EMILIO HERNANDEZ, EIT

10422 Huebner Rd. Apt 2308 • San Antonio, TX 78240 • (956) 857-4864 • emiliojh742@gmail.com

OBJECTIVE

To secure a position that will allow me to continue widening my engineering skills by solving complex problems.

EDUCATION

The University of Texas at San Antonio
M.S. in Mechanical Engineering — Expected Date
Supercritical Carbon Dioxide Jet Diagnostics — Dec 2020

The University of Texas at Austin
B.S. in Aerospace Engineering, Atmospheric Flight — Graduated
McCombs School, Business Foundations Certificate — May 2014

EXPERIENCE

DataWing Global – San Antonio, TX

Data Engineer — Mar 2019 – Apr 2020
- Generated geotagged orthomosaics, DTM/DSM, volume calculations, performed point cloud manipulation
- Tested optical gas imaging software and aided the construction of an unmanned aerial gas leak detection solution
- Analyzed computer performance metrics for accurate computer cluster output and personnel cost evaluation
- Built UI to monitor motor test metrics, power levels, and overall health status of a tethered X8 UAS
- Researched alternative data management solutions and used RAM drives to improve image conversion rates

Data Analyst — Apr 2017 – Mar 2019
- Created a UAV fleet monitoring algorithm that generates statistical reports and identifies abnormal flight activity
- Generated weekly job performance reports for nationwide drone operations and aerial data collection
- Designed an automated email-based dispatch system using MATLAB and Outlook for a drone pilot network

Supply Chain Manager — Sep 2017 – Feb 2019
- Standardized procurement process to facilitate information flow from equipment procurement request to accounting for billing and processing
- Used forecasting techniques to develop a procurement model and expand department
- Created and implemented an inventory monitoring system for client drone fleet management

Drone Pilot and Sensor Operator — Oct 2016 – Mar 2018
- Trained subcontractors and employees on the various drone imagery collection techniques and procedures
- Operated unmanned air vehicles in oil and gas, construction, residential, and natural disaster environments
- Cessna sensor operator for pipeline right of way patrol and construction site orthomosaic image collection

Research Projects – San Antonio, TX

UTSA Hypersonics Laboratory – Researcher — May 2020 – Present
- Performed and coordinated hypersonic wind-tunnel diaphragm rupture tests using LabVIEW
- Redesigned supercritical carbon dioxide testing rig and planned non-intrusive tests for flow structure analysis
- Assembled, modified, and operated Schlieren and PIV setups for image capture of fluidic oscillator jet
- Installed and tested data sensors, troubleshooted and conducted maintenance checks on lab equipment

Manufacturing Systems and Automation Laboratory – Researcher — Jan 2016 – Dec 2017
- Developed a validation method to test the impact of biomass types and process conditions on biofuel quality
- Collaborated with adviser and Southwest Research Institute to conduct hydropyrolysis laboratory testing
- Tested the feasibility of a large-scale implementation of hydropyrolysis technology for biofuel production

CERTIFICATIONS AND ADDITIONAL INFORMATION

Certifications: Texas EIT No. 69756
Computer Skills: MATLAB, LabVIEW, SolidWorks, Inventor, DaVis, Pix4D, POSPac MMS, Global Mapper, R, SAS, Minitab, AutoCAD, Excel, Capture One, Cloudberry, Arduino programming. Some ArcGIS and SQL exposure.
2015 Defense and Energy Innovation Summit & Showcase: Submersible quadcopter for military and commercial use
International Studies: L'Ecole Nationale de l'Aviation Civile - Toulouse, France
Interests: Thermodynamics, Finance, Literature, Writing, Exercise, Mental Health
Languages: Fluent in English and Spanish, Intermediate French