

# Israel Escobar-Camacho

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## EDUCATION

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### Carnegie Mellon University

Pittsburgh, PA

*B.S in Electrical & Computer Engineering*

*Sep 2019 – May 2024*

*M.S in Electrical & Computer Engineering*

*Janurary 2024 – May 2025*

- **Relevant Coursework:** Introduction to Computer Systems, Computer Systems and Hardware-software interfaces  
Introduction to Embedded Systems, Hardware Structure and Design of Digital Systems,  
Logic Design and Verification, Computer Architecture
- **Scholarships:** Tarten Scholar, Renaissance Scholar, Chicago Scholar

## SKILLS

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**Languages:** C/C++, Bash, Python, SML, Java, Matplotlib, TCL Scripting, SystemVerilog, RISC-V ISA, x86-64 ISA

**Technologies:** Intel Pin, Git/Github, Quartus, GDB, Linux, Windows Vista/8.1/10, MacOS X, UNIX

## WORK EXPERIENCE

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### Intel

Hillsboro, OR

*Pre-silicon IP Validation Intern*

*May 2023 – August 2023*

- Developed and refactored dynamic Python scripts for new infastructures 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*

*Summer 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

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### Carengie Mellon Univ. Department of Mechanical Engineering

Pittsburgh, PA

*Undergraduate Researcher*

*September 2023 – Current*

- 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

### Carnegie Mellon Univ. Department of Electrical & Computer Engineering

Pittsburgh, PA

*Undergraduate Researcher*

*Janurary 2023 – May 2023*

- Dealt with TCL scripting with the Cadence toolset for synthesizing and performance analyzation
- Worked on ISCAS files and SOP simplification/optimizations through python scripting
- Developed Bash and Python scripts for data analysis and automation

## PROJECTS

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### Real-Time Kernel

- Developed a mult-threaded Real Time Operating System for a STM32 processor with enforced fixed priority scheduler
- Utilized GDB to step through out x86-64 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

### Speculative 2-way superscaler 5-Staged RISC-V processor

- Used SystemVerilog to implement the hardware processor design with our our team's self-made schenamics
- Coded RISC-V assembly code for simulating the architecture and testing purposes
- Developed Python scripts for debugging and logging the architectures instruction code process