

# Chun-Min Chang

## Software Engineer



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<http://chunminchang.github.io/>

## EXPERIENCE

### Firefox: Media Playback

- Develop cross-platform audio library(Windows, OSX, Linux)
- Implement 5.1, 7.1 surround sounds support in Firefox
- Audio seamless looping(delay is reduce from 90ms to 0ms)

### Firefox: Device selection UI on mobile and desktop

- Build device selection UI when connecting to Presentation API devices(e.g. Chromecast)
- Implement backend browser API for UI modules

### Firefox OS TV: Remote Control from Android to TV

- Build remote-control service on Firefox OS TV
- Design a panel on Firefox Android to control TV
- Introduce J-PAKE over TLS to establish a secure connection channel

### Firefox OS Feature Phone: Physical Keyboard

- Design an architecture to route hardware keyboard signals to input-method-editor
- Enable simulation of the hardware events in testing framework

### Firefox OS: Processes Management

- Manage lifetime and permissions of the processes
- Enable permission configuration in testing framework

### Full-Stack Web Development / Product Design

- Develop web services to give suggestions about course selections for students
- Build online dating services to pair people with similar interests
- Lead a team to develop web services and reach 50000+ members in three month. They were reported by TV and magazines.

### IoT Localization: Particle Filter for Data Assimilation

- Design a math model to estimate the devices' location by calculating the inertial sensor data and a known map, without any infrastructure like GPS or WiFi
- Build a server to collect sensor data

### Sensor Network: SoC Firmware and iOS App

- Write drivers for peripheral interfaces(UART, SPI, I<sup>2</sup>C) to read data from various sensors on TI CC2540
- Build an iPhone app to receive sensor data via Bluetooth 4.0

## EDUCATION

### Master's degree, Computer Science

*National Tsing-Hua University, Taiwan*  
2012-2014, Embedded Platform Lab,  
**Thesis:** Cooperative Tracking using  
Encounter Information by Particle  
Filtering (advised by Prof. Pai H.Chou)

### Bachelor's degree, Computer Science

*National Tsing-Hua University, Taiwan*  
2008-2012, **Third Prize**, Computer  
Science Senior Project Contest:  
ThirdEye - Remote-controllable WiFi  
webcam car

## SUMMARY

Knowledge from hardware to software with mathematical skills to research, analyze, solve problems and complete projects. Self-motivated character with high energy and good communication skills to collaborate in team.

## CAREER OBJECTIVE

A professional software engineer with scientific background knowledge to invent and innovate technology to improve human life.

## ADDITIONAL INFO

I have a busking permit for singing and playing guitar on the streets. I hate suits and I like jeans.