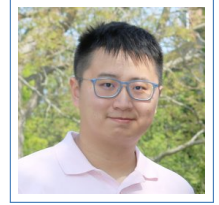


# Franklin Mingzhe Li

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## Education

- Sept 2020 – **Doctor of Philosophy (Advised by Dr. Patrick A. Carrington)**,  
present *Carnegie Mellon University, Human-Computer Interaction Institute.*
- Sept 2020 – **Master of Science (Advised by Dr. Patrick A. Carrington)**,  
Dec 2022 *Carnegie Mellon University, School of Computer Science (GPA 3.99/4.0).*
- Sept 2018 – **Master of Science (Advised by Dr. Khai N. Truong)**,  
May 2020 *University of Toronto, Computer Science (GPA 4.0/4.0).*
- Aug 2013 – **Bachelor of Applied Science (Advised by Dr. Khai N. Truong)**,  
May 2018 *University of Toronto, Electrical Engineering.*

## Peer-reviewed Journal Publications

- J4 Understanding How Older Adults Comprehend COVID-19 Interactive Visualizations via Think-Aloud Protocol  
Mingming Fan, Yiwon Wang, Yuni Xie, **Franklin Mingzhe Li**, Chunyang Chen  
*International Journal of Human-Computer Interaction (IJHCI)*, 2022.
- J3 An Exploration of Captioning Practices and Challenges of Individual Content Creators on YouTube for People with Hearing Impairments  
**Franklin Mingzhe Li**, Cheng Lu, Zhicong Lu, Patrick Carrington, Khai N. Truong  
*In Proceedings of ACM on Human-Computer Interaction (PACMHCI)*, Volume 6, Issue CSCW1, Article 75, 2022.
- J2 FMT: A Wearable Camera-Based Object Tracking Memory Aid for Older Adults  
**Franklin Mingzhe Li**, Di Laura Chen, Mingming Fan, Khai N. Truong  
*In Proceedings of ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)*, 2019.
- J1 Face Recognition Assistant for People with Visual Impairments  
Mohammad Kianpisheh, **Franklin Mingzhe Li**, Khai N. Truong  
*In Proceedings of ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)*, 2019.

## Peer-reviewed Conference Publications

- C17 A Contextual Inquiry of People with Vision Impairments in Cooking  
**Franklin Mingzhe Li**, Michael Xieyang Liu, Shaun K. Kane, Patrick Carrington  
*In Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI)*, 2024.
- C16 Co-design Accessible Public Robots: Insights from People with Mobility Disability, Robotic Practitioners and Their Collaborations  
Howard Ziyu Han, **Franklin Mingzhe Li**, Alesandra Baca Vazquez, Daragh Byrne, Nikolas Martelaro, Sarah E Fox  
*In Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI)*, 2024.

- C15 Designing Gaze-Assisted Upper-Body Gesture Interaction with and for People with Spinal Muscular Atrophy in VR  
Jingze Tian, Yingna Wang, Keye Yu, Liyi Xu, Junan Xie, **Franklin Mingzhe Li**, Yafeng Niu, Mingming Fan  
In Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI), 2024.
- C14 Selenite: Scaffolding Online Sensemaking with Comprehensive Overviews Elicited from Large Language Models  
Michael Xieyang Liu, Tongshuang Wu, Tianying Chen, **Franklin Mingzhe Li**, Aniket Kittur, Brad A Myers  
In Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI), 2024.
- C13 Embodied Exploration: Facilitating Remote Accessibility Assessment for Wheelchair Users with Virtual Reality  
Siyu Pei, Alexander Chen, Chen Chen, **Franklin Mingzhe Li**, Megan Fozzard, Hao-Yun Chi, Nadir Weibel, Patrick Carrington, Yang Zhang  
In Proceedings of the 25th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS), 2023.
- C12 The Robot in Our Path: Investigating the Perceptions of People with Motor Disabilities on Navigating Public Space Alongside Sidewalk Robots  
Howard Han, **Franklin Mingzhe Li**, Nikolas Martelaro, Daragh Byrne, Sarah E Fox  
In Proceedings of the 25th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS), 2023.
- C11 Understanding Visual Arts Experiences of Blind People  
**Franklin Mingzhe Li\***, Lotus Zhang\*, Maryam Bandukda, Abigale Stangl, Kristen Shinohara, Leah Findlater, Patrick Carrington (\*Equal contribution)  
In Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI), 2023.
- C10 Breaking the “Inescapable” Cycle of Pain: Supporting Wheelchair Users’ Upper Extremity Health Awareness and Management with Tracking Technologies  
Yunzhi Li, **Franklin Mingzhe Li**, Patrick Carrington  
In Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI), 2023.
- C9 Freedom to Choose: Understanding Input Modality Preferences of People with Upper-body Motor Impairments for Activities of Daily Living  
**Franklin Mingzhe Li**, Michael Xieyang Liu, Yang Zhang, Patrick Carrington  
In Proceedings of the 24th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS), 2022.
- C8 “It Feels Like Taking a Gamble”: Exploring Perceptions, Practices, and Challenges of Using Makeup and Cosmetics for People with Visual Impairments  
**Franklin Mingzhe Li\***, Francheska Spektor\*, Meng Xia\*, Mina Huh\*, Peter Cederberg, Yuqi Gong, Kristen Shinohara, and Patrick Carrington (\*Equal contribution)  
In Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI), 2022.
- C7 Non-Visual Cooking: Exploring Practices and Challenges of Meal Preparation by People with Visual Impairments  
**Franklin Mingzhe Li**, Jamie Dorst, Peter Cederberg, Patrick Carrington  
In Proceedings of the 23rd International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS), 2021.
- C6 ThumbTrak: Recognizing Micro-finger Poses Using a Ring with Proximity Sensing  
Wei Sun, **Franklin Mingzhe Li**, Congshu Huang, Zhenyu Lei, Benjamin Steeper, Songyun Tao, Feng Tian, Cheng Zhang  
In Proceedings of the 23rd International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI), 2021.

- C5 "I Choose Assistive Devices That Save My Face" A Study on Perceptions of Accessibility and Assistive Technology Use Conducted in China  
**Franklin Mingzhe Li**, Di Laura Chen, Mingming Fan, Khai N. Truong  
In Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI), 2021.
- C4 TeethTap: Recognizing Discrete Teeth Gestures using Motion and Acoustic Sensing on an Earpiece  
Wei Sun\*, **Franklin Mingzhe Li\***, Benjamin Steeper\*, Songlin Xu, Feng Tian, Cheng Zhang  
(\*Equal Contribution)  
In Proceedings of the 26th International Conference on Intelligent User Interfaces (IUI), 2021.
- C3 Eyelid Gestures on Mobile Devices for People with Motor Impairments  
Mingming Fan\*, Zhen Li\*, **Franklin Mingzhe Li\*** (\*Equal Contribution)  
In Proceedings of the 22nd International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS), 2020, **Best Artifact Award**.
- C2 BrailleSketch: A Gesture-based Text Input Method for People with Visual Impairments  
**Franklin Mingzhe Li**, Mingming Fan, Khai N. Truong  
In Proceedings of the 19th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS), 2017.
- C1 The Living Room: Exploring the Haunted and Paranormal to Transform Design and Interaction  
Michelle Annett, Matthew Lakier, **Franklin Mingzhe Li**, Daniel Wigdor, Tovi Grossman, George Fitzmaurice  
In Proceedings of the 2016 ACM Conference on Designing Interactive Systems (DIS), 2016.

## Professional Experiences

- May 2019 – **Research Intern at Apple**, *Mentored by Dr. Jeffrey P. Bigham, and Dr. Xiaoyi Zhang*,  
Sept 2019 Worked on the research in AI and Accessibility.
- May 2016 – **Analog Designer at AMD**,  
Aug 2017 Designed circuit test bench, Cadence layout & schematics, automating test bench, standard cell.
- May 2015 – **Research Intern at DGP Lab**, *Mentored by Dr. Daniel J. Wigdor, and Dr. Michelle Annett*,  
Aug 2015 Worked on the research in Human-Computer Interaction, and interaction techniques of multi-touch interfaces.

## Research Directions and Methods

Human-Computer Interaction, Accessibility, Ubiquitous Computing, Quantitative and Qualitative Study, Participatory Design, Scenario-based Study.

## Awards, Grants, and Fellowship

- Oct 2022 **Graduate Student Assembly/Provost Conference Funds**, Carnegie Mellon University (\$750).
- Aug 2022 **Google's Research Collabs (with Dr. Patrick Carrington and Dr. Shaun Kane)**, Google Inc. (\$80,000 Plus \$20,000 in Google Cloud).
- Mar 2022 **Graduate Student Assembly/Provost Conference Funds**, Carnegie Mellon University (\$750).
- Apr 2021 **Postgraduate Scholarship-Doctoral**, The Natural Sciences and Engineering Research Council of Canada (NSERC) (\$63,000).
- Jan 2021 **Inclusive Design Challenge Award (Co-applicant)**, US Department of Transportation (\$300,000).
- Oct 2020 **Best Artifact Award**, ASSETS 2020.
- Sept 2018 **Faculty of Arts And Science Tuition Fellowship**, University of Toronto (\$18,558).
- Nov 2018 **Faculty of Arts And Science Program-Level Fellowship**, University of Toronto (\$1,000).
- Aug 2015 **UTRECS Scholarship**, University of Toronto (\$6,000).

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## Community Services

**Organizing Committee**, *Publication Chair (CHI 2025), Accessibility Chair (CHI 2024, CSCW 2023, HCOMP 2023, C&C 2023, C&C 2022, C&C 2021), Inclusion and Broadening Participation Chair (UbiComp 2024), Student Volunteer Chair (ASSETS 2022)*.

**Program Committee**, *ASSETS 2024, CHI 2024, Chinese-CHI 2021, CHI 2020 LBW*.

**Reviewer**, *IMWUT 2024, MobileHCI 2024, DIS 2024, CHI 2024, ASSETS 2023, CHI 2023, TACCESS 2022, IMWUT 2023, UIST 2023, TACCESS 2022, ISS 2022, CHI 2022, Chinese-CHI 2021, ISS 2021, IDC 2021, UIST 2021, CSCW 2021, CHI 2021, EICS PACM 2021, UIST 2020, IJHCS, CHI 2020, CHI 2020 Late Breaking Works, CHI 2019 Late Breaking Works*.

**Student Volunteer**, *ASSETS 2020*.

Mar 2022 **Co-PhD Lead of Open House**, *Carnegie Mellon University*.

Jan 2022 **REU Admission Committee**, *Carnegie Mellon University*.

Dec 2018 - **Human-Computer Interaction Meeting Organizer**,  
May 2019 *University of Toronto*.

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## Teaching Experiences & Invited Talks

Mar 2024 **Invited Talk: Building Usable Systems for People with Disabilities in Physical Activities**,  
*University of Rochester*,  
Invited by Dr. Yukang Yan.

Mar 2024 **Guest Lecture**,  
*Designing Human-Centered Software, Carnegie Mellon University*,  
Invited by Dr. Aaron Steinfeld.

Feb 2024 **Guest Lecture**,  
*Designing Human-Centered Software, Carnegie Mellon University*,  
Invited by Dr. Sherry Tongshuang Wu.

Oct 2023 **Invited Talk: Building Usable Systems for People with Disabilities in Physical Activities**,  
*University of Notre Dame*,  
Invited by Dr. Toby Jia-jun Li.

Oct 2023 **Guest Lecture**,  
*Designing Human-Centered Software, Carnegie Mellon University*,  
Invited by Dr. Aaron Steinfeld and Dr. Sherry Tongshuang Wu.

Jan 2023 - **Teaching Assistant**,  
May 2023 *Designing Human-Centered Software, Carnegie Mellon University*.

Mar 2023 **Invited Talk: Leveraging AI for Accessibility in Physical Space**,  
*APEX Lab, The Hong Kong University of Science and Technology (HKUST)*,  
Invited by Dr. Mingming Fan.

Feb 2023 **Invited Talk: Leveraging AI for Accessibility in Physical Space**,  
*DGP Lab, University of Toronto*.

Aug 2022 - **Teaching Assistant**,  
Dec 2022 *User-Centered Research and Evaluation, Carnegie Mellon University*.

Jan 2019 - **Teaching Assistant**,  
April 2019 *CSC258H1S: Computer Organization, University of Toronto*.

Sept 2018 - **Teaching Assistant**,  
Dec 2018 *CSC258H1F: Computer Organization, University of Toronto*.

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## Patent, Media Coverage and Featuring

Jul 2022 **The Magazine of CMU's School of Computer Science: Accessibility Enables Equality**.

- Jan 2022 **Communications of the ACM:** Eyelid gestures for people with motor impairments.
- Aug 2021 **US Patent:** On-the-fly calibration for improved on-device eye tracking.
- May 2021 **IEEE Spectrum:** The Next Frontier for Gesture Control is Teeth.
- Jan 2021 **Mobility21:** Mobility21 Researchers Win US Department of Transportation Inclusive Design Challenge Award.
- Sept 2019 **New Scientist:** Where have I left my wallet? This smart camera can remind you.

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## Mentorship

- Jan 2024 **Kaitlyn Ng**, *Undergraduate Student at Carnegie Mellon University.*
- May 2023 **Howard Han**, *Master Student at Carnegie Mellon University.*
- Sept 2022 **Ashley Wang**, *Master Student at Carnegie Mellon University.*
- May 2022 **Rachel Sadeh**, *REU Student at Carnegie Mellon University.*
- Oct 2021 **Mina Huh**, *Accessibility Research Assistant at KAIST.*
- Jun 2021 **Yuqi Gong**, *Undergraduate Student at Carnegie Mellon University.*
- Mar 2021 **Jamie Dorst**, *Undergraduate Student at Carnegie Mellon University.*
- Mar 2021 **Peter Cederberg**, *Master Student at Carnegie Mellon University.*

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## Personal Interests

**Cooking, Soccer, Hiking, Badminton, Swimming.**