

# MINGRUI ZHANG

(+1) 206-751-4030 ◊ mingrui@uw.edu ◊ www.drustz.com ◊ Github: DrustZ

## EDUCATION

---

**University of Washington, Seattle**

*Sep. 2017 - Present*

Ph.D. student, the Information School

Advisor: Jacob O. Wobbrock

**Tsinghua University, Beijing**

*Aug. 2013 - Jul. 2017*

Bachelor of Engineering, Department of Computer Science and Technology

GPA 91.0 (Rank 13/127)

Minor in journalism

**Massachusetts Institute of Technology, Boston**

*Jun. 2016 - Sep. 2016*

Visiting student, the Fluid Interfaces Group, Media Lab

Advisor: Pattie Maes

**The Chinese University of Hong Kong, Hong Kong**

*Sep. 2015 - Dec. 2015*

Exchange student, Department of Computer Science and Engineering

## RESEARCH INTEREST

---

**Human Computer Interaction**

Text Entry / Input Method / Natural User Interface

## PUBLICATIONS

---

- C.9 Zhihang Dong, Tongshuang Wu, Sicheng Song, **Mingrui “Ray” Zhang**. (2020). **Interactive Attention Model Explorer for NLP Tasks with Unbalanced Data Sizes**. 2019 IEEE Pacific Visualization Symposium (PacificVis)
- C.8 **Mingrui “Ray” Zhang**, Wobbrock, J.O. (2020). **Gedit: Keyboard gestures for mobile text editing**. Proceedings of Graphics Interface (GI '20). Toronto, Ontario (May 21-22, 2020). Toronto, Ontario: Canadian Information Processing Society.
- C.7 Ering Beneteau, Yini Guan, Olivia K. Richards, **Mingrui “Ray” Zhang**, Julie A. Kientz, Jason Yip, Alexis Hiniker. (2020). **Assumptions Checked: How Families Learn About and Use the Echo Dot**. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT 2020). New York: ACM Press.
- C.6 **Mingrui “Ray” Zhang**, He Wen, Jacob O. Wobbrock. (2019). **Type, Then Correct: Intelligent Text Correction Techniques for Mobile Text Entry Using Neural Networks**. Proceedings of the 32nd Annual ACM Symposium on User Interface Software Technology (UIST '19). New York: ACM Press.
- C.5 **Mingrui “Ray” Zhang**, Jacob O. Wobbrock. (2019). **Beyond the Input Stream: Making Text Entry Evaluations More Flexible with Transcription Sequences**. Proceedings of the 32nd Annual ACM Symposium on User Interface Software Technology (UIST '19). New York: ACM Press.
- C.4 **Mingrui “Ray” Zhang**, Shumin Zhai, Jacob O. Wobbrock. (2019). **Text entry throughput: Towards unifying speed and accuracy in a single performance metric**. Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 19). New York: ACM Press.

- C.3 Alexis Hiniker, Jon Froehlich, Mingrui “Ray” Zhang, Erin Beneteau. (2019). **Anchored Audio Sampling: A Seamless Method for Exploring Childrens Thoughts and Reactions During Deployment Studies**. Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 19). New York: ACM Press. *Best Paper Award*
- C.2 Erin Beneteau, Olivia K. Richards, Mingrui “Ray” Zhang, Julie A. Kientz, Jason Yip, Alexis Hiniker. (2019). **Communication Breakdowns Between Families and Alexa**. Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 19). New York: ACM Press.
- C.1 Xin Yi, Chun Yu, Mingrui Zhang, Sida Gao, Ke Sun, Yuanchun Shi. (2015). **ATK: Enabling Ten-Finger Freehand Typing in Air Based on 3D Hand Tracking Data**. Proceedings of the 28th Annual ACM Symposium on User Interface Software Technology (UIST '15). ACM, New York, NY, USA, 539-548.

## HONORS & AWARDS

---

Best Paper Award, ACM CHI	2019
Excellent graduate of the CST Department, Tsinghua	2017
The National Scholarship of China (Top 1%)	2016
1st winner of the National Database Conference Cup	2016
Best note of Youdao Course Note Competition	2015

## RESEARCH EXPERIENCE

---

<b>Fluid Interfaces Group, MIT Media Lab</b> <i>Visiting Student</i> . Developed the hardware and algorithm of project Fluxa. Led the project Shoulder Muscle-Computer Interface. Programmed with Myo armband. Signal processing and pattern recognition with EMG.	<i>Jun. 2016 - Sep. 2016</i>
<b>Multimedia Lab, the Chinese University of Hong Kong</b> <i>Research Assistant</i> . Write experimental codes on machine learning, modified the CXXNET (a framework of deep learning). code and revised the convolution layer of it. The result proved not applicable.	<i>Jun. 2015 - Aug. 2015</i>

## WORK EXPERIENCE

---

<b>Google Inc. Mountain View, CA</b> <i>Research Intern</i> . Modification and exploration on Google Gboard features.	<i>Oct. 2019 - Dec. 2019</i>
<b>Momenta.ai Inc. Beijing</b> <i>Research Intern</i> . Research on road segmentation. Modify Full Convolutional Network base model on Caffe and PyTorch. Boost recall accuracy about 5%. Speed up framework from 8fps to 100fps.	<i>Dec. 2016 - Jun. 2017</i>
<b>MailTime Inc. Beijing</b> <i>iOS Intern</i> . Redesigned interaction logic and UI, user tutorial and feedback, increased 25% of the user retention.	<i>Feb. 2016 - Jun. 2016</i>
<b>Chestnut Tech Inc. Beijing</b> <i>Co-founder, iOS Developer</i> . Main developer of Parocam application, Face transform algorithm, UI design and product operation.	<i>Oct. 2014 - Jan. 2016</i>

## PROJECTS

---

<b>PAROCAM IOS APP @Chestnut Tech Inc.</b> · 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.	<i>Nov.2014 - Jan.2016</i>
---	----------------------------

- Developed functions of Chat Bubbles, Video Merge.
- 20,000 downloads in App Store (with overall rating 4+).

#### **SPAM DETECTING ON Q-A COMMUNITY @NDBC CUP16** *May. 2016 - Jun. 2016*

- 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%.
- Win first place in the competition.

#### **PERSPECTIVE TRACKING VIDEO CHATTING** *Jan. 2017 - Jun. 2017*

- Video Communication system supporting perspective tracking to imitate face-to-face scenario.
- Improved Head tracking, panorama camera used to capture First-person view on the remote side. Made with Unity.

### **TALKS**

---

**2019**

**Stanford University**, *Text Entry for the New Era*, Palo Alto, CA, USA

### **TEACHING**

---

INFO 360 Design Thinking, UW Seattle	<i>2017 Fall, 2018 Winter</i>
INFO 498 Rapid Prototyping, UW Seattle	<i>2018 Spring</i>
INFO 449 iOS Programming, UW Seattle	<i>2019 Winter</i>
INFO 490 Undergraduate Capstone, UW Seattle	<i>2020 Winter, 2020 Spring</i>

### **PROFESSIONAL SERVICE**

---

<b>Assistant for early planning</b>	CHI 20
<b>Peer Reviewer</b>	CHI 19, 20; UIST 19; IEEE THMS 20

### **SKILLS**

---

<b>Programming</b>	C/C++/C#/Java/JavaScript/Kotlin/MATLAB/Objective-C/Python
<b>Journalism</b>	Chinese writing/Interview
<b>Art &amp; Media</b>	Adobe Photoshop/Adobe Premiere/Final Cut Pro