MINGRUI ZHANG

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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 Erin 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

Fluid Interfaces Group, MIT Media Lab *Jun. 2016 - Sep. 2016*
Visiting Student. 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.

Multimedia Lab, the Chinese University of Hong Kong *Jun. 2015 - Aug. 2015*
Research Assistant. 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

Google Inc. Mountain View, CA *Oct. 2019 - Dec. 2019*
Advised by Shumin Zhai
Research Intern. Modification and exploration on Google Gboard features.

Momenta.ai Inc. Beijing *Dec. 2016 - Jun. 2017*
Advised by Ji Liang
Research Intern. 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.

MailTime Inc. Beijing *Feb. 2016 - Jun. 2016*
iOS Intern. Redesigned interaction logic and UI, user tutorial and feedback, increased 25% of the user retention.

Chestnut Tech Inc. Beijing *Oct. 2014 - Jan. 2016*
Co-founder, iOS Developer. Main developer of Parocam application, Face transform algorithm, UI design and product operation.

PROJECTS

PAROCAM IOS APP @Chestnut Tech Inc. *Nov.2014 - Jan.2016*
· 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 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	*2017 Fall, 2018 Winter*
INFO 498 Rapid Prototyping, UW Seattle	*2018 Spring*
INFO 449 iOS Programming, UW Seattle	*2019 Winter*
INFO 490 Undergraduate Capstone, UW Seattle	*2020 Winter, 2020 Spring*

PROFESSIONAL SERVICE

Assistant for early planning	CHI 20
Peer Reviewer	CHI 19, 20; UIST 19; IEEE THMS 20

SKILLS

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