

Ruei-Che Chang

Education

- 2022–Present **University of Michigan, Ann Arbor, Michigan**
Ph.D. Candidate in Computer Science & Engineering.
Human-AI Lab, advised by [Anhong Guo](#)
- 2020–2022 **National Taiwan University, Taipei, Taiwan**
Visiting Student and Research Assistant.
Interactive Graphics Lab, advised by [Bing-Yu Chen](#)
- 2019–2021 **Dartmouth College, Hanover, New Hampshire**
M.S. in Computer Science.
- 2014–2018 **National Cheng Kung University, Tainan, Taiwan**
B.S. in Electrical Engineering.

Professional Experiences

- 2024 May-Aug **Meta Reality Labs, Toronto, Canada**
Research Scientist Intern. Host: [Hemant Surale](#).

Awards and Honors

- 2024 Weinberg Cognitive Science Fellowship.
- 2023 Rackham International Students Chia-Lun Lo Fellowship.
- 2023–2024 Special Recognition for Outstanding Reviews for UIST'23, CHI'23, DIS'24, CHI'24*2, UIST'24.
- 2022 University of Michigan CSE Departmental First-Year Fellowship 2022.
- 2020 Best Paper Honorable Mention at ACM CHI 2020. [Top 5% of 3126 submissions]
- 2019 Dartmouth College 75% Tuition Scholarship.

Peer-Reviewed Conference Papers

- 2024 [C.15] **Ruei-Che Chang**, Yuxuan Liu, Anhong Guo. “WorldScribe: Towards Context-Aware Live Visual Descriptions.” In *The 37th Annual ACM Symposium on User Interface Software and Technology (UIST'24)*. Pittsburgh, PA, USA. 2024. [Acceptance Rate: 24%]
- [C.14] **Ruei-Che Chang**, Yuxuan Liu, Lotus Zhang, Anhong Guo. “EditScribe: Non-Visual Image Editing with Natural Language Verification Loop.” In *Proceedings of the 26th International ACM SIGACCESS Conference on Computers and Accessibility. (ASSETS'24)*. St. John's, Newfoundland, Canada. 2024. [Acceptance Rate: 30%]
- [C.13] Rosiana Natalie, **Ruei-Che Chang**, Smitha Sheshadri, Anhong Guo, Kotaro Hara. “Audio Description Customization.” In *Proceedings of the 26th International ACM SIGACCESS Conference on Computers and Accessibility. (ASSETS'24)*. St. John's, Newfoundland, Canada. 2024. [Acceptance Rate: 30%]
- [C.12] **Ruei-Che Chang**, Chia-Sheng Hung, Bing-Yu Chen, Dhruv Jain, Anhong Guo. “SoundShift: Exploring Sound Manipulations for Accessible Mixed-Reality Awareness.” In *Proceedings of the 2024 ACM Conference on Designing Interactive Systems (DIS'24)*. Copenhagen, Denmark. 2024.
- [C.11] Andi Xu, Minyu Cai, Dier Hou, **Ruei-Che Chang**, Anhong Guo. “ImageExplorer Deployment: Understanding Text-Based and Touch-Based Image Exploration in the Wild.” In *Proceedings of the 21st Web for All Conference (W4A 2024)*. Sentosa, Singapore. 2024.

- [C.10] Hao-Ping Lee, Wei-Lun Kao, Hung-Jui Wang, **Ruei-Che Chang**, Yi-Hao Peng, Fu-Ying Cherng, Shang-Tse Chen. "AdvCAPTCHA: Creating Usable and Secure Audio CAPTCHA with Adversarial Machine Learning." *In Proceedings of the 2024 Symposium on Usable Security and Privacy (USEC'24)*. San Diego, California. 2024.
- 2023 [C.9] **Ruei-Che Chang***, Seraphina Yong*, Fang-Ying Liao, Chih-An Tsao, Bing-Yu Chen. "Understanding (Non-)Visual Needs of the Design of Laser Cut Architecture." *In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI'23)*. Hamberg, Germany. 2023. [Acceptance Rate: 28.39%]
- 2022 [C.8] **Ruei-Che Chang**, Chao-Hsien Ting, Chia-Sheng Hung, Wan-Chen Lee, Liang-Jin Chen, Yu-Tzu Chao, Bing-Yu Chen, Anhong Guo. "OmniScribe: Authoring Immersive Audio Descriptions for 360° Videos." *In The 35th Annual ACM Symposium on User Interface Software and Technology (UIST'22)*. Bend, Oregon. 2022. [Acceptance Rate: 26.3%]
- [C.7] Ching-Wen Hung, **Ruei-Che Chang**, Hong-Sheng Chen, Chung-Han Liang, Liwei Chan, Bing-Yu Chen. "Puppeteer: Exploring Intuitive Hand Gestures and Upper-Body Postures for Manipulating Human Avatar Actions." *In The 28th Annual ACM Symposium on Virtual Reality Software and Technology (VRST'22)*. Tsukuba, Japan. 2022. [Acceptance Rate: 26.7%]
- 2021 [C.6] **Ruei-Che Chang**, Chih-An Tsao, Fang-Ying Liao, Seraphina Yong, Tom Yeh, Bing-Yu Chen. "Daedalus in the Dark: Designing for Non-Visual Accessible Construction of Laser-Cut Architecture." *In The 34th Annual ACM Symposium on User Interface Software and Technology (UIST'21)*. Virtual Event. 2021. [Acceptance Rate: 21%]
- [C.5] **Ruei-Che Chang***, Wen-Ping Wang*, Chi-Huan Chiang, Te-Yen Wu, Zheer Xu, Justin Luo, Bing-Yu Chen, Xing-Dong Yang. "AccessibleCircuits: Adaptive Add-On Circuit Components for People with Blindness or Low Vision." *In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (CHI'21)*. Virtual Event, Japan. 2021. [Acceptance Rate: 26.3%]
- 2020 [C.4] **Ruei-Che Chang***, Chi-Huan Chiang*, Shuo-wen Hsu, Chih-Yun Yang, Da-Yuan Huang, Bing-Yu Chen. 2020. "TanGo: Exploring Expressive Tangible Interactions on Head-Mounted Displays." *In Symposium on Spatial User Interaction (SUI'20)*. Virtual Event. 2020. [Acceptance Rate: 31%]
- [C.3] **Ruei-Che Chang***, Yi-Shyuan Chiang*, Yi-Lin Chuang, Shih-Ya Chou, Hao-Ping Lee, I-Ju Lin, Jian Hua Jiang Chen, Yung-Ju Chang. "Exploring the Design Space of User-System Communication for Smart home Routine Assistants." *In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (CHI'20)*. Virtual Event. 2020. [Acceptance Rate: 24.3%]
- [C.2] Kai-Chieh Huang, Chen-Kuo Sun, Da-Yuan Huang, Yu-Chun Chen, **Ruei-Che Chang**, Shuo-wen Hsu, Chih-Yun Yang, Bing-Yu Chen. "Glissade: Generating Balance Shifting Feedback to Facilitate Auxiliary Digital Pen Input." *In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems. (CHI'20)*. Virtual Event. 2020. [Acceptance Rate: 24.3%] **[Best Paper Honorable Mention, Top 5% of 3126 submissions]**
- 2019 [C.1] Chi Wang, Da-Yuan Huang, Shuo-Wen Hsu, Chu-En Hou, Yeu-Luen Chiu, **Ruei-Che Chang**, Jo-Yu Lo, Bing-Yu Chen. "Masque: Exploring Lateral Skin Stretch Feedback on the Face with Head-Mounted Displays." *In Proceedings of the 32nd Annual ACM Symposium on User Interface Software and Technology (UIST'19)*. New Orleans, LA. 2019. [Acceptance Rate: 24.4%]

Posters and Demos

- 2023 [A.2] **Ruei-Che Chang**, Chia-Sheng Hong, Dhruv Jain, Anhong Guo. "SoundBlender: Exploring Sound Manipulations for Mixed-Reality Awareness." *In The 36th Annual ACM Symposium on User Interface Software and Technology (UIST'23 Demo)*. San Francisco, California. 2023.
- 2022 [A.1] Ching-Wen Hung, **Ruei-Che Chang**, Hong-Sheng Chen, Chung-Han Liang, Liwei Chan, Bing-Yu Chen. "Puppeteer: Manipulating Human Avatar Actions with Intuitive Hand Gestures and Upper Body Postures." *In The 35th Annual ACM Symposium on User Interface Software and Technology (UIST'22 Poster)*. Bend, Oregon. 2022.

Past Research Experiences

- Sep 2021 – **Human-AI Lab, University of Michigan**
Apr 2022 *Research Intern, advised by Anhong Guo.*
- Developed OmniScribe for authoring immersive audio descriptions for 360° videos [C.8].
- Jun 2020 – **Interactive Graphics Lab, National Taiwan University**
Jul 2022 *Visiting Student, advised by Bing-Yu Chen and Tom Yeh (Univ. of Colorado).*
- Developed Daedalus for non-visual accessible construction of laser-cut architecture [C.6].
- Conducted study to understand (non-)visual needs for laser-cut model design [C.9].
- Feb 2019 – *Research Assistant, advised by Bing-Yu Chen.*
Aug 2019 Developed Unity applications for Glissade[C.2] and Masque [C.1].
- Developed TanGo for expressive haptic interaction on VR headset [C.4].
- Sep 2018 – **Mobile and Ubiquitous Interaction Lab, National Yang Ming Chiao Tung University**
Apr 2019 *Research Assistant, advised by Yung-Ju (Stanley) Chang.*
- Designed and conducted an experiment to understand the friction between human and the smart home AI agent [C.3].

Teaching Experiences

- 2024 Winter **EECS493 User Interface Development**, Graduate Student Instructor.

Academic Services

70+ papers reviewed.

Special recognition for outstanding reviews in **UIST'23, CHI'23, CHI'24, DIS'24, UIST'24**

Programm Committee Associate Chair CHI'23 LBW, CHI'24 LBW

Reviewer CHI('22 '23 '24), UIST('21 '22 '23 '24), CSCW('23), TOHCI('23), TEI('23), SUI('23), DIS('22 '24), ISS('22), MobileHCI('22), IEEE VR('23 '24), VRST('23), CHI LBW('20 '21 '22)

Student Volunteer UIST'22

Students Mentored

- 2023–present **Yuxuan Liu**, *Undergrad student* at University of Michigan.
2024–present **Zian Zhong**, *Undergrad student* at University of Michigan.
2023–2024 **Linfeng Song**, *Undergrad student* at University of Michigan.
2023–2024 **Hyeji Han**, *Master student* at University of Michigan.
2023–2024 **Andi Xu**, *Undergrad student* at University of Michigan.
2022–2023 **Minyu Cai**, *Undergrad student* at University of Michigan.
2022–2023 **Dier Hou**, *Undergrad student* at University of Michigan.
2022–2023 **Chia-Sheng Hung**, *Master student* at National Taiwan University.
2021–2022 **Fang-Ying Liao**, *Master student* at National Taiwan University.
2021–2022 **Chao-Hsien Ting**, *Master student* at National Taiwan University.
2021 **Chih-An Tsao**, *Master student* at National Taiwan University.

Skills

- Programming Java, C#, Python, JavaScript, ROS, OpenCV, MongoDB, Swift, \LaTeX
Prototyping Arduino, 3D-printing, Fusion 360, Laser-cutting
Platforms/IDE Unity3D, Android Studio, Fusion 360, Xcode

References

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