# Luke Schmitt

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## EDUCATION

**Carnegie Mellon University** — **Pittsburgh, PA**
Master of Science in Mechanical Engineering — May 2021
QPA: 3.74/4.00

**The University of Akron** — **Akron, OH**
Bachelor of Science in Mechanical Engineering — May 2019
Minor in Applied Mathematics
GPA: 3.78/4.00

## WORK EXPERIENCE

**Moen** — **North Olmsted, OH**
Engineering Co-op — Spring 2017, Fall 2017, Summer 2018

- Developed, prototyped, and tested new product concepts
- Designed critical components for a high-volume SKU based on analytical and marketing feedback
- Used FloEFD and math models to maximize product attributes such as flow rate and pressure
- Performed finite element analysis to efficiently design critical components against pressure and consumer use
- Performed root cause analysis on failed products and collaborated with suppliers to ensure future product success
- Discovered trends in warranty data using QlikView; communicated issues to quality managers and engineers

**S&C Electric** — **Chicago, IL**
Electroplating Intern — Summer 2016

- Wrote standard work orders, formed relationships with suppliers, gathered data for water conservation project
- Drew up data structures and visualizations and contributed to operator aptitude certification system

## ACADEMIC & RESEARCH PROJECTS

**Carnegie Mellon University** — **Pittsburgh, PA**

Computational Engineering and Robotics Lab • Control Project Group — Spring 2020 - Present

- Develop an optimized controller for UAVs operated under windy conditions for inspection of nuclear power plants
- Design components for a drone controller development platform

16-868 Biomechanics & Motor Control • Modeling Bipedal Balance Strategies Using Simscape Multibody — Fall 2019

- Modeled a robust 2D bipedal controller using Simulink that recovers standing balance under disturbances

**The University of Akron** — **Akron, OH**

Senior Design Project • Autonomous Combat Robot — Spring 2018 - Spring 2019

- Designed, built, and analyzed a platform for the development of an autonomous combat robot
- Won first place at senior design showcase for Health, Robotic, and Manufacturing System Design

Undergraduate Research • Bone Biomechanics and Mechanobiology Lab — Fall 2016 - Fall 2018

- Worked with a small team to design and test a unit to evaluate the mechanics of bones of variable size
- Won second place for undergraduate biomedical engineering in university-wide poster showcase

NASA Robotic Mining Competition Team • ME/EE Divisions & Treasurer — Fall 2015 - Spring 2019

- Lead the design and fabrication of the robot's locomotion and excavation systems and LED driver PCB
- Researched and implemented improvements to the robot's storage and excavation systems
- Employed SolidWorks FEA to minimize weight while maintaining strength
- Collaborated with teammates and professionals during meetings and design reviews to understand requirements
- Managed a budget of over $25,000; worked with sponsors and school departments for funding and supplies

Biomedical Engineering Design Team • President & Various Projects — Fall 2015 - Spring 2019

- Designed components for a robotic prosthetic hand for a child with a partial arm
- Created tandem wheelchair system, structural and aesthetic improvements for a modified powerwheels buggy, and adaptive push-button braking for a modified bicycle
- Coordinated communication between clients, primary service providers and subteams
- Ensured project progress by allocating resources and providing guidance and assistance

## SKILLS

**CAD/Analysis**: Advanced - SolidWorks, Creo Pro/E | Intermediate - ANSYS FEA | Basic - Eagle CAD, FloEFD CFD
**Scripting/Programming**: Advanced - MATLAB | Intermediate - C++ | Basic - Python, ROS
**Technical**: Advanced - Tolerance Stack-ups, Design for Assembly/Manufacture | Intermediate - GD&T, Machine Shop