Hayden M. Hulin

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Portfolio: https://tinyurl.com/yt4vhpzc

Experience

EIL | Energy Institute of Louisiana **February 2024 – Present**
Research Engineer *Lafayette, LA*

- **Maintained and installed instrumentation including Gas Chromatography/Mass Spectrometers(GC/MS), High Pressure Liquid Chromatography(HPLC), and Reverse Osmosis (RO) filters reducing equipment delays by 80%.**
- Maintain faculties including creating temporary solutions to mitigate building renovations impacts normal operations.
- Modified commercial electrolysis reactors, developed testing methods, and analysed results for an investigation of sustainable hydrogen production from wastewater.
- Testing biochar uses for land reclamation by testing leaching properties to ensure no damage to environment.

SpaceX | Space Exploration Technologies **January 2023 – February 2024**
Launch Engineer *Cape Canaveral, FL*

- **Site owner responsible for resolving issues with cabin pressure relief, weldment, windows, hatches, displays, cameras, and dehumidifier tasked with troubleshooting nonconformities, process optimization, creating and maintaining Ground Support Equipment (GSE), and change incorporation.**
- Walked-Down vehicle as final check to verify each section was ready to fly before being closed for launch.
- Created and modified procedures to implement processing improvements and fixing root cause of non-conformities preventing recurring problems and optimising technician efficiency.
- Modified maintenance requirements to stream line processing time by modifying allowables and optimising timing of reworks cutting days off of possessing time.
- Surge supported for other teams at times of high work load and/or times of need in order to recover lost time.
- Pre flight tested avionics by commanding vehicle into various states so health and response to imputes can be checked.

SSD | Safe Source Direct **May 2021 – December 2022**
Research and Development Intern *Broussard, LA*

- **Autonomously preformed systems engineering for robotic arms including component design, system design, part fabrication, integration of electronic components, systems testing, and firmware coding saving $30,000 per test.**
- Created drawings of product and worked to get lines running for the first time, leading to FDA approval of product.
- Created line parts and upgrades that improving guard coverage, reverse engineered portions on lines to create spare parts, and rapidly created parts to get line back up, which improved line efficiency, up-time, and safety.
- Created models of how the lines reacted to changes in there inputs which lead to better tracking of line cause and effect.

EIL | Energy Institute of Louisiana **August 2018 – December 2022**
Undergraduate Research Assistant *Lafayette, LA*

- **Maintained and troubleshoot laboratory instrumentation and faculties.**
- Preformed reactor design for NASA project turning wastewater into fuel, oxygen, and food in space.
- Assisted biomass torrefaction research by operating the test apparatus, handling biohazardous waste, and sample prep.
- Assisted Fuel Injectors research by preformed literature searches, code reviews, and preformed fuel mix testing.

CAPE | Cajun Advanced Picosatellite Experiment **August 2018 – December 2022**
Volunteer *Lafayette, LA*

- **Managed as Director of Mechanical Corps, Mechanical Engineering Lead Instructor, CAPE 4: Assistant Project Manager / Thin Satellite Payload Lead, and LASpace Balloon: Mechanical Lead.**
- Lead of CAPE X ADC Ion Thruster Section.
- Prototyped Cloudsat 8++ structures and trained on antenna rearm for CAPE 3.

Education

University of Louisiana at Lafayette **Graduation: December 2022**
Mechanical Engineering: 3.53 GPA Cum Laude

Club and Technical Society Membership:

- Pi Tau Sigma (Fall 2021 VP)
- Tau Beta Pi
- Ragin' Rocketry (Founding VP)
- CAPE (Manager)
- American Society Of Mech Engineers
- Louisiana Engineer Society

Technical Skills

Computer Aided Design (CAD/3D CAD): NX, Fusion 360, Solidworks+CFD, Autodesk Inventor, and Autodesk Eagle
Microcontrollers/PLC: Arduino Mega, Arduino Uno, Arduino Nano, Pi 4, Pi Zero, and Rak Wizblock
Computers: Windows, Mac, Linux: Tails and Ubuntu
Programming: Arduino, Matlab, C++, LaTex, and Python
Fabrication: 3D Printing, Part Integration/Testing, Basic and Intermediate Shop Tools, Plumbing, Wiring, and Soldering
Soft Skills: Conflict Deescalation, Strong Owner, Leadership, Patient, Communication, Team Focused, and Couchable
Other Skills: Calm Under Pressure, Triaging/Solving Problems, Writing Instructions, Warp Drive, Jira, Excel, PowerPoint