Vanessa Isabel Roque

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Summary: Driven graduate student looking for full-time software engineering position starting June 23, 2025.

EDUCATION

California State University, Fullerton Graduation Date: **May 2025**
Integrated 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: Databases and File Systems, Data Structures, Algorithms, Signals and Systems, Real Time Audio and Language Processing, Computer Architecture, Networks, Operating Systems, Object Oriented Programming, Multivariate Calculus, Linear Algebra and Differential Equations

Skills: Python, MatLab, C/C++, Pandas, Numpy, Matplotlib, MySQL

EXPERIENCE

CALIFORNIA STATE UNIVERSITY, FULLERTON | Supplemental Instructor **January 2023 - Present**

- Explain complex Calculus III concepts to students by hosting collaborative learning sessions twice a week.
- Thoughtfully organize each session by preparing relevant study materials, boosting students' grades by 10%.

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

- Analyzed electrical systems and performed calculations to ensure proper load and power usage of electrical equipment using Excel and 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.
- Attended site visits to inspect the installation of electrical components such as conduits, transformers, and fixtures.

SUMMER UNDERGRADUATE RESEARCH ACADEMY | Research **June 2024 - August 2024**

- Investigated various wireless power transfer technologies and identified magnetic resonance as an improvement to current inductive technologies and a potential future trend for electric vehicles.
- Built and tested a small-scale LLC resonant converter, collaborating with my research partner. We identified optimal tuning to improve charging efficiency and minimize interference from other devices.
- Presented our work at the SUReA conference at California State University, Fullerton.

PROJECTS

TRAFFIC CONTROLLER **Fall 2024**

- Designed an embedded system using using the TIVA-C Launchpad (TM4C123G), a breadboard, shift register, buttons, and LEDs to simulate real-world traffic light and pedestrian crossing management of an intersection.
- Programmed a FSM in C to respond to binary switch inputs representing traffic and pedestrian activity, optimizing state transitions and timing with the SysTick timer and Phase-Locked Loop (PLL) clock management.
- Tested the validity of the system through comprehensive debugging under various input conditions.

COFFEE CAN RADAR **Spring 2022**

- Interfaced Raspberry Pi with IR camera and HB100 motion sensor to perform computer vision tasks with the Intel Neural Compute Stick 2.
- Conducted code review of signal tracking algorithm in Python to optimize performance of target imaging.

EXTRACURRICULARS

ASSOCIATION FOR COMPUTING MACHINERY | Board Officer **2022 - 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.