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Professional Profile

I am a **Mechanical Engineer** with over two years of professional and academic work experience. Most of my work and project experience has involved combining software and hardware for developing mobile and maritime robotic platforms. My current interests are in the software development, product development, new technologies, and website development. I have taken **multiple leadership roles** in teams ranging from 4 to 100 student and professional members have experience in project management, software development, product development, and website development.

Education

Master's and Bachelor's of Science in Mechanical Engineering
Drexel University, Pennoni Honors College | Graduated: June 2018
Cumulative GPA: 3.93

Engineering Work Experience

Lockheed Martin Robotics and Intelligent Systems Group – *Robotics Intern*
Cherry Hill, New Jersey | March 2017 to December 2017 | *Advanced Technologies Lab*
- Robotic platform developer for unmanned maritime and aerial vehicles
- Performed system design, development, and integration of software and hardware
- Developed vehicle autonomy framework, software, and controls in ROS

Autonomous Systems Laboratory – *Intern*
Zürich, Switzerland | March 2016 to September 2016 | *Swiss Fed. Inst. of Tech. (ETHZ)*
- Interfaced ABB YuMi robot with the MoveIt! dynamics and control software in ROS
- Integrated the Leap Motion and VI sensor with YuMi for interactive manipulation
- Developed a stand and a new attachment for YuMi to integrate a VI sensor
- Presented work to the President of ABB Switzerland and his colleagues

Production Technology West – *Research Engineering Intern*
Trollhättan, Sweden | September 2014 to March 2015 | *University West*
- Developed algorithms to determine robustness of weld defect detection from an IR camera with various light sources
- Built a GUI in MATLAB to interface with algorithms to display defect locations to user
- Developed tests to image defects on welds using an IR camera with various light sources in order to benchmark the defect detection algorithms
- Designed and built a borescope for an IR camera to image welds inside of vanes

Engineering and Leadership Experience

Swerve Robotic Platform – *Project Manager, Software & Robotics Head, Webmaster*
Drexel University | July 2017 to Present
- Worked with two mechanical one computer engineer to design a highly nimble, high speed, ROS-enabled robot targeted for manufacturing and entertainment industries
- Developed full physics simulation of platform with simulated sensors in Gazebo
- Implemented software and hardware to perform state estimation
- Built software architecture within ROS framework
- Ranked #1 senior design capstone project in Drexel University College of Engineering out of over 100 teams from 8 departments

ASME Student Design Competition – *Project Manager and Hardware/Software Head*
Drexel University | October 2017 to Present
- Major tasks include selecting hardware, making electrical layout, designing and implementing software, set up and execute meetings, and raising funds
- Team placed 3rd out of 54 teams from around the world

Drexel Hyperloop Team – *Project Manager, Sponsorship Head, Steering Committee*
Drexel University | June 2015 to January 2017
- Interfaced between subsystem teams, university advisors, university staff, and sponsors in order to manage team resources and keep the project on schedule
- Developed organizational structure, grew team of 5 to over 100 students
- Raised over $65,000 as sponsorship head for developing a scaled pod prototype

Skills

Robotics
ROS (Robot Operating System)
ABB Industrial Robots
Embedded Systems
Software Development
UNIX

Programming
MATLAB
HTML/CSS
C++
Python
JavaScript
RAPID
Bash
LaTeX

Software
ProE/Creo
SolidWorks
Microsoft Office

Manufacturing
3D Printing
Auto Lathe
Milling
Power and Hand Tools

Electrical
Wiring (soldering, crimping, etc.)

Languages
English (Native)
French (Working Proficiency)

Standards and Practices

Programming
Google C++ Style Guide
ROS C++ Style Guide

Non-required Coursework

Graduate
Advanced Programming Techniques

Undergraduate
Micro-Based Control Systems
Computer Programming I
Basic Robotic Simulation