

CAMERON HAIRE

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EDUCATION

University of Michigan, Ann Arbor, MI
Ph.D., Computer Science and Engineering
Advisor: Alanson Sample

Aug. 2022-Present

- **Relevant Courses:** Real-Time Programming, Human Computer Interaction

Cornell University, College of Engineering, Ithaca, NY
Bachelor of Science, Electrical and Computer Engineering

May 2022
GPA: 3.76

- **Relevant Courses:** Microcontrollers, ASIC Design, Computer Architecture, Embedded Operating Systems, Advanced Computer Architecture, Operating Systems, Networks and Telecommunications,

RELEVANT EXPERIENCE

Apple, Cupertino, CA, *Hardware Engineering Intern*

May 2021-Aug. 2021, May 2022-Aug. 2022

- Worked as a part of the Watch SiP team to develop a PCB for validating and testing new designs. Used Allegro Design Entry to construct the schematic, iterating off previous designs to improve functionality and versatility. Collaborated with team members to floorplan and layout my design.
- Contributed to engineering reviews to verify new designs, performing schematic net checks, validating component layout footprints, and completing paper-doll studies.

Autonomous Underwater Vehicle Team, Cornell University, *Electrical Team Member*

Sept. 2018-May 2022

- Selected as an electrical member of an interdisciplinary undergraduate team that designs and builds AUV's.
- Implemented each stage of board development: schematic and PCB layout design, population, testing, and programming of AVR microcontroller firmware using C.
- Designed serial communication board: converts incoming RS-232 data from other PCBs to TTL and USB to allow communication between other boards and the main vehicle computer.
- Designed power distribution board: routes power through controllable channels to electrical system, monitors current draw, and prevents over current. Custom circuitry allows for both manual and automatic control of power flow, allowing for debugging in addition to overcurrent protection.
- Used bench equipment to isolate and debug issues with the electrical system during system integration.
- Placed 5th out of 54 teams at 2019 International RoboSub competition in San Diego, CA.
- Mentored younger team members through weekly one on one meetings and presentations.

Computer Systems Laboratory, Cornell University, *Undergraduate Researcher*

June 2019-May 2022

Batten Research Group

- Awarded Cornell ECE Early Career Research Scholars Program grant Summer 2019.
- Worked with a logic analyzer and pattern generator to develop a suite of test programs that run a series of general checks on recently taped chips. Wrote an array of python scripts to aid the testing procedure.
- Took part in an undergraduate lead chip tape-out. Wrote Verilog testbenches for logic and gate level simulation.
- Tested and developed Verilog SPI implementation for use in future tape-outs and testing.
- Researched how to efficiently run operations on a course-grain reconfigurable array by leveraging variable configurations and comparing against more traditional architectures.

LEADERSHIP EXPERIENCE

Autonomous Underwater Vehicle Team, Cornell University, *Electrical Team Co-Lead*

July 2020-May 2022

- Organized and developed trainings, recruitment, and onboarding for existing and future members.
- Created and reviewed design specifications for the AUV's electrical system.

SPECIALIZED SKILLS

Technical Skills: PCB schematic and layout design, PCB population and testing, Debugging tools (oscilloscope, logic analyzer), Communication protocols (SPI, RS-232, UART, I2C), Digital circuit design, Microcontroller programming

Programming Languages: C/C++, Java, Python, Assembly, Verilog, PyMTL

Software: KiCad, Altium, Allegro Design Entry, Fusion 360, Microsoft Office, Git, Confluence