MINGRUI ZHANG

Meta AI
Meta Platforms, Inc
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EDUCATION

University of Washington, Seattle *Sep. 2017 - June 2022*
Ph.D. in Information Science, The Information School
Focus: Human-Computer Interaction
Advisor: Jacob O. Wobbrock

Tsinghua University, Beijing *Aug. 2013 - Jul. 2017*
B.Eng. with Honors, Department of Computer Science and Technology
Minor in journalism

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, Intelligent Interfaces and AI

My Career Definition

My research interests are in Human-Computer Interaction, specifically in 1) creating AI-mediated interactions to facilitate the input and understanding of information; 2) creating ML models to enable human-like machine companions.

PROFESSIONAL EXPERIENCE

Meta Platforms Inc. New York, NY *Oct. 2024 - Present*
Modern Recommendation Systems of Meta AI
Research Scientist
- User understanding, cohort modeling, and interest embedding for Instagram and Facebook.
- Model architecture design for LLM based contextual embedding for user biography, integrated with Meta's HSTU generative recommendation model.
- Post-training and RAG for value model ranking LLM agents, achieving 2nd rank on TableBench benchmark for table understanding with our RankAgent model.

Meta Reality Labs. New York, NY *Oct. 2022 - Oct. 2024*
Input Exploration Team
Research Scientist
- Research lead for text input interaction on AR glasses with gestural interface based on EMG signals, including keyboard, LLM-based conversational dictation, and EMG handwriting.
- Input interaction prototyping with hand + gaze for next generation mix reality headset (Quest).

Apple Inc. Seattle, WA *Jun. 2021 - Sep. 2021*
Advised by Huy Viet Le and Tim Paek
Research Intern
- Gaze-based dictation interaction look to dictate/edit for Apple Vision Pro, including interface prototype and user intent classification modeling.

Facebook Reality Labs. New York, NY *Jun. 2020 - Oct. 2020*
Advised by Adam Berenzweig
Research Intern
- EMG-based QWERTY-style text entry interactions, enabling ten-finger typing on any surface.

- Enhanced neural network structure and data collection pipeline with CTC loss for gesture classification.

Google Inc. Mountain View, CA *Oct. 2019 - Dec. 2019*
Advised by Shumin Zhai
Research Intern
- Sentence level Gboard auto-correction features, see publication *C*.3.

Momenta.ai Inc. Beijing *Dec. 2016 - Jun. 2017*
Advised by Ji Liang
Research Intern
- Enhanced road segmentation models, increasing recall and accuracy by 5%.
- Optimized framework speed from 8fps to 100fps.

MailTime Inc. Beijing *Feb. 2016 - Jun. 2016*
iOS Intern
- Designed and implemented the iOS interaction logic and UI, improving user retention by 25%.

Chestnut Tech Inc. Beijing *Oct. 2014 - Jan. 2016*
Co-founder, iOS Developer
- Developed "Parocam" application on iOS, focusing on face transform algorithms and UI design.

SELECTED PEER-REVIEWED CONFERENCE PAPERS

For the full publication list, go to my google scholar page

C.5 Patrick Kaifosh, Thomas R. Reardon & CTRL-labs at Reality Labs (including **Mingrui Zhang**) (2025) A generic non-invasive neuromotor interface for human-computer interaction. ***Nature***.

C.4 **Mingrui "Ray" Zhang**, Shumin Zhai, Jacob O. Wobbrock. (2022) TypeAnywhere: A QWERTY-Based Text Entry Solution for Ubiquitous Computing. *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI '22).* New Orleans, USA (April 30 - May 6, 2022). New York: ACM Press. [25%]

C.3 **Mingrui "Ray" Zhang**, Shumin Zhai. (2021). PhraseFlow: Designs and Empirical Studies of Phrase-Level Input. *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI '21).* Yokohama, Japan (May 8-13, 2021). New York: ACM Press. [26%]

C.2 **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. [24%]

C.1 Xin Yi, Chun Yu, **Mingrui "Ray" 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).* New York: ACM Press. [24%]

HONORS & AWARDS

Ford Fellowship, University of Washington *2022*
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*