

Daniel Braden Calco

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EDUCATION

University of Michigan – Ann Arbor, MI

M.S.E. May 2025 / B.S.E. January 2024

Master's Computer Science Engineering // Bachelor's Computer Engineering

GPA: 4.00/4.00 M.S.E (3.75/4.00 B.S.E)

- *Coursework:* Embedded Systems Design, Compiler Construction, Control Systems, Digital Circuits & Logic Design, PCB Design
- *Scholarships & Awards:* Chick Evans Scholar, Leinweber Software Scholar, University of Michigan Dean's List, UROP Blue Ribbon Award, Wayne State Research Symposium Scholarship, Intel ISEF Southwest Michigan 2nd Place

WORK & RESEARCH EXPERIENCE

Electrical Engineering & Computer Science Department Teaching Assistant

May 2024 – July 2024

University of Michigan, Ann Arbor, MI

August 2023 – December 2023

- Graduate Student Instructor for EECS 281 - Data Structures & Algorithms, teaching fundamental CS skills and paradigms.
- Undergraduate Instructional Assistant for EECS 483 – Compiler Construction. Developed & taught content on compiling x86-64 instructions via Rust. Led discussion sections and aiding in project completion.

Southwest Research Institute (SwRI) Summer Intern

May 2023 – August 2023

Ann Arbor, MI

- Developed code for an analog-to-digital converter card for SwRI's portable real-time operating system "RPECS". Worked with CAN interfacing on electric vehicles such as the Tesla Model S Plaid.
- Worked as a contractor under SwRI for the EPA's National Vehicle and Fuel Emissions Laboratory on drive train research.

University of Nebraska-Lincoln NIMBUS Lab Summer Guest Researcher

June 2022-August 2022

Lincoln, NE

- Researched 2D LiDAR sensor navigation without the use of cameras or computer vision.
- Gained experience with drone piloting, programming with ROS, Python and LiDAR detection. Achieved FAA Part 107 Remote Pilot Certification and presented work at UNL's Undergraduate Research Fair.

UNL Big Red Summer Academic Camp Outreach Guest Instructor

June 2022

Lincoln, NE

- Led daily programming lessons for high school students interested in attending UNL, teaching coding fundamentals and software structure.

University of Michigan Radiological Health Engineering Laboratory Researcher

September 2020 – September 2021

Ann Arbor, MI

- Developed a virtual reality training program for nuclear engineering majors, gaining experience in Unity, C#, and Oculus Quest development. Presented work at the Health Physics Society 2021 symposium in Phoenix, Arizona.

EMBEDDED DESIGN PROJECTS

Smart Game Table

February 2025 – May 2025

University of Michigan, Ann Arbor, MI (https://github.com/joshdoc/smart_game_table)

- Designed a smart game table, interface, and touchscreen able to interact with finger presses and 3D printed tangibles.

Ambilight Television Set

January 2023 – April 2023

University of Michigan, Ann Arbor, MI (<https://373ambilite.carrd.co/>)

- Designed a TV that mimics screen color content with backlighting LEDs using STM Microcontrollers, Raspberry Pi, and infrared signal processing.

Real-Time Translation & Transcription Glasses

September 2023 – December 2023

University of Michigan, Ann Arbor, MI (<https://transcriberglasses.carrd.co/>)

- Developed a glasses attachment that recognizes, translates, and transcribes real time speech onto a built-in monitor.

Mesh Network Transmission Medium Conversion

September 2024 – Present

University of Michigan, Ann Arbor, MI (<https://github.com/dcalkoj/MeshtASKtic>)

- Conversion of open source LoRa mesh network firmware *Meshtastic* to instead support 433MHz transceivers.

Michigan Neuroprosthetics, Electrical Team

September 2021 – May 2024

University of Michigan, Ann Arbor, MI (<https://www.umneuroprosthetics.org/>)

- Designed the circuitry for a cost-effective arm for growing children.

SKILLS

Embedded Development: C, C++, Python, ROS, Rust, Testing & Debugging, I2C, SPI, UART, Microchip, ARM, Git, CAN bus

Other Technology: Linux Development, Drone Piloting & Development (*FAA Part 107 License*), CRLA Level 1 Certification, LLVM