

Natanael J. Naranjo-Useda

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SKILLS:

Technical Skills: Machining, various shop tools, 3D Printing, analog and digital circuit design

Software: SolidWorks (Certified Associate), Altium, Multisim, Quartus II, Microsoft Office (Word, Excel, PowerPoint)

Programming Languages: General programming of C, Basic MATLAB principles

Languages: English (Fluent), Spanish (Fluent)

RELEVANT EXPERIENCE

Teledyne Benthos, Inc. WEBB Research

North Falmouth, MA

Electrical Engineering Intern

January 2023 - May 2023

- Worked successfully with limited direct supervision, resulting in improved efficiency and productivity
- Aided in the design, modification, troubleshoot, and repair of automated underwater vehicle (AUV) and oceanographic instruments
- Designed/modified wiring harnesses, printed circuit board (PCB), test fixture, and schematics through Altium
- Assisted in the construction and application of electrical components and systems for AUV and other oceanographic instruments

PROJECTS:

CCABS Final Project, Senior Design I-II (ELMC-5000-01A & 5500-01A)

Summer 2024

- Built a functional test platform for a newly designed course correction safety system for vehicles, implementing existing technologies such as ABS for better vehicle control during accidents
- CCABS was designed to correct a vehicle's trajectory during a loss of control event through variable traction, produced by pulsing individual brakes at different frequencies, dependent on the vehicle's deviation from the road
- Assisted in the construction of the test platform and all its mechanical systems and assemblies
- Primarily worked on the CCABS electrical system. Designed/constructed all CCABS electrical schematics and necessary electrical assemblies. Modified/tested several electrical systems, such as the relay assemblies and ABS module terminal leads

Microcontrollers Using C Final Project, Microcontrollers Using C Programming (ELEC-2850-01)

Winter 2022

- Created an animation program meant to move a composite figure without traveling past the screen, and be able to change directions with a switch
- Essential C programming principles, such as pointers, function prototypes, while loops, and an if-else if chain, were used to complete the animation program
- Coding was initialized and executed with a DE-10 Lite board

Sleepy Time Speaker, Intro to Engineering Design Project (MECH-1500-26)

Spring 2021

- Created a product that would allow parents to soothe their baby back to sleep without leaving their beds
- Designed an initial prototype with the purpose of convenience and efficiency for parents during infancy
- 3D printing was used to create an exterior casing and programmed with an Arduino UNO Rev3 for functionality

EDUCATION:

Wentworth Institute of Technology, Boston, MA

Bachelor of Science in Electromechanical Engineering

Interdisciplinary degree with a focus on Electromechanical Systems (ABET Accredited)

Aerospace Engineering Minor

Relevant Courses: Eng. Graphics, Fundamentals of CAD & CAM, Applied Mechanics, Circuit Analysis (DC/AC), Analog Circuit Design (DC/AC), Microcontrollers Using C Prog., Signal and Systems, Feedback and Control