

# MINGRUI ZHANG

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## EDUCATION

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**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

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**Human Computer Interaction**

Text Entry / Input Method / Natural User Interface

## PUBLICATIONS

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- 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. *To appear*
- 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. *To appear*
- 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

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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

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<b>Fluid Interfaces Group, MIT Media Lab</b>	<i>Jun. 2016 - Sep. 2016</i>
<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.	
<b>Multimedia Lab, the Chinese University of Hong Kong</b>	<i>Jun. 2015 - Aug. 2015</i>
<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.	

## WORK EXPERIENCE

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<b>Momenta.ai Inc. Beijing</b>	<i>Dec. 2016 - Jun. 2017</i>
<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.	
<b>MailTime Inc. Beijing</b>	<i>Feb. 2016 - Jun. 2016</i>
<i>iOS Intern.</i> Redesign interaction logic and UI, user tutorial and feedback, increased 25% of the user retention.	
<b>Chestnut Tech Inc. Beijing</b>	<i>Oct. 2014 - Jan. 2016</i>
<i>Co-founder, iOS Developer.</i> Main developer of Parocam application, Face transform algorithm, UI design and product operation.	

## PROJECTS

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<b>PAROCAM IOS APP @Chestnut Tech Inc.</b>	<i>Nov.2014 - Jan.2016</i>
<ul style="list-style-type: none"><li>· 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.</li><li>· Developed functions of Chat Bubbles, Video Merge.</li><li>· 20,000 downloads in App Store (with overall rating 4+).</li></ul>	
<b>SPAM DETECTING ON Q-A COMMUNITY @NDBC CUP16</b>	<i>May. 2016 - Jun. 2016</i>
<ul style="list-style-type: none"><li>· Designed a novel approach to detect spam answers in Q-A community.</li><li>· Using CNN and Word2Vec, with additional NLP data pre-processing. F-value 66.0%.</li><li>· Win first place in the competition.</li></ul>	
<b>PERSPECTIVE TRACKING VIDEO CHATTING</b>	<i>Jan. 2017 - Jun. 2017</i>
<ul style="list-style-type: none"><li>· Video Communication system supporting perspective tracking to imitate face-to-face scenario.</li><li>· Improved Head tracking, panorama camera used to capture First-person view on the remote side. Made with Unity.</li></ul>	

## TEACHING

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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>

## PROFESSIONAL SERVICE

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**Peer Reviewer**  
CHI 19, UIST 19

## SKILLS

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