Michael Hernandez

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Summary

Software engineering professional proficient in Python, and C++ with experience using Arduino to interface with peripheral sensors and input devices.

Skills

Programming Languages: Python, C/C++, MATLAB, LaTeX
Developer Tools: Arduino IDE, Git, GitHub, PyCharm, Visual Studio, VS Code, Atom, VIM, Linux
Libraries: Adafruit Arduino Libraries, Wire, LiquidCrystal
Spoken Languages: English (Native), Japanese (Conversational)

Projects

Validation Script Development | *Git, GitHub, Python, PyCharm, Linux*

- Developed and updated Python test scripts to stress test CPU hardware and validate feature functionality against specifications
- Collaborated with Architecture, Design, and Pre-silicon Validation teams to ensure appropriate testing of features
- Wrote a comprehensive technical document outlining the objectives and operation of a newly developed script

PCIe Card Feature Implementation | *C, VIM, Git, Linux*

- Implemented the posted memory write feature within an existing API using C for a Gen5 PCIe test card
- Wrote two unit tests to enable users to easily verify the feature's compatibility with the populated test card
- Facilitated coordination with the customer to ensure the implementation of the feature aligned with their specific requirements
- Participated in code review prior to merging new feature into main branch

Compact Solar Powered Vaccine Dispenser | *C++, Embedded Programming*

- Designed a portable solar-powered vaccine dispenser prototype
- Programmable ATMEGA2560 microcontroller with Arduino was used to interface with peripheral devices according to device data-sheets
- User interface featuring an LCD screen, keypad, and joystick was programmed
- Implemented username and password mechanism for device unlock and vial dispensing
- Usage information recorded on an onboard SD card
- Developed in C++ programming language

Autonomous Robot Car | *C++, Embedded Programming, UART, IoT*

- Team of two constructed a robot with autonomous driving and Bluetooth manual control capabilities
- Programmable ATMEGA2560 microcontroller with Arduino was used to interface with peripheral devices
- Implemented three autonomous driving features: line follower, ultrasonic range detection, and cruise control
- Low-level programming was used to implement a PID loop for maintaining constant speed on varying inclines
- An HC-05 Bluetooth transceiver interfaced with the microcontroller's serial port for manual input through a smartphone app

Employment History

System Validation Engineer — January 2021 – Present
Intel Corporation — *Hillsboro, OR*

- Post-silicon functional validation of memory controller hardware for Intel Xeon processors
- Debug failures and identify areas for improvement in post-silicon test content
- Created, defined, and developed system validation environment and test suites
- Responsible for validating three features, resulting in the identification of one silicon bug and several BIOS bugs

Education

Oregon Institute of Technology — Wilsonville, OR
Bachelor of Science in Electrical Engineering — *June 2020*

Portland State University — Portland, OR
Bachelor of Science in Biology, Minor in Chemistry — *June 2014*