

# Israel Escobar-Camacho

☎ +1 312 678 9737 | @ iescobar@alumni.cmu.edu | 🔗 linkedin.com/israel-e-c | 📍 Chicago, IL, US | 🗣️ Spanish & English

## EDUCATION

---

### Carnegie Mellon University

Pittsburgh, PA

*B.S in Electrical & Computer Engineering*

**Relevant Coursework:** Computer Systems and Hardware-software interfaces, Introduction to Computer Systems  
Introduction to Embedded Systems, Functional Programming,  
Introduction to Computer Security, Principals of Imperative Computation

## SKILLS

---

**Languages:** C/C++, Bash, Python, Java, Matplotlib, RISC-V ISA, x86-64 ISA, ARM32/Thumb ISA, ARM64

**Technologies:** Git/Github, Confluence, Linux, Proxmox VE, Windows Vista/8.1/10/11, MacOS X, UNIX, Software  
Defined Radios, Real-Time Embedded Systems, GDB, JTAG, Ghidra, Cryptographic tools, Docker

## WORK EXPERIENCE

---

### Motorola Solutions Inc.

Schaumburg, IL

*Embedded Software Engineer*

*July 2024 – Current*

- Applied reverse engineering tactics, self-guided research, and critical thinking to provide customer-focused solutions
- Utilized Radio Frequency traffic, JTAG, and company standard tools to debug embedded systems
- Depended on AES, HMAC-SHA256, and ARC4 knowledge to solve niche problems
- Documented future improvements, solutions, and self-guided findings to support team efforts

### Intel

Hillsboro, OR

*Pre-silicon IP Validation Intern*

*May 2023 – August 2023*

- Developed and refactored dynamic Python scripts for new infrastructures to support my team efforts
- Self-taught architectural and design knowledge for applying my skills throughout advancing current validation practices

### Carnegie Mellon University

Pittsburgh, PA

*Teacher Assistant for Principals of Imperative Computation*

*May 2022 – June 2022*

- Supported collaborative learning during lab and instruct recitations varying from 4 to 15 students
- Taught topics ranging from data structures, correctness in C, to big-O time efficiency
- Held office hours to support students 1-on-1, including review sessions for larger groups

## RESEARCH EXPERIENCE

---

### Carengie Mellon Univ. Department of Mechanical Engineering

Pittsburgh, PA

*Undergraduate Researcher*

*September 2023 – December 2023*

- Troubleshooted C-based firmware for flashing a STM32 processor on a Custom PCB design
- Developed communication protocols with UART for our chemical sensor EmStat Pico Module

## PROJECTS

---

### Real-Time Kernel

- Developed a multi-threaded Real Time Operating System for a STM32 processor with enforced fixed priority scheduler
- Utilized GDB to step through out Thumb instructions for my C code and trace assembly code
- Used MMIO to build upon the UART and I2C Drivers for communication between arduino, LEDs, and other electronics

### Homelab Server

- Developing a 32TB homelab server to serve varying applications to a multitude of people
- Planned out network solutions such as Wireguard, Pihole, Caddy, and Authelia to ensure secure connections and prevent AD tracking
- Printing server rack accessories for repurposed laptop, Hard Disk Drives, Network Switches, Router, and Access Point
- Heavily utilizing Open Source Solutions and documentation to self teach and apply new found skills