

# Carlos A. Wong

U.S. Citizen  
cwong@fsu.edu  
786-516-1988  
carloswong.co

**SUMMARY** A self-motivated, organized, and reliable individual with an interest in modeling and simulation, software development, and system engineering principles, with a knack for public speaking, active listening, and teamwork.

**EDUCATION** **Florida State University: FAMU-FSU College of Engineering** Tallahassee, FL GPA: 4.0/4.0  
Master of Science in Electrical Engineering Dec 2020  
Bachelor of Science in Computer Engineering May 2018  
Minor: Physics

**SKILLS**  
**Programming Languages:** Python, MATLAB (Simulink), C++, React  
**Tools:** MS – Office (Word, Excel, PowerPoint), Blender, RSCAD, OPAL-RT, KiCAD, LabView, Git, YAML, JSON, Docker, ZeroMQ, Object-Oriented Programming, TCP/UDP, Hardware-in-the-Loop  
**Operating Systems:** Microsoft Windows OS, Linux Ubuntu, Apple Macintosh OS  
**Foreign Languages:** Spanish – Fluent written/spoken; Mandarin – Beginner

**EXPERIENCE** **Center for Advanced Power Systems** Tallahassee, FL (Remote since March 2020)  
**Graduate Research Assistant** May 2018 - Present

- Designed and developed a signal interface in Python and its interface control document (ICD) to ease the control development process by enabling controllers to interact with a low-fidelity model and a real-time high-fidelity simulation environment by using User Datagram Protocol (UDP).
- Performed requirement analysis and documented functional, performance, and interface requirements for a fault management approach of a notional shipboard power system for future naval systems.
- Maintained and developed an OOP in Python to recover a notional shipboard power system from an electrical fault, with a worst-case runtime of 87 milliseconds, by leveraging real-time simulators, control hardware-in-the-loop (CHIL), and test-driven development.
- Evaluated algorithm performance with a test automation framework that coordinates real-time simulation & control hardware, and automated evaluation of test results with the use of metrics.
- Designed electrical signal conditioning PCBs, created MATLAB scripts to auto-populate results for a Factory Acceptance Test (FAT), and used Modbus protocol to communicate between proprietary hardware and a real-time simulator, while working in an Export Control environment.

**FAMU-FSU College of Engineering** Tallahassee, FL  
**Undergraduate Researcher** Aug 2017 - May 2018

- Simulated a system of ODEs with the Newton Raphson method in C++ to reduce the transport shuttling effect during charge and discharge cycles of Lithium Sulfur batteries.

**Florida State University: Utilities and Engineering Services** Tallahassee, FL  
**Assistant Controls Engineer** Mar 2015 - May 2018

- Organized and managed HMI programs with Siemen's APOGEE Building Automation Software to be accessible by the Field Technicians, Engineers, and the Florida State University management.
- Programmed enhanced alarms for fault detection purposes that require temperature sensitive research environments, producing a safe contingency plan for the researcher environment.

**LEADERSHIP** **COEHACKS – FAMU-FSU College of Engineering Hackathon**  
**Lead Organizer – Sponsored by Intel** Sept 2018

- Organized and lead the meetings between Intel representatives and the student organizers resulting in a successful first hackathon with an attendance of 50 participants.

**Senior Design: Fault Prediction System for Drone Motors**  
**Team Leader – Sponsored by GA Electromagnetic Systems** Aug 2017 - May 2018

- Lead a team of four through the requirements, design, and execution stages, while meeting deadlines.
- Created an electric motor testbed to simulate a relevant environment for a drone to evaluate the performance of future fault prediction system implementations.