 2024.

(Accepted) **E. Hogan**, R. Li, Soosai Raj, A., L. Porter, W. Griswold. "Challenges and Approaches to Teaching CS1 in Prison," ACM Special Interest Group on Computer Science Education (SIGCSE), 2024.

E. Hogan, R. Li, Soosai Raj, A. "CS0 vs. CS1: Understanding Fears and Confidence amongst Non-majors in Introductory CS Courses," ACM Special Interest Group on Computer Science Education (SIGCSE), 2023.

A. Shah, **E. Hogan**, V. Agarwal, J. Driscoll, L. Porter, W. Griswold, A. G. Soosai Raj. "An Empirical Evaluation of Live Coding in CS1," 19th ACM Conference on International Computing Education Research (ICER), 2023.

A. Shah, V. Agarwal, M. Granado, J. Driscoll, **E. Hogan**, L. Porter, W. Griswold and A. G. Soosai Raj. "Evaluating the Impact of a Remote Live Coding Pedagogy on Student Programming Processes, Lecture Questions Asked, and Outcomes," 28th Annual Conference on Innovation and Technology in Computer Science Education (ITiCSE), 2023.

M. Sharma, H. McTavish, Z. Peng, A. Shah, V. Agarwal, C. Sih, **E. Hogan**, I. Villegas Molina, A. G. Soosai Raj, K. Vaccaro. "Engagement and Anonymity in Online

Computer Science Course Forums," 19th ACM Conference on International Computing Education Research (ICER), 2023.

Undergraduate Honors Thesis

Hogan, Emma. "The Role of Technology in Supporting the Learning Needs of All Levels of Incarcerated Students : A Supplement, Not a Replacement." Siena College, 2021. Siena College ETD Archive.

News Publications

Hogan, Emma, and Bolotin, Hannah. "OPINION: Washington's DOC Is Trapping Incarcerated Men in Solitary Confinement." *South Seattle Emerald*. July 28, 2021.

Hogan, Emma. "Locked out of Life-Saving Education Programs." *Post-Prison Education Program* (blog), July 12, 2021.

Other Publications (Non Peer-Reviewed)

Cuevas, A., Hogan, E., Hibshi, H., and Christin, N. "Observations From an Online Security Competition and Its Implications on Crowdsourced Security." arXiv, April 26, 2022. http://arxiv.org/abs/2204.12601.

PRESENTATIONS

Computer Science and Engineering (CSE) Research Open House, University of California, San Diego; La Jolla, CA, January 2024. Hogan, E. "Uncovering Meaningful Computing Contexts for Incarcerated College Students" (poster).

National Conference on Higher Education in Prison (NCHEP), November, 2023. Hogan, E. "Challenges and Approaches to Teaching Computing in Prison" (panel).

Special Interest Group on Computer Science Education (SIGCSE), March, 2023. Hogan, E. "CS0 vs. CS1: Understanding Fears and Confidence amongst Non-majors in Introductory CS Courses" (paper presentation).

National Alliance on Mental Illness (NAMI) Washington State Conference, October, 2021. Hogan, E., Allen, K., Kohn, A. "Thrown Away in Our Prison System: How Poor People of Color with Mental Illness are Ostracized" (workshop).

CyLab Partners Conference, Carnegie Mellon University, Pittsburgh, PA, September 2020. Hogan, E. "Lesson Learned for Computer Security Teams from High-Performance CTF Teams" (poster).

TEACHING EXPERIENCE

Associate Lecturer, University of California, Irvine (2022 - Present)
LIFTED Program, Richard J Donovan Correctional Facility, San Diego, California
SOC 19 *Introduction to Python Programming* (Fall 2022, Fall 2023)
STATS 10A *Probability and Statistics in Social Sciences I* (Summer 2023)
STATS 10B *Probability and Statistics in Social Sciences II* (Summer 2023)

WORK EXPERIENCE

Associate Lecturer, University of California, Irvine,
San Diego, California ~ *Fall 2022, Summer 2023, Fall 2023*

- Hired as a founding faculty member of the UC Irvine LIFTED program at Richard J Donovan prison, to conduct UC Irvine courses in prison for credit towards a Bachelor's degree
- Sole instructor for Introduction to Programming for Sociology during the Fall 2022 and Fall 2023 quarters, and two introductory Statistics courses during Summer 2023
- Designed all course materials to be paper-based and offline in order to adapt to the restrictions of a prison setting

Graduate Teaching Assistant, University of California, San Diego,
La Jolla, California ~ *Spring 2022, Winter 2023, Spring 2023*

- Hired as a teaching assistant for a large Introduction to Programming in Python course with over 500 students (Spring 2022), Software Tools and Techniques Lab (Winter 2023), Theory of Computation (Spring 2023)
- Conducted labs and discussion sections and designed course materials
- Led a group of staff in reaching out to struggling students (Spring 2022)

Applicant and Student Services Counselor, Post-Prison Education Program,
Seattle, Washington ~ *May 2021 – December 2021*

- Elemental in forming committee devoted to advocating for educational access, working with Washington Department of Corrections administrators and legislators to propose solutions
- Published two newspaper articles on current issues I witnessed our students facing, supported by letters from prisoners, phone interviews conducted with family members, and related research to give national and global context
- Managed a caseload of up to 10 currently incarcerated students, communicating regularly to plan their release from prison and transition into higher education

Backend Development and Software Engineering Research Intern, Carnegie Mellon University, Pittsburgh, Pennsylvania ~ *May 2020 – October 2020*

- Joined picoCTF project as part of Research Experience Undergraduate Software Engineering (REU-SE) program
- Assisted in backend development of the API using Django REST Framework, Python 3, and Docker Compose
- Supported team writing a research paper surrounding cybersecurity team dynamics in a virtual setting through completion and submission to CSCW Conference

Computer Science Tutor, Siena College,
Loudonville, New York ~ *January 2020 – May 2021*

- Chosen as one of the designated tutors for the Computer Science department
- Conduct both individual and open group tutoring sessions

Management Information Systems Intern, Hudson River Community Credit Union,
Corinth, New York ~ *September 2019 – April 2020*

- Certified as RPA bot developer to assist in piloting project to automate bank processes
- Analyzed and presented data by writing specialized SQL queries and manipulating it in Excel
- Identified and corrected long-standing errors in financial data reporting spreadsheets

TECHNICAL SKILLS

Programming Languages: Advanced: Java, Python 3, SQL, Kotlin; Proficient: C, HTML, CSS, JavaScript, Assembly

Technical Skills: GitHub Flow, Angular, Django, Docker Compose, Microsoft Office

COMMUNITY SERVICE

ServNY
Volunteered at pop-up Covid-19 vaccination clinics throughout spring, Albany, NY, *2021*

Trinity Alliance
Interactive Journaling program facilitator at Albany County Jail, Albany, NY, *2020 – 2021*

San Damiano Refugee Partnership
Refugee tutor and mentor, Siena College, Loudonville, NY, *2020 – 2021*

Albany County Correctional Facility
Developed and executed six-week Interactive Journaling group, Albany, NY, *2018*

LEADERSHIP

Treasurer, Siena College Entrepreneurship Organization 2018 to 2021
Responsible for club finances and budget planning

REFERENCES

Dr. William G. Griswold, Full Professor
Computer Science and Engineering

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