

Emery Nolasco

Aiming to design, fabricate, and operate tools for decision-making data acquisition in effort to increase visibility and knowledge towards conservation, research, and exploration of the Ocean and its inhabitants

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PROFESSIONAL EXPERIENCE

Sensor Engineer/Manufacturing Engineer

(Aug 2016-Present)

L-3 Ocean Systems

- Designed piezo-ceramics, cabling, and housing to perform long term deep water conditions
- Worked with operators and management to fully understand manufacturing climate and utilized lean six sigma practices to produce visual management to bring organization and communication for troubleshooting and reducing variability in manufacturing tow body systems
- Responsible for updating and stabilizing Legacy Mine Detecting UUV (Unmanned Underwater Vehicle) by implementation of updated electronic hardware and control system programming in addition to maintenance, and field testing operation in lake (launch and recovery)
- To free up funding for L-3's improvement projects and reduce environmental waste, I conducted a \$275.5k, Fluorescent to LED Lighting Project resulting in an annual savings of \$150k and 1.6 Million lbs. of CO₂ Reduction

Mechanical Engineer

(March 2015-Aug 2016)

AeroVironment Inc. – SUAS (Small Unmanned Aerial Systems) & EES (Efficient Energy Systems)

- As a liaison for supporting engineering and production, I worked closely with technicians and product engineers to create synergy and close the gap between manufacturing and engineering
- To ensure and prove our product could endure harsh environmental conditions without having to send our product to high cost test facilities, I developed and conducted test plans using internal equipment and resources supplemented with engineering analysis
- Created detailed and practical engineering drawings by working closely with suppliers and field technicians to capture the full experience from fabrication to user, resulting in lower cost for low and high volume high-value parts
- Proficient in Agile, Solid Works PDM (Product Data Management)

Manufacturing Engineer/Engineering Lead

(July 2014- March 2015)

Parker-Hannifin Filtration Division, Mitos Pharmaceutical

- As a recent graduate, lead the full relocation, validation and maintenance of \$5.5 Million pharmaceutical manufacturing product line in 6 months by quickly coming up to speed on clean room standards, creating and implementing a schedule, and conducting daily meetings and delegating tasks with members from different departments.

Research Intern/ Lab Technician

(May 2013-May 2014)

MESA (Mechatronics Embedded Systems and Automation) Lab

- Realized a research proposal by programming and fabricating an AUV self-health monitoring system and user interface, resulting in increased user awareness in-system issues to prevent crashes
- Optimized data collection and transfer over TX/RX to give users higher resolution decision making data that was previously hindered by lag

PROJECTS

Equipment Engineer

(Feb 2017- Present)

AROV-Under Water Data Acquisition

- To better understand the politics and needs surrounding the Mexican Cenotes, we worked with Mexican citizen cave divers and archaeologists to develop 3-D Cave Maps for education, research, city planning, and informed decision making
- Our team coming from all regions of the US, utilized the combination of diving, snorkeling and the use of an AUV, to take above and under water photogrammetry and built models of several cenotes.

Rip Tide - 220lb Combat Robot

(Spring 2016)

The 20,000th League Robotics

- As a personal engineering challenge and taking advantage of access to an open shop and free technical advice and training, I fully designed and fabricated a complex competing 220lb robot for international robotics competition, Robogames 2016
- Serviceable Mechanical and Electrical Systems was defined, designed, modeled (Solid Works), created drawings/schematics, fabricated, and assembled

Autonomous Surface Water ROV

(Spring 2014)

NavyGator Inc. – University of California, Merced

- To increase the flexibility in customization of sensors, I designed packaging and programming of modular sensor package for ease of plug and play ability
- Due to the short amount of time given to develop the user interface, I reconfigured an established AUV Navigation System with a user mission control interface, to navigate the Surface Water Vehicle

SKILLS AND COMPETENCY

Soft Skills	Resourcefulness Quick Thinking Problem Solving Flexible Practical Hands on Detail Orientated
Fabrication	Welding (TIG) Metal/Wood Fabrication Pneumatics Piezo-ceramic Projectors/Hydrophones
Electrical	Electric Hardware Design and Integration Electric Motors Troubleshooting Sensor Integration Piezo-ceramic Transducers Electrical Schematics
Mechanical	3D Printing Tooling Composite Molding (Injection, Composite)
Software	PLC Controllers, HMI Java Arduino Matlab, R, Simulink Microsoft Office (Word, Excel, etc.)
Modeling	Photogrammetry, Agisoft Solid Works, Solid Works PDM AutoDesk/ Creo Facility Utilities
Marine	California Algae ID California Fish ID California Invert ID Scuba Diving
Robotics	Autonomous Land Navigation Vehicles Autonomous Surface Water Vehicles UUV (Underwater Unmanned Vehicles) AUVs (Aerial Unmanned Vehicles) Combat Robots

VOLUNTEER

Reef Check Diver (2017)

California Reef Check

Abalone Counter (2017)

Get Inspired, Inc.

FIRST Robotics Technical Challenge Mentor (2016-Present)

Team Torch, Centers of Learning

CERTIFICATIONS AND AFFILIATIONS

PADI Advanced Open Water Diver No.17030H0344

Theta Tau-Professional Engineering Fraternity

Lean Six Sigma Green Belt

Toastmasters

Crane Operator Certified

EDUCATION

Bachelor of Science, Mechanical Engineering University of California, Merced-Merced, CA (2010-2014)