carloswong54@gmail.com
carloswong.co
786-516-1988
U.S. Citizen

Carlos A. Wong

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++, JavaScript
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, React Native
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 – Feb 2021

- 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 field technicians, engineers, and management.
- Programmed enhanced alarms for fault detection purposes that require temperature sensitive research environments, producing a safe contingency plan for the research 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.