

EDUCATION

Case Western Reserve University | Cleveland, OH

GPA: 3.204

- MS, Aerospace Engineering (Solid Mechanics) - Integrated BS/MS Program
- BS, Mechanical Engineering and Aerospace Engineering, minor in Business Management

Expected: May 2028

Expected: May 2027

CERTIFICATIONS & AFFILIATIONS

- Certified SOLIDWORKS Associate (CSWA)
- American Institute of Aeronautics and Astronautics (AIAA) - Member
- American Society of Mechanical Engineers (ASME) - Member

Dec 2024

Jan 2026 – Present

Jan 2026 – Present

SELECT EXPERIENCES

Engineering & Manufacturing Intern | Cyrus Shank, Aurora, IL

Jun 2026 – Present

- High-Cycle Fatigue & Compression Testing - Execute quality-assurance protocols on precision refrigeration spring assemblies, analyzing post-compression dimensional variance and force retention metrics to enforce pass/fail structural compliance.
- Precision Machining & Dimensional Inspection - Machine flow-control components from raw stock with thousandths-of-an-inch precision, verifying part geometry using tools such as micrometers, calipers, dial indicators, thread gauges, and Go/No-Go plugs.
- Multi-Station Operations & Throughput - Simultaneously operate and monitor multiple manufacturing stations, optimizing production workflow, reducing station idle time, and maintaining strict adherence to industrial OSHA safety protocols.
- Cross-Functional Quality Assurance - Serve as a liaison between engineering test labs and shopfloor manufacturing operations, bridging R&D validation with full-scale production processes.

NCAA Student-Athlete – Varsity Football | Case Western Reserve University, Cleveland, OH

May 2023 – Present

- Mentor teammates in technical execution and athletic development while maintaining high-pressure field communication as a varsity Defensive End, balancing elite DIII athletics with an integrated BS/MS engineering curriculum.

Lab Teaching Assistant – Circuits & Instrumentation | Case Western Reserve University, Cleveland, OH

Aug 2025 – Present

- Lab Instruction & Equipment - Direct weekly lab sections, guiding students in breadboard circuit assembly, signal analysis, and troubleshooting with oscilloscopes, multimeters, and function generators.
- Technical Evaluation & Simulation - Mentor students in Multisim circuit simulation, enforce calculation accuracy, and evaluate technical lab reports and quizzes to ensure mastery of core circuit theory.

Project Manager – Dual-Axis Solar Tracking System | Case Western Reserve University, Cleveland, OH

Jan 2026 – May 2026

- Project Management & Lifecycle Control - Managed scope, Work Breakdown Structure (WBS), and Gantt schedules to lead a multi-phase engineering project designing a dual-axis solar tracker supporting a 1 kW load (four 250 W panels).
- Mechanical Design & Engineering Analysis - Directed CAD modeling, structural load analysis, FEA, and motion simulation to ensure multi-season durability, corrosion resistance, and compliance with strict operational requirements.

SELECT PROJECTS

Reverse Engineering & Additive Manufacturing | Personal Project

Jan 2025 – Feb 2025

- 3D CAD & Precision Scaling - Reverse-engineered a LEGO Star Wars lightsaber hilt into a fully proportioned human-scale 3D geometry using SolidWorks, taking precise dimensional measurements with calipers.
- Additive Manufacturing & Fabrication - Prepared and optimized SolidWorks models for FDM 3D printing, fine-tuning slicer parameters, layer heights, and infill density to execute the physical build.

Assistive Hand Tremor Stabilizer | Case Western Reserve University, Cleveland, OH

Sep 2024 – Dec 2024

- Conceptual Design & Problem Definition - Executed a multi-phase mechanical design process to develop an ergonomic hand stabilization device designed to damp motion for individuals with mild tremors during writing tasks.
- SolidWorks CAD & Virtual Prototyping - Modeled and presented full 3D assemblies in SolidWorks, applying clearance tolerances, interference checks, and geometric constraints to ensure proper component mating and spatial alignment.

Precision Machined Steel Hammer | Case Western Reserve University, Cleveland, OH

Aug 2024 – Dec 2024

- Manual Machining & Fabrication - Processed 20-foot raw bar stock using machines such as manual mills and lathes to execute precision counterboring, countersinking, threading, and knurled grip texturing.
- Quality Control & Tolerancing - Conducted dimensional inspection with precision measuring instruments, achieving 100% compliance with engineering drawing tolerance standards.

SELECT CLASSES & LABS

Aero/Gas Dynamics, Aerostructures, Control Systems, Fluid Mechanics, Strength of Materials, Modern Physics, Thermodynamics

TECHNICAL & ENGINEERING SKILLS

- CAD & Software - SOLIDWORKS (CSWA Certified), MATLAB, Multisim, MS Office Suite
- Machining & Manufacturing - Manual Milling, Lathe Work, CNC Machining, GD&T, Tolerance Analysis, Testing & Inspection
- Instrumentation & Hardware - Oscilloscopes, Multimeters, Function Generators, Circuit Design & Analysis, Testing & Validation
- Operations & PM - QA/QC, Root Cause Analysis, BOM, WBS, Gantt Scheduling, Risk Mitigation, Lean Principles

VOLUNTEER & COMMUNITY INVOLVEMENT

Event volunteer for Special Olympics 5K, CWRU recruit tour guide, and youth football camp mentor

2019 – 2025