Mario Sebasco

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Portfolio - https://mariosebasco.github.io

OBJECTIVE

Seeking employment opportunity in the area of mechanical or robotics engineering utilizing leadership and problem solving skills. Areas of interest include control systems, mechatronics, software and simulation development, and more.

EDUCATION

Northwestern University Evanston, IL

Master of Science in Robotics Engineering, December 2017

GPA 3.86

Relevant Course Topics: Optimal Control of Nonlinear Systems, Machine Learning, Haptics, Machine Dynamics, Mechatronics, Embedded Systems

University of Miami Coral Gables, FL

Bachelor of Science in Mechanical Engineering, May 2016

Minor in Mathematics

GPA 3.86 – Magna Cum Laude

EXPERIENCE

HDT Global - Robotics, Evanston, Illinois

Engineering Intern June 2017 - September 2017

- Aided in the development of a project funded by the National Robotics Initiative (NRI) which looked to use electrosense imaging as a means of manipulating an underwater robotic arm.
- Developed several C/C++ programs aimed at interacting with a micro processor and PCB. The code ranged from low level applications such as full GPIO, ADC, mux, and PWM control, to higher level algorithms in charge of performing full voltage and current sensing cycles.
- Implemented ROS in order to interface multiple PCBs with a main user controlled computer.
- Developed skills involving: reading electrical schematics, embedded systems control with Linux, OOP, and more.

NASA Ames Research Center, Mountain View, California

Research assistant: Multidisciplinary Aeronautics Research Team Initiative program June 2015 – August 2015

- Served as the lead of the CFD team researching urban wind environments and their effect on low flying UAV's.
- Developed an optimization algorithm in MATLAB that could numerically calculate the fastest path between two points while taking into account nearby wind velocities obtained from CFD tests.
- Aided in the incorporation of control systems dealing with wind prediction and motor failure algorithms.
- Presented my research at the annual UTM convention, as well as to several NASA administrators both on and off the center.

University of Miami Department of Mechanical and Aerospace Engineering, Coral Gables, FL

Computational Fluid Dynamics laboratory research, Dr. Zha November 2014 – June 2015

- Aided my mentor in his research investigations by familiarizing myself with the concepts of CFD, Including mesh generation, computer programming, numerical schemes, and more.
- Used my knowledge of aerodynamics and fluid mechanics in order to analyze results obtained from CFD simulations. Examples included planes, airfoils, wings, nozzles, and more.
- Participated in the design, and CFD testing, of the "Supersonic Bi-Directional Flying Wing".

SKILLS

Computer Applications: ROS, Matlab, Python, C, C++, Mathematica, Solidworks, Linux/Mac/Windows OS, ANSYS, OpenFoam (CFD software)

ACTIVITIES/HONORS

- Scholarship recipient of the Great Minds in STEM program (2016), featuring a sponsorship from Boeing.
- Member of Students for the Exploration and Development of Space (SEDS). Helped found the club at the University of Miami. Participated and competed in the NASA Robotic Mining competition.
- Member of Engineers without Borders (EWB). Helped kick-start a new project which looked into rehabilitating a school in the city of San Jose, Panama.