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 (*UIST'26*)
Chu Li, Yotam Sechayk, Jared Hwang, Jon E. Froehlich, Takeo Igarashi.

2026 [C10]
MaterialVellum: Steering Generative AI by Leveraging Expressive Material Affordances to Form Design Constraints (*UIST'26*)
Chu Li, Nicolai Marquardt, Hugo Romat, Ken Hinckley, Nathalie Riche, Kwon Ko, Fanny Chevalier.

2026 [C9]
GeoVisA11y: An AI-based Geovisualization Question-Answering System for Screen-Reader Users (*CHI'26*)
Chu Li, Rock Yuren Pang, Arnavi Chheda-Kothary, Ather Sharif, Henok Assalif, Jeffrey Heer, Jon E. Froehlich.
⋆ **Best Paper Award (Top 1%)**

2026 [C8] **Interactive Reasoning: Visualizing and Controlling Chain-of-Thought Reasoning in Large Language Models** (*IUI'26*)
Rock Yuren Pang, K. J. Kevin Feng, Shangbin Feng, **Chu Li**, Weijia Shi, Yulia Tsvetkov, Jeffrey Heer, Katharina Reinecke.

2025 [C7] **"Where Can I Park?" Understanding Human Perspectives and Scalably Detecting Disability Parking from Aerial Imagery** (*ASSETS'25*)
Jared Hwang, **Chu Li**, Hanbyul Kang, Maryam Hosseini, Jon E. Froehlich.

2025 [C6] **FlyMeThrough: Human-AI Collaborative 3D Indoor Mapping with Commodity Drones** (*UIST'25*)
Xia Su, Ruiqi Chen, Jingwei Ma, **Chu Li**, Jon E. Froehlich.

2025 [C5] **Accessibility for Whom? Perceptions of Mobility Barriers Across Disability Groups and Implications for Designing Personalized Maps** (*CHI'25*)
Chu Li, Rock Yuren Pang, Delphine Labbé, Yochai Eisenberg, Maryam Hosseini, Jon E. Froehlich.

2024 [C4] **AltGeoViz: Facilitating Accessible Geovisualization** (*IEEE VIS'24*)
Chu Li, Rock Yuren Pang, Ather Sharif, Arnavi Chheda-Kothary, Jeffrey Heer, Jon E. Froehlich.

2024 [C3] **LabelAId: Just-in-time AI Interventions for Improving Human Labeling Quality and Domain Knowledge in Crowdsourcing Systems** (*CHI'24*)
Chu Li*, Zhihan Zhang*, Michael Saugstad, Esteban Safranchik, Minchu Kulkarni, Xiaoyu Huang, Shwetak Patel, Vikram Iyer, Tim Althoff, Jon E. Froehlich.

2024 [C2] **"I never realized sidewalks were a big deal": A Case Study of a Community-Driven Sidewalk Audit Using Project Sidewalk** (*CHI'24*)
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.

2022 [C1] **ASTEROIDS: Exploring Swarms of Mini-Telepresence Robots for Physical Skill Demonstration** (*CHI'22*)
Jiannan Li, Maurício Sousa, **Chu Li**, Jessie Liu, Yan Chen, Ravin Balakrishnan, Tovi Grossman.

Posters, Demos, Workshops, Abstracts

2026 [O9] **Towards Personalized Urban Navigation for People with Diverse Abilities** (*ASSETS'26 doctoral consortium*)
Chu Li.

2025 [O8] **A Demo of GeoQA3: Towards An Accessible AI-based Question-Answering System for Geoanalytics** (*ASSETS'25 poster*)
Chu Li, Rock Yuren Pang, Arnavi Chheda-Kothary, Ather Sharif, Henok Assalif, Jeffrey Heer, Jon E. Froehlich.

2025 [O7] **Gold standard? Comparison of virtual audits using an online platform and government audits of accessible pedestrian infrastructure** (*TRB'25*)
Sajad Askari, Devon Snyder, **Chu Li**, Michael Saugstad, Jon E. Froehlich, Yochai Eisenberg.

2024 [O6] **The Future of Urban Accessibility: The Role of AI** (*ASSETS'24 workshop*)
Jon E. Froehlich, **Chu Li,** Maryam Hosseini, Fabio Miranda, Andres Sevtsuk, Yochai Eisenberg.

2024 [O5] **Towards Inferring 33 Classes of Sidewalk Accessibility Conditions using Deep Learning: Initial Benchmarks and an Open Dataset to Spur Future Research** (*ASSETS'24 poster*)
Xinlei Liu, Kevin Wu, Minchu Kulkarni, Michael Saugstad, Peyton Anton Rapo, Jeremy Freiburger, Maryam Hosseini, **Chu Li**, Jon E. Froehlich.

2024 [O4] **Bridging the Accessibility Divide in Built Environments** (*ACSP'24*)
Chu Li, Aziz Alhassan, Maryam Hosseini, Jon E. Froehlich, Andres Sevtsuk.

2023 [O3] **BusStopCV: A Real-time AI Assistant for Labeling Bus Stop Accessibility Features in Streetscape Imagery** (*ASSETS'23 poster*)
Minchu Kulkarni, **Chu Li**, Jaye Ahn, Katrina Ma, Zhihan Zhang, Michael Saugstad, Kevin Wu, Yochai Eisenberg, Valerie Novack, Brent Chamberlain, Jon E. Froehlich.

2023 [O2] **Implementing a Community-Based Virtual Tool to Characterize Sidewalk Accessibility in a Northern New Jersey (NJ) Town** (*CMSC'23*)
Kie Fujii, Katrina Ma, **Chu Li**, Michael Saugstad, Lisa Stolarz, Michael Starr, Florian P. Thomas, Jon E. Froehlich.

2022 [O1] **A Pilot Study of Sidewalk Equity in Seattle Using Crowdsourced Sidewalk Assessment Data** (*ASSETS'22 workshop*)
Chu Li, Lisa Orii, Michael Saugstad, Stephen J. Mooney, Yochai Eisenberg, Delphine Labbé, Joy Hammel, Jon E. Froehlich.

Journal Articles

2025 [J3] **Gold standard? Comparison of virtual audits using an online platform and government audits of accessible pedestrian infrastructure** (*Urban Science, 2025*)
Sajad Askari, Devon Snyder, **Chu Li**, Michael Saugstad, Jon E. Froehlich, Yochai Eisenberg.

2017 [J2] **Neighborhood Regeneration And Vulnerable Youth Engagement Through Micro-Level Gardening Interventions** (*Architectural Research Addressing Societal Challenges, 2017*)
Leila Marie Farah, **Chu Li**, Benoit Tardif.

2015 [J1] **Improvement of air quality and thermal environment in an old city district by constructing wind passages** (*Sustainability, 2015*)
Chong Peng, **Chu Li**, Zuyu Zou, Suwan Shen, Dongqi Sun.

Research Experience

2022/09 – Present
University of Washington Makeability Lab
Advisor: Jon E. Froehlich

- Developed and evaluated GeoVisA11y, an AI-based QA system that makes geovisualizations accessible to screen-reader [C9, O8].
- Conducted a large-scale survey (*N*=190) on how users of various mobility devices perceive sidewalk barriers. Built visual analytics and personalized routing prototypes; contributed an open dataset for accessibility-focused mapping and routing [C5].
- Developed and evaluated AltGeoViz, a system that supports geovisualization exploration for screen-reader users by dynamically generating alt-text descriptions of spatial patterns and statistics based on the current map view [C4].
- Developed LabelAId, a ML pipeline combining Programmatic Weak Supervision with Feature Tokenizer + Transformer to infer crowdworker label accuracy. Deployed it in a real-world crowdsourcing platform with a just-in-time intervention UI [C3].
- Examined community-driven digital civics in sidewalk accessibility through a deployment study of Project Sidewalk in Oradell, NJ. Facilitated hybrid mapathons, performed spatial analysis, and conducted 19 post-study interviews on project impact [C2, O2].
- Analyzed sidewalk distribution and condition in Seattle using large-scale crowdsourced data, investigating spatial patterns of sidewalk quality and their relationships to socioeconomic factors [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, combining crowdsourced and government data. Analyzed urban access patterns for users with varying mobility levels, using 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 – 2015/06 **Huazhong University of Science and Technology**
Advisor: Chong Peng
Developed urban renewal strategies for hot-humid climates that accounted for ambient crosswind, solar radiation, and natural convection [J1].

Industry Experience

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

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

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

2017/09 – 2019/08 **Skidmore, Owings & Merrill LLP (SOM) / Urban Designer** – Chicago
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
Making Geovisualization Accessible for Screen-Reader Users

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

2026/03 **People Nudge Association, Project Sidewalk Taiwan**
Project Sidewalk

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

2025/04 **Husky ADAPT, University of Washington**
Project Sidewalk Mapathon

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

2023/11 **University of Washington, CSE 373 Guest Speaker**
Host: Prof. Kevin Lin
Project Sidewalk

2023/11 **University of Washington, Paul G. Allen School Annual Research Showcase**
"I never realized sidewalks were a big deal": A Case Study of a Community-Driven Sidewalk Accessibility Assessment using Project Sidewalk

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, as well as 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]

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 12 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

2011 – 2014 Academic Excellence Scholarship of HUST

Media Coverage

2024/11 **GeekWire**
The winning ideas at the UW computer science school annual research showcase
AltGeoViz [C4] featured as a People's Choice Award winner

2024/05 **Gears of Progress Podcast**, Episode 12
Chu Li: on accessibility of urban design, Project Sidewalk, and global efforts to improve urban access

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)

References

Jon E. Froehlich (Ph.D. Advisor)
Professor, Paul G. Allen School of Computer Science & Engineering
University of Washington
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Takeo Igarashi (Doctoral Committee Member; Visiting Researcher Host)
Professor, Department of Creative Informatics
University of Tokyo
takeo@acm.org

Nicolai Marquardt (Doctoral Committee Member; Internship Mentor)
Principal Researcher
Microsoft Research
nicmarquardt@microsoft.com

Jeffrey Heer (Doctoral Committee Member)
Professor, Paul G. Allen School of Computer Science
University of Washington
jheer@cs.washington.edu

Jacob O. Wobbrock (Doctoral Committee Member)
Professor, The Information School
University of Washington
wobbrock@uw.edu