[Home Address]

TERRENCE KUO

[Phone Number]
[E-Mail Address]

www.github.com/terrencekuo

www.terrencekuo.com

EDUCATION

Princeton, NJ **Princeton University** **Sept 2013-June 2017**

- **Major:** Electrical Engineering, B.S.E (in-major GPA: 3.44)
- **Certificate (Minor):** Computer Science
- **Programming Coursework:** Algorithms & Data Structures, Operating Systems, Networks, Computer Vision
- **EE Coursework:** Embedded Systems, IoT, Computer Arch., Circuits, Logic Design, VLSI Design, Signal Processing

EMPLOYMENT

Firmware Engineer, Intern **Stryd (startup)** **June-Aug 2016**

Foot pod (*www.stryd.com*): Wearable Power Meter For Running

- Improved device's battery lifespan by 8% by integrating a fuel gauge sensor and establishing a battery saving state.
- Utilized the I2C protocol to implement a device driver for the fuel gauge and used it to create a low power state.
- Increased available flash memory by 66% through redesigning the flash data storage system with a circular buffer implementation that supported variable-sized records.
- Leveraged knowledge in Git, ARM Cortex-M4 architecture, programmed in C using Keil IDE, and debugged using an Oscilloscope, Multimeter, Memory Analyzer, and JTAG/SWD debugging interface.

Software Developer, Intern **Autodesk** **June-Aug 2015**

TinkerCad (*www.tinkercad.com*): online 3D design and printing tool

- Integrated multi-touch gestures for 3D workspaces by creating a deterministic finite state machine for HTML events.
- Implemented a low-pass and smoothing function to allow for a user-friendly touch experience.
- Established remote testing and coding development environment using Docker and bash scripts.
- Leveraged knowledge in Full Stack Web development, JavaScript, Git, and debugged using Chrome Developer Tools.

SOFTWARE PROJECTS

Personal Website: *www.terrencekuo.com* (for additional information and projects)

iOS Meme App

- Developed an iOS application using Swift and Objective-C that allows users to easily create and share memes.
- Integrated openCV library allowing users to effortlessly apply photo filters and effects.
- Incorporated persistent data storage to archive memes. Leveraged caching for recently accessed memes.
- Designed RESTful backend server enabling memes to be stored persistently in an online database.
- Utilized: Swift, Obj-C, Local Persistent Data, Caching, Cloud Storage, Python, Flask, SQLite, openCV

Autonomous RC Car + Virtual Driving

- Designed and implemented PID speed control for an RC car by constructing a Hall effect circuit to measure speed and a PWM motor controller circuit to control speed.
- Added autonomous driving by constructing an image processing circuit and implementing PID steering control.
- Created a 'virtual driving experience' by manufacturing a gimbal mount and creating an iOS app that wirelessly displays and operates the cameras FOV and direction. The app also remotely controls speed and steering.
- Utilized: C programming, PSoC, Socket (IP/TCP) Programming, O-scope, Multimeter, Arduino, Web & iOS Dev

Home Automation: Temperature Sensor with Android Interface

- Created an Android App that bit-banged BeagleBone's I2C module to read temperature data off the DS1621 digital thermometer sensor and visualized temperature changes.
- Utilized: C programming, BeagleBone Microcontroller, Oscilloscope, Circuit Design, Android Development

Real-Time Interactive 3D-Graphics Website (*http://interactive-graphics.herokuapp.com*)

- Developed an interactive graphics website using THREE.js to create a 3D workspace with real-time animated 3D models of crystal lattice structures and robotic parts in which animations and camera views can be manipulated.
- Inspired from struggling with visualizing 3D models while taking a materials science class.
- Utilized: Python, Flask, Heroku, JavaScript, AJAX, THREE.js, HTML/CSS, Docker, GIT

SKILLS

Software: (*proficient)*: C, Python, Swift, Unix, Git (*familiar)*: Java, C++, Go, SQL, Matlab, JavaScript, HTML/CSS