

# David A. Perez Perez

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## CAREER OBJECTIVE

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Graduated with my bachelor's in Mechanical Engineering in May 2021. Pursuing a master's degree at FIU in Mechanical Engineering. Focusing on robotics and machine learning. Looking to further explore internships or job opportunities that promote teamwork and innovative design and manufacture of devices or robots.

## EDUCATION

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### FLORIDA INTERNATIONAL UNIVERSITY, Miami, FL

*Master's in mechanical engineering, May 2023*

- GPA: 3.91.
- Analyzed vibration response of several systems using MATLAB.
- Utilizing C++ and Python to create nodes for autonomous driving and object detection.
- Using Robot Operating System for autonomous driving for UGV designed and manufactured in class.
- Applying 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.

### JACKSONVILLE UNIVERSITY, Jacksonville, FL

*Bachelor of Engineering in Mechanical Engineering, 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 stores 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

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### FLORIDA INTERNATIONAL UNIVERSITY, MIAMI, FL

*Graduate Research Assistant, 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.

### EASTERN ENGINEERING GROUP, Doral, FL

*Engineer intern, May 2020 – July 2020*

- Interacted with 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 my supervisor.

## ADDITIONAL SKILLS

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- 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).
- Good communicating, detailed oriented, great team worker with leadership and working to make an impact.
- Captain of the Jacksonville University Sailing Team 2020-2021.