

Max Kross

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I am an embedded software engineer with two years of semiconductor industry experience looking to expand on my experience in application development. Also, I have used my experience with coding in Python to create testing automation scripts and binary signing scripts.

EDUCATION

Ohio State University Columbus, Ohio
B.S. Computer Science and Engineering September 2013 – May 2017
M.S. Computer Science and Engineering September 2017 – December 2020 (Expected)

WORK EXPERIENCE

Texas Instruments

Application Development Engineer – Germantown, MD September 2019 – Present

- Doubled customer data transfer speeds by adding DMA transfer feature to SPI and UART protocol examples for AMIC110 and C200 Evaluation Modules.
- Expanded device starter application portfolio by porting a 4-wire touchscreen demo that leverages open source graphics library lvgl, GPIO, and an ADC Touchscreen Controller from an MSP432 to an AM335x on Beaglebone Black.
- Created Python scripts to automate formatting driver demos and documentation for placement on TI Resource Explorer.
- Added TI Resource Explorer offerings to optimize customer out-of-the-box experience. Modernized PDF documentation by converting it into intuitive strapdown documentation offerings for Sitara processors.
- Moderated customer Q&A forums and maintained above an 85% 24 hour response rate. Answered customer questions about Sitara UART, I²C, and SPI drivers daily.
- Created customer-facing application for running Dhrystone benchmark on Cortex ARM R5F device.

Test Engineering Intern – Germantown, MD May 2018 – August 2018

- Created Python scripts for TI's internal testing platform that flashed various hardware and tested the performance of software running on those platforms.
- Implemented a radar test setup that used Python to automate a rotating platform that held various radar boards so that their activation could be automated in nightly builds.

R&D Engineering Intern – San Diego, CA May 2017 – August 2017

- Designed and implemented an ECC SHA-256 security protocol for BLE OAD on TI's CC2640R2F board to a given specification.
- Created a Python tool that signed binary images
- Added an embedded C solution to the board to verify on-chip and off-chip flash images.

Software Engineering Intern – Dallas, TX May 2016 – August 2016

- Planned, designed, and implemented a C++ program to optimize the WEBENCH waveform generation process. This consisted of creating a parser for configuration files, interfacing with an API to read data, and creating multiple classes to store and manipulate data.

Ohio State University Engineering Education Innovation Center

Freshman Honors Undergraduate/Graduate Teaching Associate – Columbus, OH August 2014 – May 2019

- Directed lab curriculum and other GTAs as a co-lead GTA. I helped plan the lab schedule, led trainings, and helped create and lead GTA and UTA enrichment activities.
- Managed the Proteus software team where I oversaw updating XBEE broadcast frequencies and optimizing the Proteus bootloader process using an SD card.

PROJECT EXPERIENCE

Proteus Controller

- Maintained a robot controller used by over 300 students annually for their cornerstone design and build project.
- Implemented I²C software libraries on a Freescale K60 processor that enabled data to be read from an accelerometer.
- Adapted SPI software libraries on other processors to work for a touchscreen library on a Freescale K60 processor. This allowed students to utilize touchscreen functionalities of the controller.

QUALIFICATIONS

Computer Languages: C, C++, Python, Java, Matlab, HTML, CSS, UNIX

Relevant Coursework: Computer Architecture, Network Programming, Operating Systems, Parallel Computing, Data Structures and Algorithms, Systems Programming, Computability and Complexity

Tools: Git, Atlassian, Digital Logic Analyzers, JTAG emulators