

RODERICK LANDRETH

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EDUCATION

Union College, Schenectady, NY

August 2016 to June 2020

Honors Bachelor of Science in Mechanical Engineering, Minor in Physics. **GPA: 3.71**

WORK EXPERIENCE

Mechanical Engineer, Sherpa 6, Natick, MA

June 2020 to Present

- Developed software in Python & C# for command line and simulation tools, integrated with third-party software
- Designed, modeled, printed and ordered (rapid prototyping) parts for field use in SolidWorks
- Designed management dashboards in Power BI to overhaul operational view
- Conducted market research for new product development
- Researched physiological models to implement and test against raw data from networked sensors

Engineering Intern, Greno Industries, Scotia, NY

June to August 2019

- Modeled parts with SolidWorks, designed engineering drawings incorporating GD&T
- Optimized the procedures used by manufacturing and quality control to validate fabricated parts

IT Technician Intern, TwinHats, Hopkinton, MA

July to September 2018

- Communicated clearly with clients to solve problems,
- Installed domain controllers and applied active directory, updated 2008/12/16 Windows server architecture
- Developed assembly line streamlining software with visual C#
- Learned WinCAP CAD Software to create programs for clients CNC Machines

RELEVANT PROJECTS

SAE Aero Advanced Class Competition for Senior Project

June 2019 to April 2020

- Designed and built a 10ft plane with varying payloads, releasing autonomous gliders landing on target
- Managed a budget of \$30,000, communicated with donors including college admins, alumni and companies
- Dimensioned, calculated static and dynamic stability and chose materials in order to fulfill given design objectives

President of Union College Aero Competition Team (Member 2016-20)

September 2017 to June 2018

- Finished in third place overall (first place among domestic teams) in the international SAE competition
- Designed a plane able to disassemble into a fixed volume with max payload
- Judged by professional engineers based on design report, presentation, assembly time, and flight success
- No aeronautics courses offered, learned from independent research, simulation and experimental testing
- Organized meetings, set deadlines, and lead build sessions to teach concepts and manufacturing techniques

Relevant Course Projects (Union College)

September 2016 to June 2020

- CPU Cooler, with SolidWorks heat transfer simulation, analytical approximation, and experimental verification
- Fluid Dynamics lift/drag/pressure analysis of a Mercedes using PIV&Pitot setup in wind tunnel and Star-CCM+
- Programmed finite difference extended surface heat transfer simulation, confirmed w/ analytics/experiments
- Created an autonomous dice roller to roll, read, collect and display the dice using Arduinos

LEADERSHIP EXPERIENCE

President, Pi Tau Sigma Mechanical Engineering Honors Society

May 2019 to June 2020

Service Vice President, Treasurer, and New Member Educator for Alpha Phi Omega

June 2018 to March 2020

Tau Beta Pi Engineering Honors Society

Since October 2018

Eagle Scout, Troop 1 Knox Trail Council

2016

Senior Patrol Leader Troop 1 Knox Trail Council, Hopkinton MA

2015

TECHNICAL SKILLS

- Proficient with SolidWorks (CAD + Simulation), Python, MATLAB, Simulink, L^AT_EX, 3D printing, CURA, Microsoft 365 Suite(Power BI, Visio, Excel, PPT, etc.)
- Experience with C#, Java, Unity, Mathematica, HTML, CSS, Fusion 360 CAD, JMP Data Analysis, Arduinos, GD&T