

CHU LI

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Bio

Chu Li is a Ph.D. candidate in Computer Science at the University of Washington. Her research explores the intersection of human-computer interaction (HCI) and urban science, focusing on enhancing urban accessibility through AI-powered interactive technologies. Her background in urban planning and design informs her interdisciplinary approach to addressing real-world challenges. Her work has been published at CHI, UIST, ASSETS, and IEEE VIS, including a Best Paper Award at CHI 2026.

Research Interests

Human-computer interaction, urban science, data visualization, AI for accessibility

Education

- 2022/09 – Present **University of Washington** – Seattle
Ph.D. in Computer Science and Engineering
Advisor: Jon E. Froehlich
Committee: Jon E. Froehlich, Jeffrey Heer, Nicolai Marquardt, Takeo Igarashi, Jacob O. Wobbrock
- 2019/09 – 2021/11 **University of Toronto** – Toronto
M.I. in User Experience Design and Human-Centered Data Science
- 2016/06 – 2017/05 **Columbia University** – New York
M.S. in Architecture and Urban Design
- 2011/09 – 2016/06 **Huazhong University of Science and Technology** – Wuhan
B.E. in Urban Planning; B.A. in English

Publications

Conference Papers

- 2026 [C11] **LandmarkLens: Predicting and Presenting Effective Landmarks for Mixed-Reality Urban Exploration**
Chu Li, Yotam Sechayk, Jared Hwang, Jon E. Froehlich, Takeo Igarashi.
In Proceedings of the Annual ACM Symposium on User Interface Software and Technology (UIST'26).
- 2026 [C10] **MaterialVellum: Steering Generative AI by Leveraging Expressive Material Affordances to Form Design Constraints**
Chu Li, Nicolai Marquardt, Hugo Romat, Ken Hinckley, Nathalie Riche, Kwon Ko, Fanny Chevalier.
In Proceedings of the Annual ACM Symposium on User Interface Software and Technology (UIST'26).
- 2026 [C9] **GeoVisA11y: An AI-based Geovisualization Question-Answering System for Screen-Reader Users**
Chu Li, Rock Yuren Pang, Arnavi Chheda-Kothary, Ather Sharif, Henok Assalif, Jeffrey Heer, Jon E. Froehlich.
In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI'26).
★ **Best Paper Award (Top 1%)**

- 2026 [C8] **Interactive Reasoning: Visualizing and Controlling Chain-of-Thought Reasoning in Large Language Models**
Rock Yuren Pang, K. J. Kevin Feng, Shangbin Feng, **Chu Li**, Weijia Shi, Yulia Tsvetkov, Jeffrey Heer, Katharina Reinecke.
In Proceedings of the International Conference on Intelligent User Interfaces (IUI'26).
- 2025 [C7] **"Where Can I Park?" Understanding Human Perspectives and Scalably Detecting Disability Parking from Aerial Imagery**
Jared Hwang, **Chu Li**, Hanbyul Kang, Maryam Hosseini, Jon E. Froehlich.
In Proceedings of the ACM SIGACCESS Conference on Computers and Accessibility (ASSETS'25).
- 2025 [C6] **FlyMeThrough: Human-AI Collaborative 3D Indoor Mapping with Commodity Drones**
Xia Su, Ruiqi Chen, Jingwei Ma, **Chu Li**, Jon E. Froehlich.
In Proceedings of the Annual ACM Symposium on User Interface Software and Technology (UIST'25).
- 2025 [C5] **Accessibility for Whom? Perceptions of Mobility Barriers Across Disability Groups and Implications for Designing Personalized Maps**
Chu Li, Rock Yuren Pang, Delphine Labbé, Yochai Eisenberg, Maryam Hosseini, Jon E. Froehlich.
In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI'25).
- 2024 [C4] **AltGeoViz: Facilitating Accessible Geovisualization**
Chu Li, Rock Yuren Pang, Ather Sharif, Arnavi Chheda-Kothary, Jeffrey Heer, Jon E. Froehlich.
In IEEE Visualization and Visual Analytics (VIS'24).
- 2024 [C3] **LabelAId: Just-in-time AI Interventions for Improving Human Labeling Quality and Domain Knowledge in Crowdsourcing Systems**
Chu Li*, Zhihan Zhang*, Michael Saugstad, Esteban Safranchik, Minchu Kulkarni, Xiaoyu Huang, Shwetak Patel, Vikram Iyer, Tim Althoff, Jon E. Froehlich.
In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI'24).
- 2024 [C2] **"I never realized sidewalks were a big deal": A Case Study of a Community-Driven Sidewalk Audit Using Project Sidewalk**
Chu Li*, Katrina Ma*, Michael Saugstad, Kie Fujii, Molly Delaney, Yochai Eisenberg, Delphine Labbé, Judy L. Shanley, Devon Snyder, Florian P. Thomas, Jon E. Froehlich.
In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI'24).
- 2022 [C1] **ASTEROIDS: Exploring Swarms of Mini-Telepresence Robots for Physical Skill Demonstration**
Jiannan Li, Maurício Sousa, **Chu Li**, Jessie Liu, Yan Chen, Ravin Balakrishnan, Tovi Grossman.
In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI'22).

Posters, Demos, Workshops, Abstracts

- 2026 [O9] **Towards Personalized Urban Navigation for People with Diverse Abilities**
Chu Li.
ASSETS'26 Doctoral Consortium.
- 2025 [O8] **A Demo of GeoQA3: Towards An Accessible AI-based Question-Answering System for Geoanalytics**
Chu Li, Rock Yuren Pang, Arnavi Chheda-Kothary, Ather Sharif, Henok Assalif, Jeffrey Heer, Jon E. Froehlich.
In Poster Proceedings of ASSETS'25.
- 2025 [O7] **Gold standard? Comparison of virtual audits using an online platform and government audits of accessible pedestrian infrastructure**
Sajad Askari, Devon Snyder, **Chu Li**, Michael Saugstad, Jon E. Froehlich, Yochai Eisenberg.
The 104th Transportation Research Board (TRB) Annual Meeting.

- 2024 [O6] **The Future of Urban Accessibility: The Role of AI**
Jon E. Froehlich, **Chu Li**, Maryam Hosseini, Fabio Miranda, Andres Sevtsuk, Yochai Eisenberg.
In Extended Abstracts of ASSETS'24.
- 2024 [O5] **Towards Inferring 33 Classes of Sidewalk Accessibility Conditions using Deep Learning: Initial Benchmarks and an Open Dataset to Spur Future Research**
Xinlei Liu, Kevin Wu, Minchu Kulkarni, Michael Saugstad, Peyton Anton Rapo, Jeremy Freiburger, Maryam Hosseini, **Chu Li**, Jon E. Froehlich.
In Poster Proceedings of ASSETS'24.
- 2024 [O4] **Bridging the Accessibility Divide in Built Environments**
Chu Li, Aziz Alhassan, Maryam Hosseini, Jon E. Froehlich, Andres Sevtsuk.
In Association of Collegiate Schools of Planning (ACSP) 2024 Annual Conference.
- 2023 [O3] **BusStopCV: A Real-time AI Assistant for Labeling Bus Stop Accessibility Features in Streetscape Imagery**
Minchu Kulkarni, **Chu Li**, Jaye Ahn, Katrina Ma, Zhihan Zhang, Michael Saugstad, Kevin Wu, Yochai Eisenberg, Valerie Novack, Brent Chamberlain, Jon E. Froehlich.
In Poster Proceedings of ASSETS'23.
- 2023 [O2] **Implementing a Community-Based Virtual Tool to Characterize Sidewalk Accessibility in a Northern New Jersey (NJ) Town**
Kie Fujii, Katrina Ma, **Chu Li**, Michael Saugstad, Lisa Stolarz, Michael Starr, Florian P. Thomas, Jon E. Froehlich.
In 2023 Annual Meeting of the Consortium of Multiple Sclerosis Centers.
- 2022 [O1] **A Pilot Study of Sidewalk Equity in Seattle Using Crowdsourced Sidewalk Assessment Data**
Chu Li, Lisa Orii, Michael Saugstad, Stephen J. Mooney, Yochai Eisenberg, Delphine Labbé, Joy Hammel, Jon E. Froehlich.
In ASSETS'22 Workshop on The Future of Urban Accessibility.
- Journal Articles*
- 2025 [J3] **Gold standard? Comparison of virtual audits using an online platform and government audits of accessible pedestrian infrastructure**
Sajad Askari, Devon Snyder, **Chu Li**, Michael Saugstad, Jon E. Froehlich, Yochai Eisenberg.
In Urban Science. 2025.
- 2017 [J2] **Neighborhood Regeneration And Vulnerable Youth Engagement Through Micro-Level Gardening Interventions**
Leila Marie Farah, **Chu Li**, Benoit Tardif.
In Architectural Research Addressing Societal Challenges. CRC Press, 637–642.
- 2015 [J1] **Improvement of air quality and thermal environment in an old city district by constructing wind passages**
Chong Peng, **Chu Li**, Zuyu Zou, Suwan Shen, Dongqi Sun.
In Sustainability 7, 9 (2015), 12672–12692.

Research Experience

2022/09 –
Present

University of Washington Makeability Lab

Advisor: Jon E. Froehlich

- Developed and evaluated GeoVisA11y, an LLM-based question-answering system that makes geovisualizations accessible to screen-reader users through natural language interaction [C9, O8].
- Conducted a large-scale online image survey ($N=190$) to explore how users of various mobility devices perceive sidewalk barriers. Developed visual analytics and personalized routing prototypes based on survey findings, contributing an open dataset to advance accessibility-focused mapping and routing algorithms [C5].
- Developed and evaluated AltGeoViz, a system that facilitates geovisualization explorations for screen-reader users. AltGeoViz dynamically generates alt-text descriptions based on the user's current map view, providing summaries of spatial patterns and descriptive statistics [C4].
- Developed LabelAId, a novel machine learning pipeline combining Programmatic Weak Supervision (PWS) with Feature Tokenizer + Transformer to infer crowdworker label accuracy and enhance their domain knowledge. Implemented LabelAId in a real-world crowdsourcing platform, including the design and integration of a just-in-time intervention UI system [C3].
- Examined opportunities for community-driven digital civics in sidewalk accessibility assessment through a deployment study of Project Sidewalk in Oradell, NJ. Designed introductory materials, facilitated hybrid mapathons, performed spatial analysis, and created data visualizations to engage the community. Conducted 19 post-study interviews to gather insights on project impact and learning experiences [C2, O2].
- Analyzed sidewalk distribution and condition in Seattle, WA using large-scale crowdsourced dataset. Conducted spatial analysis to investigate patterns of sidewalk quality and their relationships to socio-economic factors such as racial diversity, income level, built density, and transit modes [O1].

2025/10 –
2026/04

University of Tokyo, User Interface Research Group

Advisor: Takeo Igarashi

Developed a mixed-reality navigation system that highlights effective landmarks to support people with poor sense of direction, informed by eye-tracking data from skilled navigators and powered by a vision-language model pipeline [C11].

2025/06 –
2025/09

Microsoft Research, EPIC Group

Mentors: Nicolai Marquardt, Fanny Chevalier, Nathalie Henry Riche

Designed and evaluated technology probes exploring direct manipulation techniques for steering generative AI in design workflows [C10].

2024/06 –
2024/09

Massachusetts Institute of Technology, City Form Lab

Advisor: Andres Sevtsuk

Developed a comprehensive pedestrian network for Seattle, WA combining crowdsourced and government data. Analyzed urban access patterns for users with varying mobility levels, using a novel k-nearest neighbor (KNN) accessibility metric to quantify disparities [O4].

2021/05 –
2022/05

University of Toronto, DGP Lab

Advisor: Tovi Grossman

Designed and built mini-telepresence robot swarms for physical skill demonstration [C1].

2015/06 –
2015/09

Ryerson University

Advisor: Leila Farah

Focused on using participatory action research (PAR) to engage youth in neighborhood regeneration [J2].

2014/01 – **Huazhong University of Science and Technology**
2015/06 Advisor: Chong Peng
Developed urban renewal strategies for hot-humid climates that accounted for ambient cross-wind, solar radiation, and natural convection [J1].

Industry Experience

2026/06 – **Adobe / Research Scientist Intern** – San Jose
2026/09 Mentor: Gromit Chan

2025/06 – **Microsoft Research EPIC Group / Research Intern** – Redmond
2025/09 Mentors: Nicolai Marquardt, Fanny Chevalier, Nathalie Henry Riche

2021/09 – **Samsung Electronics Canada / Product Designer** – Toronto
2022/04 Contributed to designing a digital platform that enables brands to connect with Samsung TV audiences across all devices.

2017/09 – **Skidmore, Owings & Merrill LLP (SOM) / Urban Designer** – Chicago
2019/08 Core team member on multiple international award-winning urban design projects, including China’s “model city of the future” Xiong’an (winning scheme in 213 global entries).

Invited Talks

2026/08 **UC Berkeley, College of Environmental Design**
Host: Prof. Maryam Hosseini
Enhancing Urban Accessibility via Interactive Technology

2026/07 **HCI Academy Workshop, UT Dallas + Florida State University**
Host: Prof. Liang He & Prof. TeYen Wu
Visual Communication in HCI Using Figma

2026/07 **University of Illinois Chicago, Electronic Visualization Lab (EVL)**
Host: Prof. Fabio Miranda
Towards Making Cities More Inclusive via Human-Computer Interaction Approaches

2026/06 **University of Waterloo, Technology for Aging Gracefully (TAG) Lab**
Host: Prof. Cosmin Munteanu
Towards Making Cities More Inclusive via Human-Computer Interaction Approaches

2026/05 **Pacific Northwest Transportation Consortium (PacTrans)**
Accessibility for Whom? Perceptions of Mobility Barriers Across Disability Groups and Implications for Designing Personalized Maps

2026/05 **University of Washington, CSE 599H Guest Speaker**
Host: Prof. Jeffrey Heer
GeoVisA11y: An AI-based Geovisualization Question-Answering System for Screen-Reader Users

2026/05 **Instituto Superior Técnico - Universidade de Lisboa**
Host: Prof. Joaquim Jorge
Enhancing Urban Accessibility via Interactive Technology

2026/01 **University of Tokyo**
Host: Prof. Takeo Igarashi
Making Cities Visible, Accessible, and Equitable: HCI Approaches to Urban Accessibility

2025/11 **Miraikan, National Museum of Emerging Science and Innovation, Japan**
Enhancing Urban Accessibility via Interactive Technology

2025/05 **University of Washington, HCI Seminar**
Visual Communication in HCI Using Figma

2024/11 **Pacific Northwest Transportation Consortium (PacTrans)**
Enhancing Urban Accessibility via Interactive Technology

- 2024/06 **New York University, VIDA Center**
Host: Prof. Claudio Silva
Enhancing Urban Accessibility via Interactive Technology
- 2023/03 **World Information Architecture Day**
Scalable Techniques to Study the Equitable Distribution and Condition of U.S. Sidewalks
- 2022/12 **Intelligent Transportation Systems (ITS) Washington**
Scalable Techniques to Study the Equitable Distribution and Condition of U.S. Sidewalks
- 2022/10 **Federal Highway Administration (FHWA)**
Crowd+AI Tools to Map, Analyze, and Visualize Sidewalk Accessibility

Service

- 2026, 2027 **ASSETS Web Chair**
Designed the visual identity and developed the conference website. For ASSETS 2026, also designed the conference wayfinding signage, welcome banner, and name badges.
- 2023 – Present **Paper Reviewer**
CHI (2026, 2025, 2024), UIST (2026, 2024), DIS (2026), HCOMP (2026), ISMAR (2026), CSCW (2024), TEI (2024)

Teaching

- 2022 **University of Washington / Teaching Assistant**
MHCID 521 Prototyping Studio

Mentoring

- 2025 – 2026 **Henok Assalif**
Undergraduate, CSE, University of Washington
Co-authored [C9, O8]
- 2024 **Srihari Krishnaswamy**
Undergraduate, CSE, University of Washington
Now Software Engineer at Google
- 2023 **Minchu Kulkarni**
Master's student, MHCID, University of Washington
Co-authored [O3, O5]; now Founding Engineer at Juicebox
- 2023 **Sue T. Boyd**
Master's student, iSchool, University of Washington
- 2023, 2024 **Pre-Application Mentorship Service (PAMS), University of Washington**
Mentored eight applicants from marginalized and underprivileged backgrounds

Awards

- 2026 CHI 2026 Best Paper Award (Top 1%)
- 2024 – 2026 Special Recognition for Outstanding Reviews × 8
CHI '24 '25 '26, UIST '26
- 2025 Paul G. Allen School Travel Grant
- 2024 Paul G. Allen School Annual Research Showcase People's Choice Award
- 2024 University of Washington GPSS Travel Grant
- 2021 Mitacs Accelerate
- 2015 Mitacs Globalink Scholarship

Technical Skills

Programming Languages

Python, Java, HTML/CSS/JavaScript/TypeScript, SQL, R

Development Frameworks

PyTorch, TensorFlow, React.js, D3.js, Flask, WAI-ARIA

Spatial Analytics

ArcGIS, QGIS, Geopandas, Mapbox

Design Software

Figma, Adobe Suite (Photoshop, Illustrator, InDesign, After Effects, Premiere)