Omar Naffaa

omarnaffaa.on@gmail.com | (909) 456 - 5915
www.linkedin.com/in/omnaffaa

PROFESSIONAL STATEMENT

Experienced engineer with a demonstrated history of working on embedded systems and automation through academic research and industry experience. Skilled in C++, Python, Linux, IoT, and Java-based Android app development.

EDUCATION

California State Polytechnic University Pomona **December 2020**
Bachelor of Science in Computer Engineering, GPA 3.81/4.0

WORK EXPERIENCE

Systems Engineering Intern – Niagara Bottling – Diamond Bar, CA **May 2020 – Present**

- Designing a User Management interface to add users and assign permissions without accessing the Ignition gateway
- Developed a platform in Ignition to automate gateway setup for future plants, which will greatly reduce server setup time and maintain a consistent setup scheme across all plants
- Developed timer scripts using Python to periodically poll for data coming into the Ignition Gateway
- Created a thorough test plan for a Contractor check-in system so the end user can verify all functionality is present

IT Intern – Niagara Bottling Warehouse Management Systems – Ontario, CA **June 2019 – August 2019**

- Developed a very low-cost self-checkout kiosk prototype using C / C++ and a Raspberry Pi
- Prototype includes a custom UI using the GTK+3 library and QR code detection using OpenCV and a USB webcam
- Sent scanned data to warehouse database using the REST API to open warehouse exit gate
- Implemented Modbus TCP/IP client to interface with Modbus server on-board JNIOR Ethernet I/O controller

Summer Orientation Assistant – Pomona, CA Orientation Assistant **July 2018 – August 2018**

- Assisted freshmen and transfer students in registering for classes by recommending appropriate courses and guiding students through the registration system to prevent scheduling conflicts and errors in registration

RESEARCH PROJECTS

Senior Design Project, 5G Self-Healing Network Simulation **September 2018 – May 2020**

- Applied C++ object-oriented design in the implementation of a cross-platform Self-Healing 5G network simulator
- Proposed and implemented a heuristic self-healing algorithm that will be used to heal towers in the simulated network
- Developed a graphical user interface (GUI) with GTK+3 to collect input parameters needed from the end user.
- Wrote functions to efficiently output millions of cells of data to CSV files for future analysis

Undergraduate Researcher, Big Data Analytics for 5G Self-Healing **September 2019 – May 2020**

- Created a simple decision tree model in Python to determine network basestation statuses using sklearn python library
- Implemented a big data system on AWS using S3, EMR, and EC2

Undergraduate Researcher, Decentralized Wastewater Treatment System **June 2018 – June 2019**

- Worked to create an embedded application to monitor various water parameters
- Used REST API to send the state of buttons in an application through the cloud to a mock system
- Created a graphical user interface (GUI) using material design principles to enhance style and readability
- Performed JSON requests to push and pull data from the cloud using Internet of Things (IOT) platform ThingSpeak
- Published conference paper in IEEE 43rd Annual Computer Software and Applications Conference (COMPSAC)

TECHNICAL SKILLS

C/C++, Python, Verilog, Java, C#, HTML/CSS, MATLAB, PIC Assembly, Surface Mount / Through-hole Soldering, oscilloscopes, multimeters, PLC, Ignition, UDP, Modbus TCP/IP, UI/UX, OpenCV, Bash, Linux / Unix

CLUBS AND ORGANIZATIONS

Institute of Electrical and Electronics Engineers (IEEE), Secretary **May 2019 – Present**

- Responsible for managing communications with over 50 club members by integrating the Google Suite with our club website, increasing board member efficiency by 20%

Kellogg Honors College **June 2017 – Present**