# Yi-Chiao **Li**

Senior Software Enginer

(+886) 988331913 | ryan331913@gmail.com | ryan331913

## Summary

A 5+ years' experienced software engineer with a focus on inertial measurement unit (IMU) sensors in IoT devices at CyweeMotion. Proven ability to develop reliable algorithms for various applications, including swimming, sleeping, fitness, and a software framework for wearable platforms. Built-up testing automation procedures with Google Test framework and GitLab CI for performance validation to speed up the development cycle. Worked close across teams to evaluate, troubleshoot and solve problems in a timely and accurate manner. Interested in devising a better problem-solving method for challenging tasks, and learning new technologies and tools if the need arises.

## Work Experience

### CyweeMotion

*Taipei, Taiwan*

Senior Software Engineer — *Mar. 2017 - Present*

- **Activity Recognition System**
  - Designed and implemented an architecture for IoT devices, optimized memory usage by about 25%, and reduced power consumption by 16%
  - Developed activities recognition and awareness with machine learning based algorithms and achieved average accuracy of 93%.
  - Collaborated closely with team members to integrate wearable functions and managed the released version.
  - Built-up automated testing procedures with docker, gtest, and GitLab CI to ensure quality control throughout the entire development cycle.
- **Swim, Sleep, and Fitness Activities**
  - Designed and implemented algorithm for daily swimming via filtering process, features extraction, and machine learning.
  - Improved swimming style accuracy from 80% to 92% by applying machine learning.
  - Developed algorithm for sleeping activities by activity scores and statistical features of heart rate.
  - Implemented heart rate based algorithms for fitness metrics, such as calorie, VO2 Max, EPOC, and PAI.
  - Worked closely with QA to design a detailed testing plan to evaluate the performance of swimming, sleeping, and fitness metrics.
- **Other Projects**
  - Designed a sensor-based architecture on smartphone platforms.
  - Developed transportation classified and gesture algorithms on Android-based platforms.
  - Implemented the Android app for algorithm testing.

### Pegatron Corporation

*Taipei, Taiwan*

Software Engineer — *Dec. 2015 - Feb. 2017*

- Integrated camera and Global Navigation Satellite System (GNSS) for tracking box application.
- Developed path trajectory with Extended Kalman Filter (EKF).
- Collected videos for algorithm testing and camera calibration process.
- Developed camera calibration and ground truth tool.

## Education

### National Taiwan University of Science and Technology

*Taipei, Taiwan*

Master of Science in Electronic and Computer Engineering — *Sep. 2013 - Jul. 2015*

### Yuan Ze University

*Taoyuan, Taiwan*

Bachelor of Science in Electronic Engineering — *Sep. 2009 - Jul. 2013*

## Skills

**Programming** C, C++, Python, MATLAB, Java

**Tools** Git, Make