

AIDAN ROSENBAUM

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Case Western Reserve University School of Engineering

Bachelor of Science, Mechanical Engineering with a Minor in

Business Management | 3.685/4.0 | Class of 2024

SKILLS

- Siemens NX, Solidworks (CSWA & CSWP Certification), OnShape, CATIA, GD&T, Mastercam, ANSYS, Python, Matlab, C++, TIG Welding, Manual and CNC machine operation

WORK EXPERIENCE

Mechanical Design Engineer Contractor | January 2025 - February 2025

K-Scale Labs | Atherton, CA

- Designed a [6 DOF robotic hand](#) from scratch in under 15 hours winning a hackathon (never built a hand before)
- Received a contract offer after winning the hackathon and designed a dexterous 7 DOF 3 finger hand in 9 days to be integrated onto a full size humanoid robot.
- Implemented a tendon driven system using 7 actuators and a passive return mechanism for each grasping DOF

Product Design Engineer Intern | May 2023 - August 2023

Mill | San Francisco, CA

- Designed components in NX for the Mill kitchen bin, a product that recycles household food waste into chicken feed
- Created engineering drawings using GD&T for injection/compression molded and die cut parts
- Prototyped multiple seal concepts and tested them using CO2 leak tests and salt fog tests
- Traveled to Mexico to oversee manufacturing and assembly of parts for EVT build

Product Design Engineer | September 2022 - May 2023

CLEANR | Cleveland, OH

- Designed bio-inspired microplastic filtration technology for washing machines, the largest polluters of microplastics
- Prototyped 3D printed water tight assemblies using o-rings and custom silicone molded seals
- Inventor on core technology [patent](#) (WO2024123769), helped develop the novel filtration technology/concepts

Mechanical Engineering Intern | May 2022 - August 2022

Honda Powersports R&D | Columbus, OH

- Designed snap fit injection molded components with CATIA for off-road powersport vehicle accessories
- Used Visual Basic to scrape legacy fastener databases to create a fastener mass calculator
- Reviewed and modified engineering drawings for mass manufactured injection molded components

PROJECTS

Semi-Autonomous Computer Vision Controlled CNC Welding Machine

Personal Project | September 2023 - May 2024

- Designed and built an open source autonomous CNC welding machine that cost <\$1500 to make
- Wrote software in python using OpenCV to identify weld joints with a monocular camera
- Used ARUCO tags to scale and transform the image coordinate system to CNC coordinate system
- Generated G-Code over serial to operate the CNC machine and control the MIG welder

CWRU Motorsports | Baja SAE

Chassis Lead | September 2020 - May 2023

- Designed a tube chassis for an off-road race car integrating a newly mandated 4WD system and 30% larger engine while only increasing the frame weight by 0.5lbs
- Created cheap modular weld fixturing that decreased weld time from 4 weeks to 2 while maintaining frame accuracy
- Completed bending strength/stiffness calculations to select tube material and optimize tube diameter/thickness
- Built test rig to find the torsional stiffness of our tube chassis in order to validate ANSYS FEA simulation results and improve chassis torsional stiffness
- Our 2023 car with the frame I designed won 1st place overall over 100 other universities at the 2023 Ohio competition

Miata Engine Rebuilds

Personal Project | September 2019 - August 2020

- Taught myself how to rebuild engines on 2 different Mazda Miatas in under 3 months with no prior experience
- Resold car parts from free Craigslist listings online for profit to completely fund both projects
- Proved rebuild reliability by participating in local autocross racing events before selling both cars for a profit