Gabriel Raphael Garcia Montoya

Software Engineer | SF Bay Area (Cupertino) | (408) 514-7687 | gargarci@ucsc.edu

Young enthusiastic programmer looking for a job/internship that will utilize and expand my skill set. I am mainly interested in Embedded/System Security, but also very enthusiastic about working on high-level projects like Machine Learning, Computer Vision, and Mobile App Development

Education

University of California, Santa Cruz — **Expected Graduation:** June 2020
B.S. Computer Science & Engineering — **Computer Science GPA:** 3.5
Standing: Junior — **Cumulative GPA:** 3.2

Professional Experience

Flight Software Engineering intern - Space Systems Loral (SSL) — **San Jose, CA (2018 - 2018)**

- Wrote telemetry command categorizer for easy command identifying
- Wrote various Python scripts to optimize and automate our Flight Simulator
- Designed and constructed a third-stage boot-loader for flashing custom kernels
- Wrote drivers for our custom Linux install

Software Engineering Student - Google Code U — **Santa Cruz, CA (2017 - 2018)**

- Implemented message emotion analysis through Google Cloud Computing
- Designed and created a web based chat app using JavaScript, HTML, and CSS in a team of 4
- Played substantial role in designing and creating interface of the app

Android Developer - Digital Forest Labs (Freelance) — **Santa Cruz, CA (2017 - Current)**

- Managed assigned team and utilized different flow models (MVC, AGILE)
- Programmed vital parts of the application's features and utilized open-sourced libraries
- Handled communication between my team and the customer to report any issues or pivots

Tutor - Advanced Data Structures (Freelance) — **Santa Cruz, CA (2017 - Current)**

- Walked through errors with students to help them understand their mistakes
- Assisted students understand data structures by giving small programming problems
- Concentrated on Linked Lists, bloom filters, bit vectors, and hash tables

Projects

Smart Mirror with Machine Learning and Computer Vision | Python, Tensorflow, Google Cloud Vision **(2018 - current)**

- Working on a smart mirror that can identify the user using OpenCV and Tensorflow and displays their closet
- Uses hand "air" gestures to scroll through outfits
- Voice activated through Alexa

Micro-Controller Heap/Stack Smashing | MSP430 ARCH, GDB, Hopper Disassembler **(2018 - 2018)**

- Completed microcorruption.com, a CTF for the MSP430 board
- Used industry tools such as Hopper disassembler and GDB

Virtual Closet E-Commerce App | Java (Android), Swift (iPhone) **(2017 - 2018)**

- Utilized OpenCV for image segmentation - specifically GrabCut (Graph Cut).
- Utilizing Swift 4, expanded on Virtual Closet app from Cruz Hacks 2016.
- Allowing for peer to peer commerce

High-Speed Word Filter | C **(2016 - 2016)**

- Constructed high-speed filter (tested up to 1GB files) that detect words from a predetermined list in a less than a second.
    - Utilized: Bloom Filter, Hash Tables, Salts, Heaps, Queues & Bit Vectors

Rapid File Bit Compressor/Uncomp | C **(2016 - 2016)**

- Implemented SMS ideology to compress files of any format using Huffman trees to the bit level in a matter of seconds.
- Designed a system to identify which files have been compressed and which have not for better file management.
    - Utilized: Huffman Trees, Circular Queue, Stack, Bit Vectors, and "Codes"

Languages & Technologies

Proficient: Java, Python, JavaScript, C, C++, x86-64 Assembly, MSP430x Assembly
Familiar: ADA, Perl, HTML, CSS,
Technologies: OpenCV, Git, Android Studio, xCode, IDA Pro, Raspberry Pi, Unix