

Eric Nieves

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Objective To find opportunities to implement my ocean, mechanical, and signal processing engineering experience for the benefit of an organization

Professional Experience

Signal Processing Researcher

- Applied various filtering techniques, both fourier and wavelet based, to isolate ocean phenomena in magnetometer and ADCP data in MATLAB
- Integrated the use of spectral analysis to showcase information in ocean signals in MATLAB and Simulink
- Programmed automatic data cleaning processes based on wavelet and statistical methods in MATLAB
- Leveraged adaptive filtering techniques such as LMS and RLS to create more robust solutions
- Present biweekly progress reports to various signal processing experts and U.S. Navy research agencies

Autonomous Target Detection Researcher

- Became acquainted with a Remus 100 AUV and WAM-V surface vehicle operations
- Used acoustic positioning techniques such as ultra-short baseline and long baseline
- Applied advanced signal processing techniques to magnetic data for target detection
- Worked with blind source separation to resolve multiple targets in a time signal

Certifications and Awards

- **Link Foundation Scholar**
- **EIT Certification**
- **LabVIEW Associate Developer**
- **LEED Green Associate**
- **Deep Learning Specialization**
- **FAU 3MT Finalist (2016 – 2018)**

Education

University of Florida **Fall 2014**
Mechanical Engineering
Bachelor's Degree
Gainesville, Florida

Florida Atlantic University **Spring 2017**
Ocean Engineering
Master's Degree
Dania Beach, Florida

Florida Atlantic University **Fall 2019**
Ocean Engineering
Doctorate's Degree
Dania Beach, Florida
GPA: 3.7

Engineering Experience

Iceland GREEN Program

- Led an interdisciplinary presentation in front of the University of Reykjavik on a controls system for firefighter safety involving solar panels
- Learned to effectively communicate with individuals from different educational backgrounds and countries

Roboat and RobotX Competitions

- Suggested and implemented improvements for the acoustic positioning challenge using an ultra-short baseline system.
- Learned how to remotely access, update various languages in an ROS environment, and add functionality in embedded systems.
- Began to apply machine learning concepts to LiDAR and stereovision camera data for real-time target recognition.
- Performed maintenance and updates to the electronic and mechanical design of multiple unmanned surface vehicles.

Programming/ Modeling

- ROS, Python, TensorFlow, Keras, C#, C++, C, Java, MATLAB, LabVIEW, Solidworks

Publications

FAU Master's Thesis

- *Characterizing the Magnetic Signature of Internal Waves* (2017)

Conference Papers

- *Magnetic Signature of Internal Waves* in MARELEC proceedings (2017)
- *Isolating the Magnetic Signature of Internal Waves* in OCEANS proceedings (2017)
- *Optimizing Correlations of Magnetic and Hydrodynamic Signatures* in OCEANS proceedings (2018)

Journal Paper

- *Optimizing Correlations Between the Magnetic and Water Velocity Signatures of Internal Waves* (TBD)