Olivia J. Wojnilo

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EDUCATION

University of Rhode Island, Kingston, RI — Expected Graduation: 2026
Bachelor of Science in **Biomedical Engineering** — GPA: 3.63/4.00
Bachelor of Arts in **Spanish –** 5-Year Dual Degree International Engineering Program
Minor in **Mathematics**
Honors: The University of Rhode Island Presidential Scholarship, Dean's List 7/7 semesters

INDUSTRY EXPERIENCE

Biomedical Design Consultant, Contracted with Andre Design & Drafting Services — **October 2025 - Present**

- Collaborated with a multidisciplinary team including an orthopedic surgeon and investor to redesign a next generation orthopedic boot
- Integrated pressure and motion sensors for real-time gait and recovery tracking
- Utilized SolidWorks and 3D printing to optimize ergonomic comfort, weight distribution, and user adjustability

Software Engineering Internship, Antenna Systems and Solutions — **February - July 2025**

- Applied Python and MATLAB to process and visualize complex antenna radiation data during internship in Spain
- Developed an augmented reality app in Unity to project 3D radiation patterns, using AI-assisted C# coding to prototype interactive features

Electrical Engineering and Design Summer Internship, Electric Boat, General Dynamics — **June - August 2024**

- Analyzed electrical issues within a submarine system and developed effective engineering solutions
- Created detailed technical documentation and work orders for trades teams, ensuring clear and accurate instructions for repair implementation
- Enhanced workplace professionalism by collaborating with experienced engineers

ACADEMIC PROJECTS AND RESEARCH

"Medema", Senior Capstone Design Project — **September 2025 - Present**

- Lead hardware design for a medical device that quantitatively measures pitting edema in patients
- Designed and built custom circuits and PCBs integrating sensors such as linear potentiometers and pressure sensors for quantitative edema measurement

Undergraduate Research Assistant, Translational Neurorobotics Laboratory — **September 2023 - July 2024**

- Investigated brain signals for applications with patients with paralyis in Dr. Reza Abiri's lab
- Analyzed EEG patterns linked to motor intent and developed custom tools for versatile and successful experiments

Undergraduate Research Assistant, Biomechanics & Wearables Laboratory — **June – August 2023**

- Processed motion capture data with Visual 3D to test the validity of a Stryker sensor and supported research in maternal hip biomechanics
- Participated in team meetings to discuss research progress, results, and potential areas for improvement

"Smart Mattress Pad for Tracking Pressure Injuries in the Geriatric Population" — **January - October 2023**

- Presented project findings and published technical paper at the MIT IEEE Undergraduate Research Technology Conference 2023
- Designed and built a pressure-sensing mattress pad (PCB, sensor matrix, 3D-printed enclosure) with a real-time GUI
- Received two URI² research grants to prototype and refine the device
- Collaborated with clinicians at Rhode Island Hospital to validate the design and support early clinical testing

Biomedical Engineering SPARK Program, Participant (2022) and Mentor (2023) — **June - August 2022 & 2023**

- Completed Arduino modules using different sensors and components to develop skills in Arduino and C++ programming language
- Published "SixthSense: A Wearable Ultrasonic System with Haptic Feedback for Visually Impaired Individuals" and presented at MIT IEEE Undergraduate Research Technology Conference 2022

SKILLS & INTERESTS

Languages: English - Native, Spanish - B2, Polish - A2
Technical Skills: SolidWorks, Arduino, Unity, Motion Capture, Visual 3D, C++, Python, MATLAB, Soldering, PCB Design
Interests: Medical Devices, Sensors, Hardware design, Electrical Circuits, 3D Printing