Paul Nieves

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EDUCATION

Rensselaer Polytechnic Institute, Troy, NY **Expected Graduation:** May 2024
B.S. Electrical and Computer Systems Engineering Dual **GPA:** 3.48
Minor in Music

INTERNSHIP EXPERIENCE

Green Action Studio Internship Schenectady, New York. **Sept 2022 – Dec 2022**
Software Engineer/Embedded Hardware Engineer

- Helped integrate modules to an electric vehicle charger using PCB design.
- Created a ground fault detection circuit using op amps to get design UL approved.
- Tested charger's relays and optimized ARM based microcontroller's code
- Built and assembled electrical vehicle charger from circuit schematics and CAD designs

Claro Puerto Rico Internship Guaynabo, Puerto Rico. **May 2024 – Aug 2024**
Network Technician

- Maintained demarcation points for residential, commercial, and industrial clients, ensuring seamless connectivity between service provider networks and customer premises equipment (CPE). Demarcation points used are Tmarc, ASR 9k, ASR 920, Cisco 3000, etc.
- Tested telecommunications lines, including copper, fiber optics, and coaxial cables, to resolve issues related to signal loss, interference, and connectivity failures.
- Collaborated with customers and service providers to understand technical requirements, provide on-site support, and ensure timely resolution of issues, enhancing customer satisfaction.
- Assisted in the upgrade of network infrastructure by installing new equipment and updating existing systems to improve service quality and reliability

PROJECTS

Digital Audio Compressor Troy, NY
Digital Signal Processing Final Project

- Used MATLAB to write a feed-foward system that can take a wav file and compress the file with given user parameters
- Implemented a gain matching algorithm

Frequency Password Circuit Troy, NY
Omega Lab Final Project

- Detects when the right frequency is inputted through an electret microphone.
- A led will turn on if the microphone picks up a frequency of 1700 Hz.

Crossword Solver Troy, NY
Data Structures Project

- Takes a crossword puzzle and a dictionary of words to find all solutions using a recursive algorithm

Cleaner Robot Troy, NY
Introduction to Engineering Design

- Uses AI to identify object to clean up and put away in its storage.
- Designed to pick up children's toys after they are done playing.
- Motivates children to clean up through game.

Drone Troy, NY
Robotics Seminar Project

- Built a drone that can record and provide a live feed to a small monitor.

Modular Synth Troy, NY
Independent Project

- PCB designed a +-15V DC power supply, VCO, VCF, VCA, and Midi to CV converter.

RESEARCH

LESA Florescence Tool Research Troy, NY **Sept 2023 – Dec 2023**
Software Engineer/Embedded Hardware Engineer

- Built, integrated and tested Florence tool hardware
- Debugged and Improved Lock-in Amplifier Circuit
- Tested and optimized time of flight sensor through programable gain

Photonics GUI Research Troy, NY **Sept 2023 – Dec 2023**
Software Engineer/Embedded Hardware Engineer

- Integrated hardware communication to python code through GPIO using py-visa library
- designed a GUI to facilitate researchers with running test and saving results
- Coded voltage sweep test, power sweep test, and fiber alignment menu
- Integrated cloud saving into GUI

SKILLS

PROGRAMING LANGUAGES: C++, C, Python, Java, MIPS, VHDL, Computer-Aided Design (CAD), Printed Circuit Board (PCB) Design
SOFTWARE: MATLAB, NX siemens, LT Spice, LabVIEW, Altium, Dip Trace, Fusion 360, Arduino IDE, MS Word, MS Excel, MS Power Point, Google Sheets
LANGUAGES: Fluent in Spanish and English.
Course Work: Electrical Energy Systems, Fields and Waves, Signals and Systems, Circuits, Embedded Control, Data Structures, Foundations of Computer Science, Intro to Algos, Computer Components and Operations, Computer Architecture (CANOS), Digital Signal Processing, Microelectronics Technology, Mechatronics, Sound Recording and Production I and II, Chemistry I, Physics II, Multivariable Calculus and Matrix Algebra, Internetworking of Things and Differential Equations.

LICENSES

Amateur Radio Operator Class License - Federal Communications Commission **Issued May 2023 – Expires May 2033**

- Credential ID KE2BLP