David A. Perez

Doral, FL 33166 * (305)-710-3392 * dalejandroperez@oultook.com * www.linkedin.com/in/dalejandroperez

PROFESSIONAL SUMMARY

Graduated with a Master's degree in Mechanical Engineering from FIU in April 2023, with a focus on robotics and machine learning, following a Bachelor's degree in Mechanical Engineering obtained in May 2021. Demonstrated experience in design, fabrication, prototyping, and coding. Now seeking a challenging position in Automation/Robotics, with an aim to contribute to the innovative design and manufacture of automated solutions.

EDUCATION

Master of Science in Mechanical Engineering - Miami, FL

Florida International University, *August 2021 - May 2023*

- GPA: 3.92/4.0
- Specialized in robotics and machine learning with experienced in designing, testing and implementing automated systems
- Analyzed vibration response of several systems using MATLAB.
- Utilize C++ and Python to create nodes for autonomous driving and object detection.
- Use Robot Operating System for autonomous driving for UGV designed and manufactured in class.
- Apply Linux command line with ROS to format master Raspberry Pi.
- Researched and developed a method for determining damage on sample metal and plastic parts using machine learning and neural networks presented at FCRAR.

Bachelor of Science in Mechanical Engineering - Jacksonville, FL

Jacksonville University, *August 2017- May 2021*

- GPA: 3.71 and made Dean's list since 2017.
- Learned microcontroller programming, 3D printing (200 + hours), basic machine shop equipment (CNC, Bridgeport, Lathe, table or vertical saw, and manual tools).
- Designed a PV/T cooling system that storages excess energy for Fluid Dynamics.
- Searched and generated possible conceptual solutions to improve future knee braces and selected the best one according to determined criteria for Manufacturing.
- Worked on a health screening device for COVID-19 that was presented in NCUR on spring 2021.

PROFESSIONAL EXPERIENCE

Graduate Research Assistant - Miami, FL

Florida International University, *January 2022 – Present*

- Led team to develop the prototype for the Autonomous Asphalt Laying Machine (AALaM).
- Researched and implemented autonomous driving capabilities using ROS for the AALaM.
- Helped develop communication between Arduino and ROS Master to include material depositing capabilities on the AALaM.
- Researched necessary elements to make AALaM functional (Power supply, cabling, stepper motors, DC motors, stepper drivers, digital encoders, microcontroller, raspberry pi, stereo and depth camera, etc.)
- Researched and trained machine learning algorithm to detect target and obstacles for AALaM and drive autonomously.

Engineer Intern - Doral, FL

Eastern Engineering Group, *May 2020 – July 2020*

- Interacted with 30 clients to generate a well-detailed proposal with drawings.
- Calculated the different loads of the structures drawn to ensure the system worked.
- Completed the proposal and calculations and sent them to supervisor.

ADDITIONAL SKILLS

- Bilingual in Spanish and English. Speak and write both languages fluently.
- Proficient in Microsoft Office, AutoCAD, SolidWorks, and Fusion 360 and MATLAB. Also used Ansys and LabView.
- Programming in C++, Python and use Robot Operating System (ROS).
- Excellent communicating, detailed-oriented, strong team player with leadership experience working to make an impact.
- Captain of the Jacksonville University Sailing Team 2020-2021.