Devansh Saxena

Assistant Professor

The Information School, University of Wisconsin-Madison

devansh.saxena@wisc.edu devsaxena.info Google Scholar

Research Interests

Worker-centered Design, Participatory AI Design, Responsible AI, Human-AI Interaction

Academic Affiliations

University of Wisconsin-Madison, Madison, WI, USA (August 2024 - Present)
Assistant Professor, *The Information School, School of Computer, Data & Information Sciences*

Carnegie Mellon University, Pittsburgh, PA (June 2023 - August 2024)
Presidential Postdoctoral Fellow, *Human-Computer Interaction Institute*

University of Toronto, Toronto, ON, Canada (Summer'21, Summer'22)
Research Project Advisor, *Toronto Human-AI Interaction Summer Research School*

University of Wisconsin-Madison, Madison, WI, USA (Fall 2022)
Lecturer, *Information School*

Education

Ph.D. in Computer Science (2018-2023), Marquette University

Advisors: Dr. Shion Guha, Dr. Michael Zimmer

M.S. in Computer Science (2018-2020), Marquette University

B.S. in Computer Science (2011-2016), Marquette University

Publications

Journal Articles

J8. Luke Guerdan*, **Devansh Saxena***, Stevie Chancellor, Zhiwei Steven Wu, and Kenneth Holstein. 2025. "Measurement as Bricolage: Examining How Data Scientists Construct Target Variables for Predictive Modeling Tasks." Proceedings of the ACM on Human-Computer Interaction. CSCW (2025). DOI: https://doi.org/10.1145/3757628

J7. **Devansh Saxena** and Shion Guha. "Algorithmic harms in child welfare: Uncertainties in practice, organization, and street-level decision-making." ACM Journal on Responsible Computing 1.1 (2024): 1-32. DOI: https://doi.org/10.1145/3616473

J6. **Devansh Saxena**, Karla Badillo-Urquiola, Pamela J. Wisniewski, and Shion Guha, (2021). "A Framework of High-Stakes Algorithmic Decision-Making for the Public Sector Developed through a Case Study of Child-Welfare." Proceedings of the ACM on Human-Computer Interaction. CSCW2 (2021): 1-41. DOI: https://doi.org/10.1145/3476089
Best Paper Honorable Mention Award **Impact Recognition Award**

J5. Kamrul Hasan, Yakin Rubaiat, **Devansh Saxena**, Shion Guha, and Sheikh Iqbal Ahamed. "Design Recommendations for a Smartphone-based Point-of-Care Tool: Analysing Context and Implications for Use in Rural

Bangladesh." International Journal of Human-Computer Interaction (IJHCI) (2022). International Journal of Human–Computer Interaction (IJHCI). DOI: https://doi.org/10.1080/10447318.2023.2175462

J4. Patrick Skeba, **Devansh Saxena**, Shion Guha, and Eric PS Baumer. "Who has a Choice?: Survey-Based Predictors of Volitionality in Facebook Use and Non-use." Proceedings of the ACM on Human-Computer Interaction 5, no. GROUP (2021): 1-25. DOI: https://doi.org/10.1145/3463935

J3. **Devansh Saxena**, Patrick Skeba, Shion Guha, and Eric PS Baumer. "Methods for Generating Typologies of Non/use." Proceedings of the ACM on Human-Computer Interaction 4, no. CSCW1 (2020): 1-26. DOI: https://doi.org/10.1145/3392832

J2. Upol Ehsan, Nazmus Sakib, Md Munirul Haque, Tanjir Soron, **Devansh Saxena**, .., Syed Ishtiaque Ahmed. "Confronting Autism in Urban Bangladesh: Unpacking Infrastructural and Cultural Challenges." EAI Endorsed Transactions on Pervasive Health and Technology. 2018 Jul 1;4(14). DOI: https://doi.org/10.4108/eai.13-7-2018.155082

J1. Peter Irgens*, Curtis Bader*, Theresa Lé*, **Devansh Saxena***, and Cristinel Ababei. "An Efficient and Cost-Effective FPGA based Implementation of the Viola-Jones Face Detection Algorithm." HardwareX 1 (2017): 68-75. DOI: https://doi.org/10.1016/j.ohx.2017.03.002

Conference Proceedings

C13. Ji-Youn Jung*, **Devansh Saxena***, Minjung Park, Jini Kim, Jodi Forlizzi, Ken Holstein, and John Zimmerman. "Making the Right Thing: Bridging HCI and Responsible AI in Early-Stage AI Concept Selection." In Proceedings of the 2025 ACM Designing Interactive Systems Conference. (ACM DIS 2025). DOI: https://doi.org/10.1145/3715336.3735745.
Best Paper Honorable Mention Award 🏆

C12. **Devansh Saxena***, Ji-Youn Jung*, Jodi Forlizzi, Ken Holstein, and John Zimmerman. "AI Mismatches: Identifying Potential Algorithmic Harms Before AI Development" In Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems (ACM CHI 2025). DOI: 10.1145/3706598.3714098

C11. Erina Seh-Young Moon, **Devansh Saxena**, Dipto Das, and Shion Guha. "The Datafication of Care in Public Homelessness Services" In Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems (ACM CHI 2025). DOI: 10.1145/3706598.3713232.
Best Paper Honorable Mention Award 🏆

C10. MD Romael Haque*, **Devansh Saxena***, Katy Weathington, Joseph Chudzik, and Shion Guha. "Are We Asking the Right Questions?: Designing for Community Stakeholders' Interactions with AI in policing." In Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems (ACM CHI 2024). DOI: https://doi.org/10.1145/3613904.3642738

C9. Erina Seh-Young Moon, **Devansh Saxena**, Tegan Maharaj, and Shion Guha. "Beyond Predictive Algorithms in Child Welfare." In Proceedings of the 50th Graphics Interface Conference 2024. DOI: https://doi.org/10.1145/3670947.3670976.

C8. **Devansh Saxena**, Seh Young Moon, Aryan Chaurasia, Yixin Guan, and Shion Guha. "Rethinking "Risk" in Algorithmic Systems Through A Computational Narrative Analysis of Casenotes in Child-Welfare." In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (ACM CHI 2023). DOI: https://doi.org/10.1145/3544548.3581308. **Best Paper Award** 🏆

C7. **Devansh Saxena**, Seh Young Moon, Dahlia Shehata, and Shion Guha. "Unpacking Invisible Work Practices, Constraints, and Latent Power Relationships in Child Welfare through Casenote Analysis." In Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems (ACM CHI 2022). DOI: https://doi.org/10.1145/3491102.3517742.

C6. **Devansh Saxena**, Karla Badillo-Urquiola, Pamela J. Wisniewski, and Shion Guha. "A Human-Centered Review of Algorithms used within the US Child Welfare System." In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (ACM CHI 2020). DOI: https://doi.org/10.1145/3313831.3376229.
Best Paper Honorable Mention Award 🏆

C5. Nathan Lang, **Devansh Saxena**, Tina Yen, Julie Jorns, Bing Yu, and Dong Hye Ye. "Breast cancer magnification-independent multi-class histopathology classification using a dual-step model." In Medical Imaging 2021: Digital Pathology. SPIE 2021.
DOI: https://doi.org/10.1117/12.2582299

C4. Piyush Saxena, Sarthak Dabas, **Devansh Saxena**, Nithin Ramachandran, and Sheikh Iqbal Ahamed. "Reconstructing compound affective states using physiological sensor data." In 2020 IEEE 44th Annual Computers, Software, and Applications Conference (IEEE COMPSAC 2020). DOI: 10.1109/COMPSAC48688.2020.00-86

C3. Sakib, Nazmus, **Devansh Saxena**, Lin He, Paul M. Griffin, Sheikh Iqbal Ahamed, and Munirul Haque. "Un-

packing Prevalence and Dichotomy in qSOFA Parameters: A Step towards Multi-parameter Intelligent Sepsis Prediction in ICU." In 2019 IEEE EMBS International Conference on Biomedical & Health Informatics (IEEE BHI 2019). DOI: 10.1109/BHI.2019.8834547

C2. Saxena, Piyush, **Devansh Saxena**, Xiao Nie, Aaron Helmers, Nithin Ramachandran, Nazmus Sakib, and Sheikh Iqbal Ahamed. "Feature boosting in natural image classification." In 2019 IEEE 43rd Annual Computer Software and Applications Conference (IEEE COMPSAC 2019). DOI: 10.1109/COMPSAC.2019.10184

C1. Saxena, Piyush, **Devansh Saxena**, Xiao Nie, Aaron Helmers, Nithin Ramachandran, Alana McVey, Amy VanHecke, and Sheikh Iqbal Ahamed. "Application of Reconstructed Phase Space in Autism Intervention." In 2019 IEEE 43rd Annual Computer Software and Applications Conference (IEEE COMPSAC 2019). DOI: 10.1109/COMPSAC.2019.00096

Late-Breaking Works & Extended Abstracts

P4. **Devansh Saxena**, Charlie Repaci, Melanie Sage, and Shion Guha. "How to Train a (Bad) Algorithmic Caseworker: A Quantitative Deconstruction of Risk Assessments in Child Welfare." In Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems. Late Breaking Work. DOI: https://doi.org/10.1145/3491101.3519771

P3. **Devansh Saxena**. "Designing Human-Centered Algorithms for the Public Sector: A Case Study of the U.S. Child-Welfare System." Companion of the 2023 ACM International Conference on Supporting Group Work. 2023. DOI: https://doi.org/10.1145/3565967.3571759

P2. **Devansh Saxena**, and Shion Guha. "Conducting Participatory Design to Improve Algorithms in Public Services: Lessons and Challenges." In Conference Companion Publication of the 2020 on Computer Supported Cooperative Work and Social Computing, pp. 383-388. 2020. DOI: https://doi.org/10.1145/3406865.3418331

P1. **Devansh Saxena**, Karla Badillo-Urquiola, Pamela Wisniewski, and Shion Guha. "Child Welfare System: Interaction of Policy, Practice and Algorithms." In Companion of the 2020 ACM International Conference on Supporting Group Work, pp. 119-122. 2020. DOI: https://doi.org/10.1145/3323994.3369888

Co-organized Workshops

W4. **Devansh Saxena**, Zoe Kahn, Erina Moon, Lauren Chambers, Corey Jackson, Min Kyung Lee, Motahhare Eslami, Shion Guha, Sheena Erete, Lilly Irani, Deirdre Mulligan, and John Zimmerman. "Emerging Practices in Participatory AI Design in Public Sector Innovation." Extended Abstracts of the 2025 CHI Conference on Human Factors in Computing Systems. 2025. DOI: https://doi.org/10.1145/3706599.3706727

W3. Ruyuan Wan, Adriana Alvarado Garcia, **Devansh Saxena**, Catalina Vajiac, Anna Kawakami, Logan Stapleton, Haiyi Zhu, Kenneth Holstein, Heloisa Candello, and Karla Badillo-Urquiola. "Community-driven AI: Empowering people through responsible data-driven decision-making." In Computer Supported Cooperative Work and Social Computing, pp. 532-536. 2023. DOI: https://doi.org/10.1145/3584931.3611282

W2. Logan Stapleton, **Devansh Saxena**, Anna Kawakami, Tonya Nguyen, Asbjørn Ammitzbøll Flügge, Motahhare Eslami, Naja Holten Møller, Min Kyung Lee, Shion Guha, Kenneth Holstein, Haiyi Zhu. (CSCW '22). "Who Has an Interest in "Public Interest Technology"?: Critical Questions for Working with Local Governments & Impacted Communities". Conference Companion Publication of the 2022 on Computer Supported Cooperative Work and Social Computing. Association for Computing Machinery, New York, NY, USA. DOI: https://doi.org/10.1145/3500868.3560484

W1. **Devansh Saxena**, Erhardt Graeff, Shion Guha, EunJeong Cheon, Pedro Reynolds-Cuéllar, Dawn Walker, Christoph Becker, and Kenneth R. Fleischmann. (CSCW '20). "Collective Organizing and Social Responsibility at CSCW". Conference Companion Publication of the 2020 on Computer Supported Cooperative Work and Social Computing. Association for Computing Machinery, New York, NY, USA. DOI: https://doi.org/10.1145/3406865.3418593

Professional Magazine Articles (Editor-Reviewed)

P4. **Devansh Saxena** and Shion Guha. "Algorithmic Harms in Child Welfare: Algorithmic Harms in Child Welfare: The Burden of Unreliable Decision-Making and Constant Repair Work." *CW360°* (April 2025). Center for Advanced Studies in Child Welfare, University of Minnesota. Link: https://cascw.umn.edu/cw360deg-spring-2025

P3. **Devansh Saxena** and Shion Guha. "Algorithmic Harms in Child Welfare: Uncertainties in Practice, Organization, and Street-level Decision-Making" Montreal AI Ethics Institute. *AI Ethics Brief* (September 2023). Link:

https://montrealethics.ai/algorithmic-harms-in-child-welfare-uncertainties-in-practice-organization-and-street-level-decision-making/

P2. **Devansh Saxena** and Shion Guha. "How Algorithms Are Harming Child Welfare Agencies and the Kids They Serve". Data & Society. *Social Life of Algorithmic Harms*. (April 2023). Link: https://medium.com/datasociety-points/how-algorithms-are-harming-child-welfare-agencies-and-the-kids-they-serve-596cc776c034

P1. **Devansh Saxena** and Shion Guha. "Unpacking Invisible Work Practices, Constraints, and Latent Power Relationships in Child Welfare through Casenote Analysis" Montreal AI Ethics Institute. *AI Ethics Brief* (October 2022). Link: https://montrealethics.ai/unpacking-invisible-work-practices-constraints-and-latent-power-relationships-in-child-welfare-through-casenote-analysis/

Workshop Papers

A7. Corey Jackson, Tallal Ahmed, **Devansh Saxena**. "Re-imagining Fairness in Machine Learning: A Framework for Building in Socio-cultural and Contextual Awareness." Supporting User Engagement in Testing, Auditing, and Contesting AI Workshop. CSCW (October 2023).

A6. **Devansh Saxena**, Seh Young Moon, and Shion Guha. "A Future for AI Governance Systems beyond Predictions." Human Centered AI (HCAI) Workshop. NeurIPS (December 2022).

A5. **Devansh Saxena** and Shion Guha. "Algorithmic Harms in the Child-Welfare System." Social Life of Algorithmic Harms Workshop. Data & Society (March 2022).

A4. **Devansh Saxena** and Shion Guha. "Empowered Participatory Design in Algorithm Design for the U.S. Child-Welfare System." Computing Professionals for Social Responsibility Workshop at the Participatory Design Conference (May 2020).

A3. **Devansh Saxena** and Shion Guha. "Designing for Human-Centered AI in the U.S. Child-Welfare System." Fair and Responsible AI Workshop at CHI 2020 (May 2020).

A2. **Devansh Saxena** and Shion Guha. "Towards Worker-Centered Design in the U.S. Child-Welfare System." Worker-Centered Design: Expanding HCI Methods for Supporting Labor Workshop at CHI 2020 (May 2020).

A1. **Devansh Saxena** and Shion Guha. "A Need for Human-Centered Algorithms in the U.S. Child-Welfare System." Human-Centered Data Science Workshop at GROUP 2020 (January 2020).

Awards and Recognition

- Best Paper Honorable Mention Award at ACM DIS 2025 — 6/2025
  DOI: https://doi.org/10.1145/3715336.3735745
- Best Paper Honorable Mention Award at ACM CHI 2025 — 4/2025
  DOI: https://doi.org/10.1145/3706598.3713232
- Presidential Postdoctoral Fellowship at Carnegie Mellon University — 6/2023-6/2024
  Postdoctoral research in the Human-Computer Interaction Institute on responsible AI innovation practices
- Best Paper Award at CHI 2023 — 4/2023
  DOI: https://doi.org/10.1145/3544548.3581308
- Richard W. Jobling Distinguished Research Assistantship — 8/2022-5/2023
  Assistantship awarded at Marquette University for impactful research on algorithmic governance systems
- Impact Recognition Award at CSCW 2021 — 10/2021
  DOI https://doi.org/10.1145/3476089
- Best Paper Honorable Mention Award at CSCW 2021 — 10/2021
  DOI: https://doi.org/10.1145/3476089
- Best Paper Honorable Mention Award at CHI 2020 — 5/2020
  DOI: https://doi.org/10.1145/3313831.3376229
- Northwestern Mutual Data Science Fellowship — 1/2019-8/2019
  Received an academic scholarship awarded to the most promising data science graduate students

- Graduate School Dean's Research Enhancement Award 5/2018-8/2018
  Received this award in the summer of 2018 for outstanding data science research in autism interventions
- Marquette University Ignatius Scholar 8/2012-5/2016
  Highest academic scholarship offered to students at Marquette University
- Kimberly Clark International Scholar 8/2012-5/2016
  Academic scholarship provided by the Kimberly Clark Foundation to two international students

Invited Talks and Meetings

R19. **AI Ethics Symposium (Panelist)**. November 2024. "Policy & Ethics of AI: How do we navigate the ethics of AI within public policy, government, and university settings?". Northwestern Mutual Data Science Institute (NMDSI) and the Center for Data, Ethics, and Society.

R18. **Government Meeting (Panelist)**. July 2024. "Open government in action - Emerging practices in participatory algorithm design". White House Office of Science and Technology Policy (OSTP) and the U.S. Open Government Secretariat. URL: https://www.gsa.gov/governmentwide-initiatives/us-open-government/public-engagement

R17. **Research Talk**. January 2024. "Rethinking AI Innovation in the Public Sector through the Lens of Repair Work". School of Computer Science and Engineering at the University of Washington. Change Seminar. URL: https://change.washington.edu/talk/rethinking-ai-innovation-in-the-public-sector-through-the-lens-of-repair-work/

R16. **Research Talk**. February 2023. "Designing Human-Centered Algorithms for the Public Sector: A Case Study of the Child-Welfare System.". School of Computer, Data, and Information Sciences at the University of Wisconsin-Madison.

R15. **Research Talk**. January 2023. "Designing Human-Centered Algorithms for the Public Sector: A Case Study of the Child-Welfare System.". Department of Computer Science and Engineering at the University of Minnesota - Twin Cities. URL: https://cse.umn.edu/cs/events/cse-colloquium-devansh-saxena.

R14. **Research Talk**. August 2022. "Developing Human-Centered Algorithms for the Public Sector: A Case Study of Child-Welfare." HCI Summer Workshop 2022. School of Information Studies at Syracuse University.

R13. **Research Talk**. April 2022. "Designing Human-Centered Algorithms for Public Services: A Case Study of Child-Welfare". IBM Research: Tech for Justice Initiative.

R12. **Research Talk**. March 2022. "Algorithmic Harms in the Child-Welfare System." Labor and Tech Reading Group at Princeton University.

R11. **Research Talk**. February 2022. "Designing Human-Centered Algorithms for Public Services: A Case Study of Child-Welfare". Khoury College of Computer Sciences at Northeastern University.

R10. **AI/Tech Acquisition Meeting**. September 2021. Offered technical expertise to the Massachusetts Department of Children, Youth, and Families (DCF) during meetings with tech startups.

R9. **AI/Tech Acquisition Meeting**. September 2021. Offered technical expertise to the Massachusetts Department of Children, Youth, and Families (DCF) during meetings with tech startups.

R8. **Research Talk**. July 2021. "AI Infodemic Speaker Series: Interrogating Algorithms of Information Seeking". University of Illinois Urbana-Champaign. URL: https://publish.illinois.edu/infodemic/speaker-series.

R7. **Research Talk**. July 2021. "Emerging Voices in Critical Computing Speaker Series". Third Space Research Group at the University of Toronto. URL: https://twitter.com/SpaceUoft/status/1417245712144900102?s=20.

R6. **AI/Tech Acquisition Meeting**. June 2021. Offered technical expertise to the Massachusetts Department of Children, Youth, and Families (DCF) during meetings with tech startups.

R5. **Research Talk**. April 2021. Center for Applied Data Ethics at the University of San Francisco. URL: https://ali-alkhatib.com/talks/2021-04-09.html.

R4. **Research Talk**. January 2021. Massachusetts Committee for Public Consel Services (CPCS).

R3. **Research Talk**. November 2020. Movement Alliance Project (MAP), Philadelphia, PA.

R2. **Research Talk**. August 2020. School of Social Work, University of Buffalo, Buffalo, NY.

R1. **Research Talk**. July 2020. Design Use Build (DUB) Community at the University of Washington. URL: https://vimeo.com/438749062

Academic Service and Volunteering

- Associate Editor. ACM Journal on Responsible Computing (ACM JRC) 2025-Present
- ACM CHI Program Committee 2023-Present
- ACM DIS Program Committee 2023-Present
- ACM FAccT Program Committee 2022-Present
- ACM Compass Program Committee 2024
- ACM GROUP Program Committee 2021-Present
- Special Recognition for Outstanding Reviews
  - 1 recognition for CHI 2025 Papers
  - 1 recognition for CSCW 2024 | January 2024
  - 2 recognitions for CHI 2024 Papers
  - 1 recognition for CHI 2022 Papers
  - 1 recognition for Group 2022/23 Third Wave Research Papers
  - 1 recognition for CSCW 2022 | January 2022
  - 1 recognition for CHI 2021 Papers
- ACM GROUP 2020 Student Volunteer 2020
- IEEE COMPSAC 2019 Student Volunteer 2019
- Mentoring Milwaukee youth at Summit Educational Association 2015-2019, 2021-2023
- Tutor for Upsilon Pi Epsilon at Marquette University 2014-2016

Teaching

- Assistant Professor in Information School at UW-Madison Fall 2024 - Present
  Graduate-level classes on data ethics and natural language processing.
- Lecturer in Information School at UW-Madison Fall 2022
  Graduate-level seminar on technical foundations of information science.
- Teaching Assistant in Computer Science at Marquette University Spring 2019
  Co-taught Data-Mining; a higher-level undergraduate class.
- Teaching Assistant in Computer Science at Marquette University Spring 2018
  Co-taught Introduction to Data Science; a large undergraduate class.
- Teaching Assistant in Math & Statistics at Marquette University Fall 2018
  Co-taught Calculus I; a large undergraduate class.

Selected Work Experience

Visiting Researcher 5/2022-5/2023
Kohler Co.

- Developed and supervised data science projects centered in computer vision, time series forecasting, warehouse resource allocation, and natural language processing
- Reported directly to the Vice President of Data & Analytics

Data Science Research Intern 1/2022-5/2022
Kohler Co.

- Used NLP techniques to derive rich contextual insights from customer chats and phone calls to improve overall customer service experience

Software Engineer 7/2016-1/2018
Johnson Controls

- Developed cloud applications (NodeJS) for the company's data platform that collects HVAC, energy and lighting data from several locations
- Developed a data-driven web UI in NodeJS that allows the users to interact with multiple embedded devices on the network

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Software Engineering Co-op 8/2013-12/2015
Rockwell Automation

- Developed applications in .NET for Rockwell's developers and testers saving them hours of dev/test time