Matthew Howlett

Minturn, Colorado, United States

matt.r.howlett@gmail.com

linkedin.com/in/matthew-howlett-5b9131b2

Summary

I graduated with a BS in Engineering Physics from Kettering University at the end of 2019. Since then, I have been greatly indulged in the many technological developments at Michigan Aerospace.

Experience

Research Engineer

Michigan Aerospace Corporation

Nov 2019 - Present (3 years 4 months)

Developed software for a high-altitude atmospheric LiDAR system designed to detect clear air turbulence. Tasking included the design, implementation, and unit-testing of safety system algorithms, displaying real-time device and system data to a webpage UI, logging system-wide events, monitoring and complying to predictive avoidance messages sent by a laser governing body, and interfacing with various device APIs or SDKs to write data collection software.

Continued work from co-op on the embedded software development and circuit design of a three-dimensional ultrasonic anemometer which is capable of making high-speed wind and temperature measurements.

Contributed in designing an embedded system for a hall-effect based flow meter to collect data in parallel to a LiDAR-based flow meter that uses supervised machine learning and makes turbidity measurements.

Engineering Co-op

Michigan Aerospace Corporation

Apr 2018 - Oct 2019 (1 year 7 months)

Built one dimensional ultrasonic anemometer Arduino shield for the MKR1000 board. This project was completed to fulfill the undergraduate thesis requirement for Kettering University.

Interfaced Gilson's fraction collector to a device that detects melanoma cells within a blood sample. Programming involved integration of python and LabVIEW.

Enabled autonomous control of Thorlabs stepper motor and camera via LabVIEW.

Gained more experience with SolidWorks modeling and 3D printing parts for prototyping.

Engineering Co-op

New Eagle

Sep 2016 - Jul 2017 (11 months)

Involved in the mechanical and electrical component design and assembly for various hybrid vehicle projects.

Worked on a large-scale reverse engineering project for electronic control unit replacement. Tasking included CAN decryption, harness development, writing software to test I/O, data acquisition via CAN, software testing, and data analysis.

Laborer
Angelo Iafrate Construction Company
May 2014 - Jul 2016 (2 years 3 months)

Branch Manager
College Works Painting
Feb 2015 - Aug 2015 (7 months)

Laborer
Hungry Howie's Pizza
Dec 2013 - May 2014 (6 months)

Co-owner/Manager
Grass guyz LLC
May 2010 - Oct 2013 (3 years 6 months)

Education

Kettering University
Bachelor's degree, Engineering Physics
2016 - 2019

Grand Valley State University
Mechanical Engineering
2014 - 2016

Licenses & Certifications

Remote Unmanned Aircraft Pilot - Federal Aviation Administration
Issued Jun 2021 - Expires Jun 2023

Neural Networks and Deep Learning - DeepLearning.AI
UU3EMP2YHERR

Skills

Microsoft Office • SolidWorks • CAD/CAM • C++ • C • CNC Manufacturing • Public Speaking • Project Management • Customer Service • Management