# ATHER SHARIF

I use personalized and interactive tools to improve the experiences of screen-reader users in extracting information from digital content (e.g., data visualizations) while simultaneously reducing accessibility challenges that creators encounter.

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# EDUCATION

#### Ph.D. Computer Science, Paul G. Allen School, University of Washington (2018 - 2024)

Concentration in **Human-Computer Interaction, Accessibility, Visualization, and Personalization**. GPA: 3.91 Dissertation Title: *"VoxLens:* Improving the Accessibility of Online Data Visualizations for Screen-Reader Users" Committee: Jacob O. Wobbrock (Chair), Richard Ladner, Jeffrey Heer, Joanne Woaik

#### M.S. Computer Science, Paul G. Allen School, University of Washington (2018 - 2021)

Concentration in **Human-Computer Interaction and Accessibility**. GPA: 3.92 Thesis: "The Reliability of Fitts' Law as a Movement Model for People with and without Limited Fine Motor Function" Committee: Jacob O. Wobbrock and Katharina Reinecke

#### M.S. Computer Science, Saint Joseph's University (2014 - 2016)

Concentration in **Human-Computer Interaction, Accessibility, Visualization**. GPA: 4.0 Thesis: "evoGraphs - a jQuery Plugin to Create Web Accessible Graphs" Advisor: Babak Forouraghi

#### B.S. Software Engineering, GIK Institute of Science and Technology, Pakistan (2007 - 2011)

Degree awarded June 2011. Position 2/38 Advisor: Zeeshan Usmani

# **PUBLICATIONS**

## **Full Conference Papers**

- 1. **Sharif, A.**, Kim, J., Xu, J. Z., & Wobbrock, J. O. (2024). "Understanding and Reducing the Challenges Faced by Creators of Accessible Online Data Visualizations. In Proceedings of the 26th International ACM SIGACCESS Conference on Computers and Accessibility. *To Appear.*
- 2. **Sharif, A.**, Zhang, A. M., & Wobbrock, J. O. (2024). Enabling Screen-Reader Users to Customize Their Information Consumption From Online Data Visualizations. *Under Review.*
- Sharif, A., Zhang, A. M., Reinecke, K., & Wobbrock, J. O. (2023). Understanding and Improving Drilled-Down Information Extraction from Online Data Visualizations for Screen-Reader Users. In Proceedings of the 20th International Web for All Conference (pp. 18-31). <u>Best Technical Paper Award.</u>
- Sharif, A., Ramesh, A., Yu, Q., Nguyen, T. A. H., & Xu, X. (2023). UnlockedMaps: A Web-Based Map for Visualizing the Real-Time Accessibility of Urban Rail Transit Stations. In Proceedings of the 20th International Web for All Conference (pp. 5-17).

- 5. **Sharif, A.**, Wang, O. H., Muongchan, A. T., Reinecke, K., & Wobbrock, J. O. (2022). VoxLens: Making Online Data Visualizations Accessible with an Interactive Javascript Plug-In. In Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems (pp. 1-19).
- Sharif, A., McCall, A. L., & Bolante, K. R. (2022). Should I Say "Disabled People" or "People with Disabilities"? Language Preferences of Disabled People Between Identity-and Person-First Language. In Proceedings of the 24th International ACM SIGACCESS Conference on Computers and Accessibility (pp. 1-18).
- Sharif, A., Chintalapati, S. S., Wobbrock, J. O., & Reinecke, K. (2021). Understanding Screen-Reader Users' Experiences with Online Data Visualizations. In Proceedings of the 23rd International ACM SIGACCESS Conference on Computers and Accessibility (pp. 1-16).
- Zhang, M. R., Wang, R., Xu, X., Li, Q., Sharif, A., & Wobbrock, J. O. (2021). Voicemoji: Emoji Entry Using Voice for Visually Impaired People. In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (pp. 1–18).
- Sharif, A., Pao, V., Reinecke, K., & Wobbrock, J. O. (2020). The Reliability of Fitts's Law as a Movement Model for People with and without Limited Fine Motor Function. In The 22nd International ACM SIGACCESS Conference on Computers and Accessibility (pp. 1–15).
- 10. Jain, D., Potluri, V., & **Sharif, A.** (2020). Navigating Graduate School with a Disability. In The 22nd International ACM SIGACCESS Conference on Computers and Accessibility (pp. 1–11). <u>Best Paper Nominee.</u>

## **Short Conference Papers**

- 11. Li, C., Pang, R. Y., **Sharif, A.**, Chheda-Kothary A., Heer, J., & Froelich, J. E. (2024). AltGeoViz: Facilitating Accessible Geovisualization. In 2024 IEEE Visualization and Visual Analytics (VIS). To Appear.
- Sharif, A., Gan, E.F., & Wei, M. (2022). Styx++: Reliable Data Access and Availability Using a Hybrid Paxos and Chain Replication Protocol. In Extended Abstracts of the 2022 CHI Conference on Human Factors in Computing Systems (1–7).
- 13. **Sharif, A.**, & Forouraghi, B. (2018). evoGraphs A jQuery plugin to create web accessible graphs. 15th IEEE Annual Consumer Communications & Networking Conference (pp. 1-4).
- 14. **Sharif, A.**, Cooney, S., Gong, S., & Vitek, D. (2015). Current security threats and prevention measures relating to cloud services, Hadoop concurrent processing, and big data. IEEE International Conference on Big Data (pp. 1865-1870).
- 15. Hu, W. C., Kaabouch, N., Yang, H. J., & **Sharif, A.** (2012). Location-Based Services Design and Implementation Using Android Platforms. In Midwest Instruction and Computing Symposium, Cedar Falls, IA, USA.
- 16. **Sharif, A.**, Minhas, A., & Usmani, Z. (2010). A Novel Approach to Solve Multiple Problems in Parallel using Swine-Flu Inspired GA. In IC-AI (pp. 1019-1024).

## **Poster and Demo Papers**

- 17. **Sharif, A.,** Potluri, V., Ang, J. R. X., Wobbrock, J. O., & Mankoff, J. (2024). Touchpad Mapper: Examining Information Consumption From 2D Digital Content Using Touchpads by Screen-Reader Users. *Under Review.*
- 18. **Sharif, A.** (2024). Workshop as an Educational Intervention: Improving the Knowledge and Understanding of Data Visualization Accessibility for Visualization Creators. *Under Review.*
- 19. **Sharif, A.**, Aitharaju, N., Krishnaswamy, S. N., & Wobbrock, J. O. (2024). Data Sonification for Screen-Reader Users: When and When Not to Use. *Under Review*.
- Sharif, A., Potluri, V., Ang, J. R. X., Wobbrock, J. O. & Mankoff, J. (2024). Touchpad Mapper: Exploring Non-Visual Touchpad Interactions for Screen-Reader Users. In Proceedings of the 21st International Web for All Conference. *To Appear.*
- 21. **Sharif, A.**, Zhong, R., & Wang, Y. (2023). Conveying Uncertainty in Data Visualizations to Screen-Reader Users Through Non-Visual Means. In The 25th International ACM SIGACCESS Conference on Computers and Accessibility (pp. 1-6).

- Sharif, A., Zhang, A. M., Reinecke, K., and Wobbrock, J. O. (2023). Understanding and Improving Drilled-Down Information Extraction from Online Data Visualizations for Screen-Reader Users. In 20th International Web for All Conference (pp.168–170).
- Sharif, A., Ramesh, A., Yu, Q., Nguyen, T. H., and Xu, X. (2023). UnlockedMaps: A Web-Based Map for Visualizing the Real-Time Accessibility of Urban Rail Transit Stations. In 20th International Web for All Conference (pp. 166–167). <u>Best Artifact Award.</u>
- Sharif, A., Zhang, A. M., Shih, A., Wobbrock, J. O., & Reinecke, K. (2022). Understanding and Improving Information Extraction From Online Geospatial Data Visualizations for Screen-Reader Users. In Proceedings of the 24th International ACM SIGACCESS Conference on Computers and Accessibility (pp. 1–5).
- 25. Sharif, A., Ramesh, A., Nguyen, T. H., Chen, L., Zeng, K. R., Hou, L., & Xu, X. (2022). UnlockedMaps: Visualizing Real-Time Accessibility of Urban Rail Transit Using a Web-Based Map. In Proceedings of the 24th International ACM SIGACCESS Conference on Computers and Accessibility (pp. 1–7). <u>Best Artifact Award</u>.
- Sharif, A., Wang, O. H., & Muongchan, A. T. (2022). "What Makes Sonification User-Friendly?" Exploring Usability and User-Friendliness of Sonified Responses. In Proceedings of the 24th International ACM SIGACCESS Conference on Computers and Accessibility (pp. 1–5).
- 27. Sharif, A., Pruekcharoen, P., Ramesh, T., Shang, R., Williams, S., & Hsieh, G. (2022). "What's going on in Accessibility Research?" Frequencies and Trends of Disability Categories and Research Domains in Publications at ASSETS. In Proceedings of the 24th International ACM SIGACCESS Conference on Computers and Accessibility (pp. 1–5).
- Sharif, A., Gopal, P., Saugstad, M., Bhatt, S., Fok, R., Weld, G., Dey, K. A. M., & Froehlich, J. E. (2021). Experimental Crowd+AI Approaches to Track Accessibility Features in Sidewalk Intersections Over Time. In The 23rd International ACM SIGACCESS Conference on Computers and Accessibility (pp. 1–5).
- 29. Levy, L., Li, Q., **Sharif, A.**, & Reinecke, K. (2021). Respectful Language as Perceived by People with Disabilities. In The 23rd International ACM SIGACCESS Conference on Computers and Accessibility (pp. 1–4).
- Ladner, R. E., Seim, C., Sharif, A., Rizvi, N., & Glasser, A. (2021). Experiences of Computing Students with Disabilities. In Proceedings of the 52nd ACM Technical Symposium on Computer Science Education (pp. 939-940).

## **Workshop Papers**

31. Froehlich, J. E., Eisenberg, Y., Hosseini, M., Miranda, F., Adams, M., Caspi, A., Dieterich, H., Feldner, H., Gonzalez, A., Gyves, C. D., Hammel, J., Kirkham, R., Kneisel, M., LabbÉ, D., Mooney, S. J., Pineda, V., Pinhao C., Rodriguez, A., Saha, M., Saugstad, M., Shanley, J., **Sharif, A.**, Shen, Q., Silva, C., Sukel, M., Tokuda, E. K., Zappe, S. F., & Zivarts, A. (2022). The Future of Urban Accessibility for People with Disabilities: Data Collection, Analytics, Policy, and Tools. In The 24th International ACM SIGACCESS Conference on Computers and Accessibility (pp. 1–8).

# LATEST HONORS & AWARDS (Full list available at https://athersharif.me/awards)

- Bonderman Fellow, University of Washington, 2024
- Digital Accessibility Award (Individual Category), University of Washington, 2024
- Golden Key Scholar Award, Golden Key Honour Society, 2024.
- Open Scholarship Commons Fellow, University of Washington, 2024
- Nominee, University of Washington College of Engineering Awards (Student Research), 2023
- Finalist, University of Washington 3MT Competition, 2023
- Google CMD-IT LEAP Dissertation Fellowship, Google, 2022
- Husky 100 Award, University of Washington, 2022
- Excellence in Entrepreneurial Leadership Award, ADA 25 Advancing Leadership Awards, 2021

- · Finalist, Lime Connect Tom Wilson Leadership in Disability Awards, 2021
- Trailblazer Award, Annual DO-IT Awards, 2020
- Allen School Fellowship, Paul G. Allen School of Computer Science and Engineering, 2018

# PRESS COVERAGE

Full list available at https://athersharif.me/media

# **INDUSTRY EXPERIENCE**

- Senior Fullstack Software Engineer, Team Lead, Comcast. 2016 2024.
- Founder and Researcher, EvoXLabs. 2014 Present.
- Chairman of the Executive Board. Disability Empowerment Center. 2020 Present.
- UX/UI Research Specialist, Azavea. August 2015 December 2015.

# PROFESSIONAL

#### **Invited Talks**

- Purdue University 2024.
- Yale University 2024.
- Emory University 2024.
- Princeton University 2023.
- Inclusive Data Visualization Dagstuhl Seminar. 2023.
- University of Washington Foundation Board. 2023 2024.
- National Federation for the Blind Annual Convention. 2022.

#### Service

- Advisory Board Member, University of Washington Office of the ADA. 2021 Present.
- Program Committee Member, UIST. 2023.
- Program Committee Member, ASSETS. 2023 2024.
- · Co-Coordinator, University of Washington CSE Graduate Student Committee. 2018 2023.
- Member, University of Washington CSE Grad, VGrad, & Postdoc Advisory Council (G5PAC). 2019 2022.

## **Peer Reviewing**

- IEEE EuroVis: 2024.
- ACM CHI: 2020 2023.
- ACM CSCW: 2022.
- ACM ASSETS: 2022 2024.
- IEEE CCNC: 2018 2020.
- ACM ToCHI: 2021.
- ACM DIS: 2022. Special Recognition for Outstanding Review.
- IEEE VIS: 2022.
- ACM UIST: 2023. Special Recognition for Highly Useful Review.
- ACM TACCESS: 2023 2024.
- International Journal of Human-Computer Interaction (IJHCI): 2023.