

Caroline Craig

Madison, WI

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608.572.1228

Education

University of Wisconsin - Madison

Master of Science, Biomedical Engineering, May 2025

- Cumulative GPA 4.0/4.0
- Biomedical Design, Innovation, and Entrepreneurship Program

Bachelor of Science, Biomedical Engineering, May 2024

- Cumulative GPA 3.83/4.0
- Dean's Honor List 7/8 semesters

Biology in Engineering Certificate, May 2024

Academic Design Projects

Intracranial Pressure Sensor, September 2022 – May 2024

- Developed a novel product and device fabrication process for measuring adolescent intracranial pressure levels in 5mmHg increments using X-ray, enhancing diagnostic accuracy and patient care
- Conducted FMEA testing on device biocompatibility, long-term degradation, and implantation methods
- Refined device performance through iterative CAD modeling and design optimization
- Patent pending P230183US01 (1512.903)

Microscope Cell Culture Incubator, September 2021 – December 2021

- Programmed microcontroller in C++ and fabricated circuit to evaluate temperature sensor readings
- Created custom testing protocols and processed data using MATLAB

Engineering Experience

Forward BIO Institute, Madison, WI

Catapult Program, September 2024 – May 2025

- Developed product that stabilizes mRNA-LNP at room temperature with the UW-Madison Murphy Group
- Defined product value by enabling vaccine distribution without cold-storage infrastructure, expanding reach and lowering operational costs
- Quantified market size for 4 potential product distribution strategies
- Identified prospective collaborators and funding opportunities through initial market analysis

Exact Sciences, Madison, WI

Corporate Engineering Intern, May 2023 – January 2024, May 2024 – August 2024

- Achieved a 60% reduction in machine label rejects by building and implementing a custom optical character recognition library for a vision inspection system
- Justified setting adjustments to reduce labeling rejects through quantification of vision inspection correlation thresholds by comparison of a standardized label to defaced labels
- Designed and implemented a Power BI dashboard to visualize automated equipment performance with realtime and historical data
- Successfully commissioned equipment for Food and Drug Administration approval
- Quantified \$50,000 to \$2,000,000 potential process improvement strategies

Work Experience

School of Medicine and Public Health, Dept. of Psychiatry, UW-Madison

Research Specialist, March 2025 – Present

- Studying the molecular dynamics of sleep and consciousness through electrophysiological and optical methods

College of Engineering, UW-Madison

Teaching Assistant, January 2025 – May 2025

Student Assistant and Grader, January 2023 – May 2023, January 2024 – May 2024

- Taught foundational topics in circuit assembly, CAD modeling, and microscope use
- Supported students by offering guidance and clarification on design principles and requirements

- Demonstrated excellent attention to detail in providing students with constructive feedback
SOAR Peer Advisor and Student Ambassador, May 2022 - August 2022
- Guided students in building a personalized schedule and navigating enrollment challenges
- Collaborated with fellow advisors to foster an inclusive environment for 1,500 incoming students
- Presented information and facilitated questions about campus resources

Leadership

Wisconsin Engineering Student Council

President, May 2023 – April 2024

VP of Communications, May 2022 – April 2023

Communications & Logistics Officer, May 2021 – April 2022

- Organized social and professional opportunities for 5,000 undergraduate engineering students
- Facilitated open communication between student council, administration, and student body
- Served as a mentor to junior council members and advocate for student interests