New York, NY
646-342-9052

Renato Vilca Valderrama

rvilca100@gmail.com
rvilca.github.io

EDUCATION

The City College of New York — New York, NY
Bachelor of Engineering, Electrical Engineering — Graduated Jun 2021

SKILLS

- Software: MATLAB/Simulink, C++, Verilog, Python, Riverbed Modeler, Packet Tracer, EAGLE, LTspice
- Hardware: Embedded Microcontrollers, Soldering, Electrical/Lab Instruments, 3D Printers
- Languages: Fluent in Spanish

PROJECTS

- **IoT Doorbell** Programmed and designed a smart doorbell that alerts Makerspace Slack channel when someone is at the door. Iterated software and hardware to function with Python, MicroPython, and CircuitPython on a Raspberry Pi, a HUZZAH ESP8266, and a Feather M4 Express. (Summer, 2021)
- **Microfluidic Bioprinter** As our capstone project, a group of classmates and I created a bioprinter capable of printing microfluidic structures out of hydrogel. We modified a 3D printer to use a 3D printed pump and an adjustable laser to extrude and cure material into the desired shape with modified G-Code. (Spring, 2021)
- **Arduino Controlled Fan** Created an Arduino controlled fan whose speed can be either controlled by a potentiometer or by the current temperature. A remote control is used to switch between the two modes. A LCD screen shows the temperature being read and current mode. (Fall, 2020)
- **CX – 6 Rocket** As part of the Harlem Launch Alliance, a student-run rocketry organization, I am continuously cooperatively designing the CX – 6 rocket's electrical recovery system. Additionally, I have used EAGLE to design the later fabricated PCB for use in test launches to host various sensors. I also oversee the electrical section's competition compliance and am helping develop solutions to the design constraints. (Spring, 2020)

EXPERIENCE

Adafruit — New York, NY
Test/Prep — Oct 2021 – Current
- Used unique testing processes on various electrical component products to provide quality assurance
- Worked collectively with Fabrication department to prepare product batches to fulfill orders
- Manually soldered numerous products in preparation for testing and order prepping

Queens College Makerspace — New York, NY
Makerspace Technician — Jun 2021 – Aug 2021
- Programmed and designed IoT doorbell and tested numerous microcontroller boards and electronic components
- Collaborated with intern team in organizing equipment and electronics in preparation for upcoming semester

Maximus — New York, NY
Bilingual Consumer Services Specialist — Jun 2020 – Aug 2020
- Assisted consumers in processing government-sponsored health insurance plan applications in Spanish
- Navigated databases to fulfill updates and requests regarding consumer health insurance marketplace accounts

DESIGN CHALLENGES / HACKATHONS

- **MakeMIT Hackathon** Collaborated with a team of three to design an Arduino automated seeding/ice-melt rover. Prototype was awarded prizes in the "Sustainability" and "Best Home Robot" categories. (Spring, 2021)
- **AECOM & CCNY MTM COVID-19 Design Challenge** Worked with a team of five to design an N95 mask attachment that reduces contamination. Currently using awarded competition funding for 3D printed prototyping and to submit a provisional patent. (Summer, 2020)