Vanessa Isabel Roque

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EDUCATION

California State University, Fullerton Graduation Date: **May 2025**
B.S/M.S Computer Engineering, Computer Science Minor GPA:**3.6**

Korea University | Seoul, South Korea **Fall 2023**
Study Abroad Reciprocal Exchange Program
Attended one of South Korea's most prestigious universities to cultivate a global perspective through an immersive cultural experience

Coursework: Data Structures, Algorithms, Signals and Systems, Computer Architecture, Networks, Operating Systems, VHDL, Microcontrollers, Electronic Circuits, Object Oriented Programming, Multivariate Calculus, Linear Algebra and Differential Equations

Copley High School | Akron, OH **MAY 2021**
Summa cum laude – 4.0+ GPA

EXPERIENCE

CSUF | Supplemental Instructor **January 2023 - Present**

- Explain complex topics to students taking Calculus III by hosting collaborative learning sessions twice a week
- Thoughtfully organize each session by preparing study materials and interactive activities for my students

ROSENDIN ELECRTIC CO. | Electical Engineering Intern **June 2024 - August 2024**

- Developed detailed electrical designs and specifications for power distribution, lighting, and control systems using Autodesk Revit
- Used Visual Lighting to create comprehensive lighting designs for commercial buildings and perform photometric analysis to ensure standards for brightness, intensity and energy efficiency are met
- Conducted QA QC in Bluebeam to identify potential issues in schedules, single line diagrams, and drawings
- Inspected the installation of electrical components, such as conduits, wiring, and lighting fixtures during site visits as well as experience the process of construction in-person

PROJECTS

TRAFFIC CONTROLLER **September 2024**

- Developed an embedded system to simulate traffic light and pedestrian crossing management for an intersection using the TIVA-C Launchpad (TM4C123G)
- Designed and wired a circuit on a breadboard using an 8-bit shift register to extend GPIO pins, simulating traffic lights with LEDs and switches for real-world traffic scenarios
- Programmed the FSM in C to respond to binary switch inputs representing traffic and pedestrian activity, optimizing state transitions and timing with SysTick timers and Phase-Locked Loop (PLL) clock management
- Utilized Code Composer Studio for comprehensive debugging and validation of the system under various input configurations

EXTRACURRICULARS

ASSOCIATION FOR COMPUTING MACHINERY | member **2021 - present**

- Gain a deeper understanding of computer science through hands-on programming workshops and events

ENGINEERING DESIGN CLUB | member **2022 - present**

- Circuit and program Adafruit Feather RP2040 RFM69 in CircuitPython for 3D printed Pokeball last semester
- Gain experience in soldering, 3D printing, solidworks, and PCB by attending hands-on workshops