Joaquin Carretero Martinez

Phone: 505-930-4208 | quinocarreteromartinez@gmail.com
LinkedIn | GitHub

Currently living in the San Francisco Bay Area
Open to relocate!

Education

Bachelor of Science in Computer Engineering May 2020
University of New Mexico GPA 3.43

In a nutshell

- Highly skilled with **C** and **C++** programming in a Linux environment and excellent debugging skills.
- Strong Object-Oriented work experience with scripting languages such as Bash and **Python 2.X** and **3.X** with **JSON** interaction and familiar with version control such as **Git** and **SVN**. (GitHub link attached).
- Robust **Back-end** knowledge: **SQL Database Management** (Certificate attached).
- Very strong experience **CAD** modeling with **Fusion 360** and **AutoCAD.**
- Experience with Real-Time 3D graphics and post processing with **Unity** creating scenes and animations for **AR/VR** with optimized light baking. (Certificate attached)
- Experience with systems-level development, socket programming, and low-level I/O.
- Understanding of **OS** concepts and **network** protocols such as **TCP/IP** and **UDP.**
- Advanced knowledge in Mathematics, Computer Logic Design, Probabilistic Methods, **Algorithms,** and Signals and Systems.
- Experience with **Manual testing** and **Automation testing**. Strong analytical & problem solving, **documentation**, and **communication skills. FSAE** member for 2 years.
- Course experience with **Circuit Analysis**, **Microprocessors,** and **Electronics.**
- **Optical** and **Photography** experience (color science, image quality assessment) as well as extensive experience with imaging analysis software packages (**Photoshop**).
- Bilingual in **Spanish** (as I am from Spain).

Professional Experience

Software Engineer at Seaskate Startup _____ June 2020 – Currently

Currently working at a startup 3D modeling a wheelbase structure for a new kind of surfboard-shaped skateboards by applying my physics and math knowledge and 3D modeling and printing skills. Tasks involve designing planetary gear mechanisms, wheels with specific infill and 3D printing with resin and filament.

• Software: Fusion 360, Ultimaker Cura 2.0, Shapr 3D.

• Hardware: Formlabs 1+ Resin 3D printer and Prusa Filament 3D printer.

Software Engineer intern at Aspen Avionics _____ Aug 2019 - May 2020

• Assisted with software identification, Code Coverage, and Requirements checks.
• Developed code verification by analysis procedures for a DO-178 B Level C project, using languages such as Python, C, Shell and BASH and interacting with hardware for tests.
• System requirement tracing and testing.
• Debian package removal and OS cleaning for minimal storage and functionality for Avionics systems.
• C and Python code review and documentation of test requirements for better Productivity.

Software Engineer at Crownpoint Medical _____ May 2019 - May 2020

• Programmed a scheduling algorithm for Crownpoint Healthcare Facilities to easily schedule people's work schedules in different clinics and hospitals with 30+ working alternatives such as managing whether people work in different clinics, primary/urgent care, weekends/location preferences, etc.

• Information was read from a JSON file, structured and retrieved with C++, and exported to .csv format to be human-readable and used with Excel.

Python instructor at University of New Mexico _____ July 2018 - April 2019

Python instructor through the University of New Mexico at Washington and Polk School in Spanish and English to bilingual students.

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Extracurricular Experience

- **QUANSER** drone project: Senior Design project in which we program drones to follow flight paths to make art (Self-controlled by an algorithm we are making beforehand). Drones were programmed to lift objects and use them to draw or project onto surfaces to, later on, showcase the work. I made an **image processing** program for Quanser to take the Standard deviation of a compound of images to create a shade trace. I also made a **Unity** scene where items were mapped in real time to the room we were working on.
- **3D modeled** the battery structure of the 2020 Electric FSAE UNM racecar with AutoCAD using precision tools for measuring. Batteries were designed for optimal material use.
- Programmed a 2-wheel robot with **Arduino** based on a **RaspberryPi** to follow a pattern. Self-controlled with four optical sensors to detect the line to follow
- Fully designed and 3D printed a car working with **AutoCAD** and Prusa **3D printing** software, then added complete functionality to be remote-controlled with an electric rear-wheel-drive battery using a **2.4GHz** connection to control it.
- Programmed a **Calculator simulator** with **LabView** implementing each of the operations such as addition and exponential and being able to handle properly cases like 0/0. The result was a fully functional calculator with its GUI exported into a .exe file usable on any 32-bit windows machine and up
- VERY BIG INTEREST in videogames, Augmented/Virtual Reality and 3D design of emerging technologies. My dream job would be working for a startup and help developing a product.

Reference links:

LinkedIn
Work Authorization (EAD Card)
GitHub (Software Engineering)
GitHub (Mechanical Engineering)
Unity 3D Certificate
SQL Certificate
Photography Portfolio