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 and San Francisco, CA *June 2020 to Present*

- Designed/Fabricated modular payload system for integrating networking architecture and more onto robotic dog
- Developed software in Python & C# for command line and simulation tools, integrated with third-party software
- Traveled 25% of the year for networking software and hardware integrations events
- Designed, modeled, printed and ordered (rapid prototyping) parts for field use in SolidWorks
- Designed management dashboards in Power BI to overhaul high level situational reports
- 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, Hopkinton MA *Since October 2018*
Eagle Scout, Troop 1 Knox Trail Council, Hopkinton MA *2016*
Senior Patrol Leader Troop 1 Knox Trail Council, Hopkinton MA *2015*

TECHNICAL SKILLS

- Proficient with SolidWorks (CAD + Simulation), Python, MATLAB, Simulink, LaTeX, 3D printing, CURA, IdeaMaker, and Simplify3D Slicers, Microsoft 365 Suite(Power BI, Visio, Excel, PPT, etc.)
- Experience with C#, Unity, Java, Mathematica, HTML, CSS, Fusion 360 CAD, GD&T, JMP Data Analysis, Arduino and Rasp. Pi microcontrollers, Jira, Linux (Primarily Ubuntu and CentOS 8) OS and Bash Scripting, VMWare,