Carlos Carrasquillo

(787) 668-8096 | ccarrasquillo3@gatech.edu | carloscarras.tech

Education

Georgia Institute of Technology | GPA: -- / 4.0 **Aug 2021 – Present**

- Doctor of Philosophy, *Robotics* **Expected May 2026**
- Minor, *Biomedical Engineering* **Expected May 2026**

University of Florida | GPA: 3.68 / 4.0 **Aug 2017 – May 2021**

- Bachelor of Science, *Mechanical Engineering*, Magna Cum Laude Honors **May 2021**
- Bachelor of Science, *Computer Engineering*, Magna Cum Laude Honors **May 2021**

Experience

Computer Science / Mechanical Engineering Intern | Raytheon Intelligence & Space **May 2019 – Present**

- Developed a robust and comprehensive web application to find components on a PCB by search and mouseover. The web app was developed using the MERN stack.
- Created five Splunk dashboards and ~10 process programs for production machinery.
- Wrote a desktop application to log and track material tests using VBA.

Undergraduate Research Assistant | University of Florida Dept. of Mechanical and Aerospace Engineering **Jan 2019 – Aug 2021**

- Wrote custom C++ libraries for the D3 CubeSat's IMU, antenna, radio, and GPS avionics. All code runs on a BeagleBone Black.
- Developed a C++ onboard radio framework to enable data uplink/downlink and implemented command & data handling logic.
- Created a ground station Python application to transmit telecommands and receive downlinked data.
- Wrote the finite state machine for the CubeSat that uses ROS.
- Designed a website for the D3 CubeSat using the MERN stack.

Undergraduate Teaching Assistant | University of Florida Dept. of Mechanical and Aerospace Engineering **May 2019 – May 2021**

- *Dynamics and Controls Lab*: Led 6 lab sessions to assist students with LabVIEW programming and controller design.
- *Thermal Systems and Design Lab*: Taught ~70 students about the principles of IC engines in lectures, office hours, and exam reviews.
- *Design and Manufacturing Lab*: Taught students to design robots in SOLIDWORKS and build them using machine shop equipment.
- *Numerical Methods*: Held lectures, office hours, and exam reviews; wrote the homework solutions in MATLAB.

Student Organization Participation

SwampHacks VI Infinite Energy's Best Hack Award Recipient **Jan 2020**

- Won award at a hackathon hosted by UF for proposing a solution to the problems with current hurricane relief efforts.
- *Idea*: Utilize a city's topology map, storm surge data, boat draft, and capacity to map the most accessible path (by boat) to a victim.

Publications

A Versatile and Open-Source Radio Framework for the D3 CubeSat Mission **Jul 2021**

- Honorable Mention in the 2021 SmallSat Conference Frank J. Redd Student Competition
- *Source*: https://digitalcommons.usu.edu/smallsat/2021/all2021/269/

A Novel Approach to CubeSat Flight Software Development Using Robot Operating System (ROS) **Jul 2020**

- 2020 SmallSat Conference
- *Source*: https://digitalcommons.usu.edu/smallsat/2020/all2020/241/

Skills

- *Programming*: Bash, C, C++, Java, LabVIEW, MATLAB, MERN Stack, Python, VBA
- *CAD*: SOLIDWORKS (CAD, FEA), Fusion 360 (CAD, CAM), Inventor (CAD)
- *Other*: Altium Designer, LaTeX, Linux, LTSpice, ROS, VHDL
- *Certifications*: Amateur Radio Technician (KN4ZUC), Nvidia Computer Vision Certificate of Competency, SOLIDWORKS Associate
- *Personal Projects*: 12-DOF Quadruped Robot, 3D Bioprinter, Desktop Lathe, MIPS CPU, Personal Website, Watercooled PC Build
- *Languages:* English and Spanish