

# William Sadowski

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## Education

Northwestern University; Evanston, IL

**Undergraduate Mechanical Engineering Major**, Classical Studies Minor; GPA: 3.624/4.0

Graduated 03/2021

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## Skills

Computer: Siemens NX, SOLIDWORKS, ABAQUS, ANSYS, Java, Python, C/C++, MATLAB, Microsoft Office

Technical: GD&T, Mill, Lathe, Bandsaw, Drill Press, Soldering, Sheet Metal Shear, Sheet Metal Bender, Spot Welding, Water Jet

Additional: Project Management, Organization, Creativity, Communication, Active Listening, Time Management, Self-Motivating

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## Projects

Northwestern University – Evanston, Illinois

### Aero NU – Aerodynamics Sub-team

February 2019 – June 2021

- Designed, fabricated from scratch, and demonstrated flight capabilities of an unmanned, electric powered, radio-controlled aircraft to meet a specified mission profile
- Applied avionics, flight dynamics, and computational fluid dynamics for airplanes to achieve a balanced design possessing good flight handling, practical and affordable manufacturing, and overall high performance
- Collaborated with other teams and gained real-world aircraft design experience to validate analytic studies in the classroom

Consolidated Foam Inc. – Buffalo Grove, Illinois

### Garden Seat/Kneeler Re-Design

September 2020 – March 2021

- Improved the design of the *Gardien* Garden Seat/Kneeler to make gardening safe, comfortable, and accessible
- Analyzed consumer pain points and market alternatives to form a project definition for concept development
- Generated product concept solutions, built functional mockups and prototypes, and tested product concepts against pre-determined specifications and metrics
- Developed a functional alpha-level prototype with a hand-actuated locking and folding mechanism, added tool storage, ergonomic handles, comfortable kneeling/sitting surface, and rigid frame for support

Northwestern University – Evanston, Illinois

### Martian 3Design – 3D Printing Team

January 2019 – April 2019

- Advanced NASA's 3D-printing technology to generate sustainable housing solutions for deep-space exploration
- Designed a 3D-printer capable of printing large structures using concrete, devised a concrete mix using Mars and mission relevant materials, and printed small-scale model of the habitat
- Focused on creating g-code for housing structure's path, programmed the 3D printer robot, and maintained controls for all inputs (temperature, position, etc.) and outputs (motor speed, heating wattage, etc.)
- Expanded collaborative and project management skills through working with people of different levels of expertise

Shirley Ryan AbilityLab – Chicago, Illinois

### CAD/CAM Scanning Adaptation

April 2018 – June 2018

- Established a new, more efficient standardized process to scan a 3D plaster mold in the fabrication of orthotics
- Constructed a rotating C-frame apparatus from steel to aid users in effortlessly completing the scanning process

### Shoulder Orthoses for Neurologic Arm

January 2018 – April 2018

- Conceived an innovative solution for the vertical subluxation of the humeral head in individuals post neurologic injury
  - Completed multiple rounds of client interviews and user testing to gain feedback while working in the machine shop to design and manufacture the improved orthosis from neoprene, nylon straps, and hook and loop fasteners
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## Experience

### Northwestern University Undergraduate Research Assistant

June 2020 – June 2021

- Utilized techniques of mechanistic data science and applied these concepts through the use of MATLAB and Python for engineering applications including additive manufacturing and medical imaging
- Developed a deep learning algorithm to predict the surface roughness and fatigue life of additively manufactured Ti-6Al-4V parts from input parameters of the manufacturing process

### Whole Foods Market Grocery Team Member

July 2019 – December 2019

- Gave every customer immediate and undivided attention, stocked and replenished grocery, dairy, frozen, and bulk department shelves while maintaining overall grocery area cleanliness in a visually appealing manner
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## Activities

### Northwestern Ultimate Team

September 2017 – June 2020

- Competed in practices and tournaments while bringing intensity, humility, and discipline to help lead and foster teammates

### Northwestern University Marching Band

August 2017 – November 2020

- Participated in rehearsals, taught music and drill, and produced unparalleled performances across campus and the country