# Franklin Mingzhe Li

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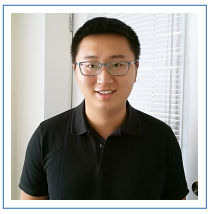

## Education

Sept 2020 – present **Doctor of Philosophy (Advised by Dr. Patrick A. Carrington)**,
*Carnegie Mellon University*, *Human-Computer Interaction Institute*.

Sept 2018 – May 2020 **Master of Science (Advised by Dr. Khai N. Truong)**,
*University of Toronto*, *Computer Science (GPA 4.0/4.0)*.

Aug 2013 – May 2018 **Bachelor of Applied Science (Advised by Dr. Khai N. Truong)**,
*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, Yiwen 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

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 (To Appear).

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 (To Appear).

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 – Sept 2019 **Research Intern at Apple**, *Mentored by Dr. Jeffrey P. Bigham, and Dr. Xiaoyi Zhang*, Worked on the research in AI and Accessibility.

May 2016 – Aug 2017 **Analog Designer at AMD**, Designed circuit test bench, Cadence layout & schematics, automating test bench, standard cell.

May 2015 – Aug 2015 **Research Intern at DGP Lab**, *Mentored by Dr. Daniel J. Wigdor, and Dr. Michelle Annett*, 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).

## Community Services and Teaching Experiences

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

**Program Committee**, *CHI 2024, Chinese-CHI 2021, CHI 2020 Late Breaking Works.*

**Reviewer**, *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.*

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

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

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

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

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

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

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

## 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.

## Mentorship

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*.

## Personal Interests

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