

JESSICA WALLACE

jessicawallace@cmu.edu | +1 917-797-0057 | jessicarwallace.com

EDUCATION

Carnegie Mellon University, Pittsburgh, PA

May 2023

Bachelor of Science, Mechanical Engineering
Minor, Media Design

WORK EXPERIENCE

Vehicle Design Integration Intern - Tesla Motors, Inc.

Jan. 2021 - Aug. 2021

- Led teams of 80+ engineers to integrate the Cybertruck overheads package, using cross-functional knowledge of electronics, body-in-white design requirements, and vehicle design.
- Designed 5 fixtures for a prototype truck, optimized for versatility for future vehicles as well as locating sub-assemblies together.
- Utilized first principles of mechanics to create a rotary fixture for a vehicle's instrument panel, minimizing torsion as well as deflection.

Robotics Intern [Confidential] - X, formerly Google[X]

May 2019 - Aug. 2019

- Spearheaded multiple robotics research projects involving design and fabrication.
- Created successful prototypes to improve a moonshot project that uses breakthrough technologies to solve the world's most challenging problems.

Robotics Research Assistant - CMU Robomechanics Lab

October 2018 - May 2023

- Prototyped improved dynamic running and climbing capabilities in a hexapod robot through systematic material analysis, strain energy methods for a linear-elastic system, and finite element analysis.
- Deployed critical design improvements for a magnetic wall climbing robot's electronics boards & electrical distribution system as well as conducted verification and validation of the prototypes..

Machine Shop Assistant - CMU Techspark

Jan. 2023 - May 2023

- Assisted project teams by providing guidance on equipment use for rapid prototyping of designs from ideation to realization for educational, extracurricular, and research activities.
- Instructed students on manufacturing techniques such as additive manufacturing, laser cutting, CNC, and machine shop equipment as well as digital design in a variety of CAD softwares.

PROJECTS AND LEADERSHIP

Project Lead - Autonomous Aquatic Debris Cleanup

Aug. 2022 - Dec. 2022

- Created an autonomous floating device that can locate and pick up water surface debris using a fully integrated mechatronic package with waterproofed sensing and feedback controls.
- Won Best Design Award at CMU 2022 Mechanical Design Exposition.

Accumulator Container System Lead - Formula SAE EV Team

Sept. 2021 - May 2022

- Developed accumulator container with considerations to battery cell cooling, surrounding vehicle geometry, and FSAE rules.
- Utilized sheet metal design skills and manufacturing process knowledge to ensure dimensional accuracy.

Head Orientation Counselor - Carnegie Mellon University

Nov. 2020 - Nov. 2021

- Served as a leader and role model for the entire student body. Developed the first in person program for 2,000+ students in 1.5 years, and revitalized campus culture and traditions by creating an inclusive and welcoming environment.

Two Force Members System Lead - Formula SAE EV Team

Sept. 2018 - May 2019

- Designed and manufactured 24 suspension links connecting major components in a Formula SAE race car.
- Integrated the system into the vehicle suspension and performed stress analysis calculations and Matlab simulations to optimize suspension link performance.

SKILLS

Machines Etc.: Metal Shop Proficiency, Wood Shop Proficiency, Sewing, Casting (Silicone Prosthetics), Waterjet

Software: Solidworks, CATIA V5, CATIA V6(3D Experience), Python, JavaScript, C++, HTML

Certifications: NAUI Open Water Scuba Diver, FAA Commercial Drone Pilot, NJ Boating Safety Certification