

# MINGRUI ZHANG

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## EDUCATION

- BS, Computer Science and Technology** 2013.8 - 2017.7(expected)  
Department of Computer Science and Technology, Tsinghua University  
GPA 91.0 (Rank 13/127)  
Minor in Journalism
- Visiting Student, the Fluid Interfaces Group** 2016.6 - 2016.9  
Media Lab, Massachusetts Institute of Technology  
Advised by Prof. Pattie Maes
- Exchange Student, Computer Science and Engineering** 2015.9 - 2015.12  
The Chinese University of Hong Kong

## RESEARCH INTEREST

**Human Computer Interaction** - Natural User Interface / Augmented Reality / Touching and Stylus

## PUBLICATIONS

- Yi, X., Yu, C., **Zhang, M.**, Gao, S., Sun, K., & Shi, Y. ATK: Enabling ten-finger freehand typing in air based on 3d hand tracking data. **UIST 2015**
- Zhang, M.**, Masclet, H., Liu, X. Exploring the Possibility of Shoulder Input Device. Submitted to **CHI 2017**

## HONORS & AWARDS

- The National Scholarship of China (Top 1%) 2016
- 1<sup>st</sup> winner of the National Database Conference Cup 2016
- Top 4 projects - "Leap Touch", HACK SHANGHAI Hackathon 2015
- Best note of Youdao Course Note Competition 2015
- Best watch application award - "Pebble Mario", THACK Hackathon 2014

## RESEARCH EXPERIENCE

- Fluid Interfaces Group, MIT Media Lab** 2016.6 - 2016.9  
*Visiting Student*  
Developed hardware and algorithm of the project Fluxa. Lead the project Shoulder Muscle-Computer Interface. Programmed with Myo armband. Signal processing and pattern recognition with EMG.
- Multimedia Lab, the Chinese University of Hong Kong** 2015.6 - 2015.8  
*Research Assistant*  
Write experimental codes on machine learning, modified the CXXNET (a framework of deep learning) code and revised the convolutional layer of it. The result proved not applicable.
- Pervasive Computing Group, Tsinghua University** 2014.10 - 2015.4  
*Research Assistant*  
Designed and implemented Air-typing platform. Evaluated different finger-tracking algorithms. Kinect and Leap Motion programming. Edited the demo video.

## WORK EXPERIENCE

- MailTime Inc. Beijing** 2016.2 - 2016.6  
*iOS Intern*  
Redesigned interaction logic and UI, user tutorial and feedback, increased 25% of the user retention.
- Chestnut Tech Inc. Beijing** 2014.10 - 2016.1  
*Co-founder, iOS Developer*  
Main developer of "Parocam" application, Face transform algorithm, UI design and product operation

## PROJECTS

**PAROCAM** IOS APP @Chestnut Tech Inc. [www.parocam.com](http://www.parocam.com) 2014.11 - 2016.1

- A funny iOS app transforming images of human faces (such as stretching the mouth) in real time, using multithread face-detection tech based on GPU.
- Developed functions of Chat Bubbles, Video Merge.
- 20,000 downloads in App Store (with overall rating 4+).

**SPAM DETECTING ON Q-A COMMUNITY** @NDBC CUP'16 2016.5 - 2016.6

- Designed a novel approach to detect spam answers in Q-A community.
- Using CNN and Word2Vec, with additional NLP data pre-processing. F-value 66.0%.

**FLUXA** @Media Lab MIT 2016.6 - 2016.9

- Fluxa is a wearable LED device that utilizes POV (Persistence of Vision). When waving hands with Fluxa, an image or text can be seen. The device is designed to fortify social interaction and augment body movement.
- Improved display algorithm in Arduino.
- **Our project is accepted by UIST'16 Demo Session.**

**VOICE++** DIGITAL DESIGN PROJECT 2015.5 - 2015.6

- A hardware project that can recognize one's voiceprint.
- Recognizing algorithm(MFCC) in Verilog. WM8731 Chip Programming. Audio receiving and Voice vector matching Algorithm.
- Accuracy: 90% in two people, 75% in three people. A demo on YouTube is available (search VOICE++).

**DAN9** @ANNUAL STUDENT GALA OF CST, TSINGHUA 2014.7 - 2015.4

- Bullet Screen (danmaku) development for our major's annual gala.
- Built a server of Wechat public account, using PHP to connect to our address book system.

## PRESS COVERAGE

**NEXT 36Kr(2015)** "Product of the day - Parocam"

**Youdao(2015)** "Winner of Youdao Course Note Competition"

## SKILLS

### Programming

C/C++/C#/JavaScript/MATLAB/Objective-C/Python

### Journalism

Chinese writing/Interview

### Art & Media

Adobe Photoshop/Adobe Premiere/Final Cut Pro