

SONALI R. MISHRA

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EDUCATION

University of Washington, Information School – Seattle, WA

PhD in Information Science

Advisors: Wanda Pratt, Predrag Klasnja

Honors & Awards: UW Population Health Travel Grant (2017)

Dissertation Title: Designing Technologies to Support Patient Engagement in the Hospital

October 2014 –

December 2019

University of Michigan, School of Information – Ann Arbor, MI

Master of Science in Information

Specialization: Human-Computer Interaction (HCI)

Honors & Awards: Sharon A. Hogan Endowed Merit Scholarship

September 2009 – April

2011

University of Pennsylvania – Philadelphia, PA

Post-Baccalaureate program in Classics

Bachelor of Arts: Linguistics Major, French Minor

Honors & Awards: Phi Beta Kappa, Summa cum Laude, University Scholar, Dean's Scholar Award, Adolph C. Gorr Delta Phi Alpha Prize

September 2006 – May

2007 (post-bac)

September 2002 – May

2006 (BA)

RESEARCH & PROFESSIONAL EXPERIENCE

Research Fellow – Department of Internal Medicine, Division of Cardiology, University of Michigan, Ann Arbor, MI

June 2022 – present

- Conducting a microrandomized trial to investigate the potential of messages about post-exercise affect to promote physical activity (<https://clinicaltrials.gov/ct2/show/NCT05582369>)
- Using mixed methods to evaluate user experience with, and usage of, a behavior change intervention targeting physical activity, diet, and blood pressure monitoring to manage hypertension.
- Collaborating with investigators across disciplines to design and deploy a medication adherence intervention for hypertension management with multiple intervention components.
- Training and mentoring staff and students in qualitative analysis methods

<p>UX Researcher – Office of Research Information Systems, University of Washington, Seattle, WA</p> <ul style="list-style-type: none"> • Lead UX research activities on research administration systems, including identifying research needs, recruiting participants, planning and conducting research, and reporting results to stakeholders • Used a variety of methods including card sorting, interviews, surveys, focus groups, remote participatory design, and others to answer questions about user needs and behavior 	<p>April 2021 – June 2022</p>
<p>Research Fellow – Department of Veterans Affairs, Seattle, WA</p> <ul style="list-style-type: none"> • Collaborated in research regarding the improvement of tools to support Written Exposure Therapy for veterans with PTSD. Proposed new research goals to adapt work to the COVID world; led diverse team in creating a research plan and conducting qualitative interviews with clinicians. • Collaborated with investigators within the center on other health services projects, offering HCI methods expertise where needed. 	<p>September 2020 – April 2021</p>
<p>Governance Research Intern – Sage Bionetworks, Seattle, WA</p> <ul style="list-style-type: none"> • Developed guidelines for public health communication about COVID-19 contact tracing. Performed comparative analysis of state-level public health agency content about COVID-19 contact tracing and reported findings. Generated suggestions for improving communication about this topic to improve public compliance • Designed mockups and wrote content to illustrate worst- and best-case scenarios to inform biomedical researchers about good data privacy practices. Part of Sage’s Privacy Toolkit 	<p>January 2020 – September 2020</p>
<p>Graduate Research Assistant -- University of Washington, Seattle, WA Advisors: Wanda Pratt (University of Washington), Predrag Klasnja (University of Michigan)</p> <ul style="list-style-type: none"> • Conducted a study exploring the potential of several behavior change theory-based prototypes to promote patient engagement in the hospital. Designed and validated the interventions, interviewed patients in adult and pediatric hospital settings, and analyzed data. • Designed and led participatory design workshops and focus groups for patients, caregivers, and clinicians to uncover issues related to patient tracking of data in the hospital. • Interviewed patients and family caregivers in the hospital and conducted bedside observations to understand how patients engage with their care and interact with their care team in the hospital • In general, took the lead in planning and executing research projects and writing and publishing results 	<p>October 2014 – December 2019</p>

- Collaborated in several additional projects with other researchers, contributing actively to research question identification, data analysis, and publications

Design Intern – Sage Bionetworks, Seattle, WA

October - December
2017

- Conducted semi-structured interviews with people with Parkinson’s Disease and their caregivers to understand their tracking needs
- Created initial design concepts for the next version of the mPower mobile app for Parkinson’s Disease
- Collaborated with other researchers to explore engagement strategies for study participant retention
- Conducted usability studies on mPower’s e-consent process
- Mocked up revisions to the e-consent designs based on usability study findings

UX Specialist / Information Architect – University of Michigan Libraries, Ann Arbor, MI

January 2010 – June
2014

- Designed or redesigned several library interfaces, including: an updated search interface for the UM Library website (done in collaboration); a new interface for “Get This,” a library document retrieval service; a favorites-marking and tagging system for the library website and catalog; and a mobile web application for HathiTrust Digital Library
- Conducted various research projects to understand user needs for UM Library-supported online services, including user interviews, usability tests, search query classification, analysis of web analytics data, and observational research
- Reported on new and past research findings to communicate user needs to coworkers in the same department and connected departments
- Supervised interns and a student group on their research and design projects for the library

Usability Process Consultant – University of Michigan School of Information, Ann Arbor, MI

August 2012

- Advised researchers on how to improve a usability testing script for a research project
- Reviewed study findings with researchers and suggested design solutions

User Experience Intern – Gale Cengage, Farmington Hills, MI

May 2010 - August
2010

- Conducted heuristic evaluations and usability studies of several different products and proposed design recommendations to product managers and developers

PUBLICATIONS

Conference Proceedings (peer-reviewed)

Note: In HCI and Health Informatics, conferences like CHI, CSCW, and AMIA are top-tier publication venues and are equivalent to a high-impact journal.

Supporting Goal-Based Collaboration for Hospitalized Children.

Yiran Zhao, Yoojung Kim, Calvin Apodaca, Regina Casanova-Perez, Shefali Haldar, **Sonali R. Mishra**, Julia C. Dunbar, Ari H Pollack, Wanda Pratt. 2021. Proc. ACM Hum.-Comput. Interact. 5, CSCW1, Article 164 (April 2021), 22 pages. DOI: <https://doi.org/10.1145/3449238>

Using Priorities of Hospitalized Patients and Caregivers to Develop Personas.

Elena Agapie, Logan Kendall, **Sonali R. Mishra**, Shefali Haldar, Maher Khelifi, Ari H Pollack, Wanda Pratt. 2019. In Proceedings of the American Medical Informatics Association Annual Symposium (AMIA '19).

Designing Inpatient Portals to Support Patient Agency and Dynamic Hospital Experiences.

Shefali Haldar, Maher Khelifi, **Sonali R. Mishra**, Calvin Apodaca, Erin Beneteau, Ari H Pollack, Wanda Pratt. 2020. In Proceedings of the American Medical Informatics Association Annual Symposium (AMIA '20).

The Patient Advice System: A Technology Probe Study to Enable Peer Support in the Hospital.

Shefali Haldar, Yoojung Kim, **Sonali R. Mishra**, Andrea L. Hartzler, Ari H Pollack, Wanda Pratt. 2020. In Proceedings of the ACM Conference on Computer Supported Cooperative Work (CSCW 2020).

Using Priorities of Hospitalized Patients and Caregivers to Develop Personas.

Elena Agapie, Logan Kendall, **Sonali R. Mishra**, Shefali Haldar, Maher Khelifi, Ari H Pollack, Wanda Pratt. 2019. In Proceedings of the American Medical Informatics Association Annual Symposium (AMIA '19).

Supporting Coping with Parkinson's Disease Through Self-Tracking.

Sonali R. Mishra, Predrag Klasnja, John MacDuffie Woodburn, Eric B. Hekler, Larsson Omberg, Michael Kellen, Lara Mangravite. 2019. In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19). ACM, New York, NY, USA. (23.8% acceptance rate)

Beyond the Patient Portal: Supporting Needs of Hospitalized Patients.

Shefali Haldar, **Sonali R. Mishra**, Maher Khelifi, Ari H Pollack, Wanda Pratt. 2019. In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19). ACM, New York, NY, USA.

The Value of Patient-Peer Support in Improving Hospital Safety.

Shefali Haldar, **Sonali R. Mishra**, Maher Khelifi, Ari H Pollack, Wanda Pratt. 2019. In Proceedings of the Conference on Information Technology and Communications in Health (ITCH 2019).

Supporting Collaborative Health Tracking in the Hospital: Patients' Perspectives.

Sonali R. Mishra, Andrew D. Miller, Shefali Haldar, Maher Khelifi, Jordan Eschler, Rashmi G. Elera, Ari H Pollack, Wanda Pratt. 2018. In Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI '18). ACM, New York, NY, USA. (25.7% acceptance rate)

Must We Bust the Trust?: Understanding How the Clinician-Patient Relationship Influences Patient Engagement in Safety.

Sonali R. Mishra, Shefali Haldar, Maher Khelifi, Ari H Pollack, Wanda Pratt. 2018. Proceedings of the American Medical Informatics Association Annual Symposium, 18.

Exploring the Design of an Inpatient Peer Support Tool: Views of Adult Patients.

Shefali Haldar, **Sonali R. Mishra**, Maher Khelifi, Ari H Pollack, and Wanda Pratt. 2018. Proceedings of the American Medical Informatics Association Annual Symposium, 18.

"Move into Another World of Happy": Insights for Designing Affect-Based Physical Activity Interventions.

Sonali R. Mishra, Predrag Klasnja. 2017. In Proceedings of the 2017 EAI International Conference on Pervasive Computing Technologies for Healthcare (PervasiveHealth '17).

Opportunities and Design Considerations for Peer Support in a Hospital Setting.

Shefali Haldar, **Sonali R. Mishra**, Maher Khelifi, Ari H. Pollack, and Wanda Pratt. 2017. In Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems (CHI '17). ACM, New York, NY, USA, 867-879. DOI: <https://doi.org/10.1145/3025453.3026040>

When Personal Tracking Becomes Social: Examining the Use of Instagram for Healthy Eating.

Chia-Fang Chung, Elena Agapie, Jessica Schroeder, **Sonali R. Mishra**, James Fogarty, and Sean A. Munson. 2017. In Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems (CHI '17). ACM, New York, NY, USA, 1674-1687. DOI: <https://doi.org/10.1145/3025453.3025747>

Toward Usable Evidence: Optimizing Knowledge Accumulation in HCI Research on Health Behavior Change.

Predrag Klasnja, Eric B. Hekler, Elizabeth V. Korinek, John Harlow, and **Sonali R. Mishra**. 2017. In Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems (CHI '17). ACM, New York, NY, USA, 3071-3082. DOI: <https://doi.org/10.1145/3025453.3026013>

"Not Just a Receiver": Understanding Patient Behavior in the Hospital Environment.

Sonali R. Mishra, Shefali Haldar, Ari H. Pollack, Logan Kendall, Andrew D. Miller, Maher Khelifi, and Wanda Pratt. 2016. In Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems (CHI '16). ACM, New York, NY, USA, 3103-3114. DOI: <http://dx.doi.org/10.1145/2858036.2858167> (23.4% acceptance rate)

"Scared to go to the Hospital": Inpatient Experiences with Undesirable Events.

Shefali Haldar, Alex Filipkowski, **Sonali R. Mishra**, Cory S. Brown, Rashmi G. Elera, Ari H. Pollack, Wanda Pratt. In AMIA'16: Proceedings of the American Medical Informatics Association Annual Symposium. Chicago, Illinois. November 12-16, 2016.

PD-atricians: Leveraging Physicians and Participatory Design to Develop Novel Clinical Information Tools.

Ari H. Pollack, Andrew Miller, **Sonali R. Mishra**, Wanda Pratt. In AMIA Annual Symposium Proceedings. Vol. 2016.

Closing the Gap: Supporting Patients' Transition to Self-Management after Hospitalization.

Ari H. Pollack, Uba Backonja, Andrew D. Miller, **Sonali R. Mishra**, Maher Khelifi, Logan Kendall, and Wanda Pratt. 2016. In Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems (CHI '16). ACM, New York, NY, USA, 5324-5336. DOI: <http://dx.doi.org/10.1145/2858036.2858240>

Partners in Care: Design Considerations for Caregivers and Patients During a Hospital Stay.

Andrew D. Miller, **Sonali R. Mishra**, Logan Kendall, Shefali Haldar, Ari H. Pollack, and Wanda Pratt. 2016. In Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing (CSCW '16). ACM, New York, NY, USA, 756-769. DOI: <http://dx.doi.org/10.1145/2818048.2819983>

A Fair Exchange: Exploring How Online Privacy is Valued.

Michael A. Katell, **Sonali R. Mishra**, and Ligaya A. Scaff. Proceedings of the 49th Hawaii International Conference on System Sciences (HICSS), January 4-7, 2016.

Making background work visible: opportunities to address patient information needs in the hospital.

Logan Kendall, **Sonali R. Mishra**, Ari Pollack, Barry Aaronson, and Wanda Pratt. 2015. In AMIA 2015: Annual Symposium of the American Medical Informatics Association 2015.

Supporting spatial awareness and independent wayfinding for pedestrians with visual impairments.

Rayoung Yang, Sangmi Park, **Sonali R. Mishra**, Zhenan Hong, Clint Newsom, Hyeon Joo, Erik Hofer, and Mark W. Newman. 2011. In the proceedings of the 13th international ACM SIGACCESS conference on Computers and accessibility (ASSETS '11). ACM, New York, NY, USA, 27-34. <http://dx.doi.org/10.1145/2049536.2049544>

Journal Articles

A Text-Messaging Intervention for Priming Affective Rewards of Exercise in Adults: Protocol for a Micro-Randomized Trial.

Sonali R. Mishra, Walter Dempsey, Predrag Klasnja. JMIR Protocols (*forthcoming*).

Different Roles with Different Goals: Designing to Support Shared Situational Awareness Between Patients and Clinicians in the Hospital.

Ari H Pollack, **Sonali R. Mishra**, Calvin Apodaca, Maher Khelifi, Shefali Halder, Wanda Pratt. Journal of the American Medical Informatics Association (JAMIA 2021).

Use and Impact of an Online Community for Hospital Patients.

Shefali Halder, **Sonali R. Mishra**, Yoojung Kim, Andrea Hartzler, Ari H Pollack, Wanda Pratt. Journal of the American Medical Informatics Association (JAMIA 2020). (*forthcoming*)

Informatics Opportunities to Involve Patients in Hospital Safety: A Conceptual Model.

Shefali Halder, **Sonali R. Mishra**, Ari H Pollack, Wanda Pratt. Journal of the American Medical Informatics Association (JAMIA 2019).

A Framework for Self-Experimentation in Personalized Health.

Ravi Karkar, Jasmine Zia, Roger Vilaradaga, **Sonali R. Mishra**, James Fogarty, Sean A. Munson, Julie A. Kientz. Journal of the American Medical Informatics Association (JAMIA 2015).

Manually Classifying User Search Queries on an Academic Library Website.

Suzanne Chapman, Shevon Desai, Kat Hagedorn, Ken Varnum, **Sonali R. Mishra**, Julie Piacentine. (2013). Journal of Web Librarianship, 7(4). <https://doi.org/10.1080/19322909.2013.842096>

Workshop Papers

Eavesdropping: An Information Source for Patients.

Erin Beneteau, Shefali Halder, **Sonali R. Mishra**, Wanda Pratt. Presented at the Workshop on Interactive Systems in Healthcare (WISH) at CHI 2019.

Attitudes Towards Long-Term Tracking in Parkinson's Disease.

Sonali R. Mishra, Woody MacDuffie, Predrag Klasnja, Eric Hekler, Larsson Omberg, Michael Kellen, Lara Mangravite. Presented at A Short Workshop on Next Steps Towards Long Term Self Tracking at CHI 2018.

(Research Highlight Presentation) "Move into Another World of Happy": Insights for Designing Affect-Based Physical Activity Interventions.

Sonali R. Mishra, Predrag Klasnja. 2017. Originally in Proceedings of the 2017 EAI International Conference on Pervasive Computing Technologies for Healthcare (PervasiveHealth '17). Presented as a Research Highlight at the Workshop on Interactive Systems in Healthcare (WISH) at AMIA 2017.

What Does 'What Does It Mean' Mean?: Suggestions for Contextualizing Lab Results for Pediatric Inpatients and Their Caregivers.

Sonali R. Mishra, Shefali Haldar, Maher Khelifi, Ari H Pollack, Wanda Pratt. Presented at WISH at CHI 2017.

Posters and Abstracts

Theory is in the Eye of the Beholder: Exploring Difficulties with Validating Intervention Mechanisms.

Sonali R. Mishra, Shefali Haldar, Ari H Pollack, Predrag Klasna, and Wanda Pratt. Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems. ACM, New York, NY. DOI: <https://doi.org/10.1145/3411763.3451835>

Perspectives on the Validation of Behavior Change Interventions.

Sonali R. Mishra, Shefali Haldar, Predrag Klasnja, Wanda Pratt. Annals of the Society for Behavioral Medicine Annual Meeting and Scientific Sessions (2020).

Where Are My Parents?: Information Needs of Hospitalized Children.

Erin Beneteau, **Sonali R. Mishra**, Shefali Haldar, Calvin Apodaca, Ari H Pollack, Wanda Pratt. Presented at the 2020 CHI Conference on Human Factors in Computing Systems (Extended Abstracts, CHI '2020).

Inpatient Perspectives and Information Needs for Error Prevention.

Shefali Haldar, **Sonali R. Mishra**, Ari H Pollack, Wanda Pratt. Presented at the American Medical Informatics Association Annual Symposium (AMIA 2017).

Understanding How Pediatric Patients Envision Themselves Preventing Medical Errors.

Shefali Haldar, **Sonali R. Mishra**, Ari H Pollack, Wanda Pratt. Presented at the Workshop on Interactive Systems in Healthcare (WISH) at CHI 2017.

TEACHING & MENTORING

Instruction

Seminar Instructor, “Write the Good Write” – University of Washington, Seattle, WA Fall 2018

A working seminar consisting of a 20 minute discussion of writing-related topics followed by a 30 minute focused writing block.

- Created the seminar, including its topic formulation, course design, and candidate topics for students to choose from
- Led the seminar and facilitated discussion each week

Seminar Instructor, “Trust and Distrust in the Doctor-Patient Relationship” – University of Washington, Seattle, WA Fall 2016

A seminar examining the role of trust and distrust in different aspects of the doctor-patient relationship and other health-related contexts.

- Created the seminar, including its topic formulation, course design, and candidate articles for students to choose from
- Led the seminar and facilitated discussion each week

Instructor, “Universal Design” – Library Juice Academy (Online academy for librarians) April 2014

A month-long online course on accessibility and universal design, targeted at working librarians. Required part of a UX certificate program.

- Co-created course concept and content (along with one other instructor)
- Co-taught the course (along with one other instructor), including creating and giving lectures and grading assignments

Instructor, “Beyond Usability Testing: Other Research Methods” – Library Juice Academy (Online academy for librarians) September 2013

A month-long online course covering UX research methods including interviews and heuristic evaluations, targeted at working librarians. Required part of a UX certificate program.

- Created course concept and content
- Taught the course, including creating and giving lectures and grading assignments

Individual Student Mentorship

Soo Ji Choi – PhD student, University of Michigan Ann Arbor, MI June 2022-present

Calvin Apodaca – BUILD PODER intern, University of Washington Seattle, WA Summer 2016

Maritza Zaldivar-Lima – Big Data Intern, University of Washington Seattle, WA	Summer 2016
Caitlin Barta – UX Intern, University of Michigan Libraries Ann Arbor, MI	January 2012 – May 2012

SERVICE

Associate Chair (AC) – CHI 2021	Fall 2020–Winter 2021
Assistant to the Papers Chairs – CHI 2019	Fall 2018
Admissions Committee Representative for the Doctoral Student Association – University of Washington	Fall 2018-Winter 2019
DUB Student coordinator for seminars – DUB seminar series, University of Washington, Seattle, WA	January 2018-January 2019
DUB Doctoral Colloquium coordinator – DUB, University of Washington, Seattle, WA	Spring 2018
DUB Student retreat coordinator – DUB, University of Washington, Seattle, WA	Fall 2017
Doctoral Student Association Treasurer – University of Washington, Seattle, WA	Summer 2015 – Spring 2016
Reviewer – CHI Honors: Excellent reviewer recognition, 2022	2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022
Reviewer – CSCW Honors: Excellent reviewer recognition, 2020	2019, 2020, 2021
Reviewer – IMWUT	2020
Reviewer – DIS Honors: Excellent reviewer recognition, 2017	2017, 2019

INVITED TALKS & LECTURES

- Reflections from a Minority Who is Not an Authority** – Panel on Inclusive Research, University of Arizona, Tucson, AZ October 2021
Talk on a panel about building an inclusive research practice for the UX @ UA group
- Sensors for Health** – Guest lecture for INSC 518, University of Washington, Seattle, WA February 2019
Guest lecture on different types of health sensors and important considerations in the deployment thereof.
- Self-Tracking to Support People with Parkinson’s Disease** – Design for Healthcare Meetup, Seattle, WA February 2018
Lightning talk on work done for Sage Bionetworks’ mPower mobile app at the Design for Healthcare Meetup.
- Things I Learned at the Library** – Guest lecture for INFO 498, University of Washington, Seattle, WA October 2016
Guest lecture on real-life UX experience in a University Library.
- UX at the University of Michigan Libraries** – Auburn, AL August 2012
Talk given at Auburn University Libraries on UX work at the University of Michigan Libraries.

SKILLS

Design Tools

Adobe Photoshop, Adobe Illustrator, Adobe InDesign, Adobe Fireworks, Axure, Balsamiq, Omnigraffle, Sketch, Figma

Languages

French (proficient), Hindi (beginner), German (beginner), English (USA native)