

Joy Sodon

joyasodon@gmail.com

LinkedIn: [linkedin.com/in/joy-sodon](https://www.linkedin.com/in/joy-sodon) | College Portfolio: sites.google.com/view/joy-sodon

A creative and detailed oriented mechanical engineer with a passion for new product development and product design. Oversaw new-to-world product from prototype to launch and spearheaded investigations and design updates to maintain cost and schedule. Proven ability to develop strong teamwork across cross-functional, global teams and provide innovation in a fast paced, high standards environment.

EDUCATION

Carnegie Mellon University (CMU)

Pittsburgh, PA

Bachelor of Science in Mechanical Engineering - *University Honors*

RELEVANT EXPERIENCE

Milwaukee Electric Tool, Corp.

Milwaukee, WI

Mechanical Design Engineer II | Power Tools

July 2025 - Current

Mechanical Design Engineer I | Power Tools

Aug 2022 - June 2025

- Develop and test design solutions to meet consumer requirements from concept to launch
- Facilitate project flow involving regular contact with manufacturing and other cross-functional team members
- Perform a wide variety of calculations and software-aided analyses for design, reliability, and root cause analysis
- Evaluate product design relative to material selection, manufacturing, cost, and reliability
- Lead trade-off discussions assessing cost, time, product requirements, and resources

Naval Air Warfare Center Aircraft Division Lakehurst

Lakehurst, NJ

Optical Instrumentation Intern | Test Division

Summer 2021

- Setup and collected data via high-speed cameras and GPS units for various aircraft systems testing
- Analyzed raw footage to find data points such as speed, runout distance, off-center distance, and deflection

Steam Catapults Engineering Intern | Aircraft Launch & Recovery Engineering Division

Summer 2019

- Created and revised, using AutoCAD, 12+ engineering drawings of items and assemblies to increase readability and efficiency in production and update to current safety standards
- Aided in experimentation at a test site to solve active failures and obtain performance curves of launch valves

PROJECTS

ReFilament: PLA Recycling Machine

Spring 2022

- Designed, budgeted, and prototyped a machine to shred 3D prints/supports and re-extrude it as usable 3D print filament in 10 weeks using \$700 of material in the prototype
- Performed 3D modeling, drawings, FEA, and thermal studies in SolidWorks
- Utilized water jetting, laser cutting, milling machining, 3D printing, and other processes during fabrication

ACTIVITIES & LEADERSHIP

Instructor, Student Taught Course: Fun with Robots

May 2019-May 2022

- Taught a weekly two-hour course that introduced 30 students, on average, to hobbyist level robotics
- Gave lessons on Arduino coding, sensors and motors resulting in a 98% pass rate during my time as an instructor

Training Director, CMU Robotics Club

April 2020-April 2022

- Educated club members with 6+ training sessions a semester on various mechatronics skills
- Oversaw 3 annual programs including mentorship, introductory projects, and beginner-friendly hardware hackathons

SKILLS

SOLIDWORKS, Siemens NX, Teamcenter, ANSYS, GD&T, Design for Manufacturing, Rapid Prototyping, Test Development, Product Design, New Product Development, Prototype Design, Project Planning, Research and Development, Mechanism Design, Root Cause Analysis, Part Tolerancing, Tolerance Stack-up, Collaboration, Problem Solving, Communication, MATLAB, C++ (Basic), Python (Basic), Arduino, MiniTab (Basic)