Luke Schmitt

Luke@LukeSchmitt.me • LukeSchmitt.me • (708) 714-0024

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, Minor in Applied Mathematics — May 2019
GPA: 3.78/4.00

WORK EXPERIENCE

Westinghouse Electric Company — **Madison, PA**
Robotics Engineer — Summer 2020

- Implement safety controller software on a mobile robot using ROS
- Performed conceptual design for a novel multi-robot inspection system
- Communicate with suppliers and potential vendors for product selection and market research

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

- Developed, prototyped, and evaluated 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
- Conducted root cause analysis on failed products and collaborated with suppliers to ensure future quality

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, 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
- Research tethered drone controller design

16-899 Adaptive Control & Reinforcement Learning • Improving State Estimation Through Filter Learning — Spring 2020

- Improved state estimation of a simulated quadcopter using reinforcement learning techniques

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

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 various tools and toys for children in the community with disabilities

SKILLS

Programming: Advanced - MATLAB, Simulink | Intermediate - C++, ROS, Python, Git | Basic - JavaScript

CAD & CAE: Advanced - SolidWorks, Creo Pro/E | Intermediate - ANSYS FEA | Basic - Eagle CAD, FloEFD CFD

Technical: Advanced - Tolerance Stack-ups, Design for Assembly/Manufacture | Intermediate - GD&T, Machine Shop