EMILY GARCEAU

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Education

North Carolina State University | 2023-Present
Doctor of Philosophy in Computer Engineering
Goodnight Doctoral Fellowship — Provost's Doctoral Fellowship
University Graduate Fellowship — Graduate Merit Award

Clemson University Honors College | 2019-2023
Bachelor of Science in Computer Engineering — GPA: 4.0
Rhodes Most Outstanding Senior in Computer Engineering — Faculty Scholars Award
President's List 2019-2023 — Palmetto Fellows Scholarship

Research

Tracking Finger and Hand Motion Related to Eating | January-May 2023
Supervisor: Dr. Adam Hoover at Clemson University
Researched different forms of wearable technology to detect eating behavior
- Custom development programming (GitHub) for obtaining sensor measurements from a smart ring to support finger-tracking research

Data Compression - NSF REU | January-February 2023
Supervisor: Dr. Jon Calhoun at Clemson University
Researched data compression methods as a National Science Foundation REU student
- Improved current state-of-the-art lossy and lossless data compression by adding logic to dynamically manage compressed data
- Evaluated data management runtime on a diverse set of proxy application and production-level applications with varying memory requirements, communication computation ratios, communication patterns, and data access patterns

Work Experience

Cadence Design Systems | WFO Application Engineer Intern
San Jose, CA | May 2023-August 2023
- Named as one of National Intern Day's Top 100 Interns
- Collaborated with cross-functional teams to develop and execute comprehensive test plans for advanced semiconductor designs
- Designed and implemented complex SystemVerilog testbenches using Cadence's Xcelium simulation tools
- Led formal verification efforts, ensuring coverage of design specifications and reducing the risk of functional errors
- Utilized Universal Verification Methodology (UVM) to improve verification efficiency and maintainability
- Analyzed simulation results and debugged issues, consistently meeting project milestones and deadlines

- Documented verification processes, test results, and issues to facilitate knowledge sharing and project continuity
- Presented two formal design reviews to management evaluating the progress, quality, and correctness of design verification efforts

Delta Air Lines | Simulator Engineering Co-Op
Atlanta, GA | January 2021-July 2022
- Edited and debugged C and FORTRAN programs implemented using real-time simulation on Unix-based platforms
- Ensured consistent training experience across simulator fleet by altering code on different host computers and operating systems
- Improved software efficiency to optimize simulator resources and increase simulator reliability
- Communicated with departments across company and government agencies to secure documentation for simulator modifications
- Researched and interpreted aircraft wiring schematics to debug simulation software and maintain data integrity
- Crafted technical reports detailing coded software modifications
- Partnered with pilots and instructors to identify and resolve simulator discrepancies to optimize pilot training
- Successfully on-boarded, trained, and mentored a new co-op student
- Initiated and scheduled monthly meetings with members of the engineering team and leadership
- Created a collaborative cross-divisional partnership between two engineering departments
- Worked with engineers from other companies to troubleshoot and implement software corrections

Clemson University | Undergraduate Teaching Assistant
Clemson, SC | August 2020-December 2020
- Aided general engineering professor by answering questions and explaining material in class of 40+ students
- Tutored student individuals and groups using collaborative methods to provide support and strengthen understanding

Leadership

Eta Kappa Nu (IEEE-HKN) - Vice President
Clemson, SC | 2022-2023
Electrical and Computer Engineering Honor Society for top 1/5 of sophomores, 1/4 of juniors, and 1/3 of seniors at Clemson University
- Organized annual career fair for 100+ Electrical and Computer Engineering students and 12 companies totaling 20+ representatives
- Planned and led monthly meetings for 40+ members and weekly meetings for executive members
- Maintained attendance records and continuing requirements for each member
- Led department-wide Operation Christmas Child donation event
- Designed and distributed exclusive HKN Zeta Iota t-shirts

CECAS Undergraduate Student Advisory Board - ECE Representative
Clemson, SC | 2022-2023
College of Engineering, Computing, and Applied Sciences at Clemson University

- Created a partnership between the college and Tigertown Graphics to design and sell custom CECAS t-shirts individualized for each major
- Developed outreach events for students in the college to enhance the undergraduate experience
- Provided feedback to the Dean's office on relevant issues to help guide or influence college-level decisions
- Attended bimonthly board meetings and represent the ECE department student body
- Communicated information about ECE department activities, policies, and processes with board members from other departments
- Distributed information to the ECE department's student body

Honors

- **Goodnight Doctoral Fellowship** - awarded to 30 Ph.D. students each year studying STEM or education at North Carolina State University
- **Rhodes Most Outstanding Senior in Computer Engineering** for the 2022-2023 academic year in the Holcombe Department of Electrical and Computer Engineering at Clemson University
- **Faculty Scholarship Award** at Clemson University upon 2023 graduation with a 4.0 GPA
- **Eta Kappa Nu Zeta Iota** - Electrical and Computer Engineering Honor Society at Clemson University for top 1/5 of sophomores, 1/4 of juniors, and 1/3 of seniors
- Appointed to the **CECAS Undergraduate Student Advisory Board** by the chair and faculty advisor of the Holcombe Department of Electrical and Computer Engineering to serve as one of three ECE student representatives
- Invited to attend Clemson University's annual **ECE External Board of Advocates** 2022 meeting as one of five ECE students to provide undergraduate feedback to industry leaders
- **President's List** at Clemson University Fall 2019-Spring 2023

Technical Skills

C/C++ ●●●●○	VHDL ●●●○○	Biometric Systems	Signal Processing
Python ●●●●○	UVM ●●●○○	Data Science	MicrocontrollerInterfacing
FORTRAN ●●●●○	Xcelium ●●●○○	Pattern Recognition	Computer Networking
MATLAB ●●●●○	Digital Works ●●●○○	Computer Vision	Operating Systems
VS Code ●●●●○	R ●●●○○	R/Python	Digital Computer Design
GDB ●●●●○	Prolog ●●●○○	Embedded Computing	Integrated System Design
Unix ●●●●○	OCaml ●●●○○	Random Signal Analysis	Linear Control Systems
Logisim ●●●●○	LaTeX ●●●○○	Electric Circuits	Computer Ethics
LTspice ●●●●○	HTML ●●●○○	Electronics	Linear Algebra
Verilog ●●●●○	CSS ●●●○○	Logic & Computing Devices	Discrete Mathematics
SystemVerilog ●●●●○	JavaScript ●●○○○	Computer Organization	Senior Design

Professional Skills

Technical Writing	Project Management
Organizing Meetings	Research & Analytics
Mentoring/Tutoring	Leading Teams