





Andrew Matthew Xia

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Languages

- C, C++, Python, VHDL, Java, x86 Assembly
- HTML, CSS, XML/KML

Hardware

- Intel MAX10 FPGAs
- STM32 Microcontrollers
- ARM Cortex-M4F MCUs
- Arduino Uno

Tools and IDEs

- Altera Quartus, Cadence Allegro OrCAD
- Android Studio, Keil uVision, Eclipse
- QGIS, Git, Bash, PowerShell

EXPERIENCE

Segway Robotics Embedded Engineering Intern

Beijing, China
May - July 2017

Worked with the electrical engineering team on the Loomo personal robot project

- Went through entire **PCB development** cycle from schematic drawing to production with **Cadence**
- Programmed STM32 Microcontrollers from scratch with **Embedded-C** and piloted the use of STM32CubeMX software to shorten development time within the team
- Acquainted with **Agile Development** with **JIRA**
- Shortened infrared sensor testing times in half by rewriting and debugging old microcontroller code

SICK Aktiengesellschaft (Ausbildung) Hardware Integration Intern

Waldkirch, Germany
July 2014 - June 2016

Will be working with the Precision Detection R&D team to implement Bluetooth communication on the SICK line of sensors on the microcontroller level

- Will be integrating hardware development from the microcontroller level to software design
- Implementing Bluetooth interfaces to communicate between hardware and mobile devices
- Analyzing various compiler performance rate and speeds

PROJECTS

Election 2019 Local Mapping Script

Python, KML, QGIS, Google Maps JavaScript API
www.github.com/a2xia/2019ElectionsMaps

A data visualization tool for local campaigns to see poll-by-poll voting results from the 2015 Federal Election in Google Maps to prepare for the 2019 Campaign. Uses Python to process voting results from CSV files and poll boundaries from shapefiles to generate a KML file for use in mapping services.

Shake-2048! Sensor-Based Android Game

Java, Android Studio
www.github.com/a2xia/Shake-2048

Part of a team of three that created our take on the popular 2048 game - instead of swiping to move the blocks, motion sensors detected device movement (shakes) for gameplay.