Shaan **Chopra**

GHC Scholar 2023, 2020 | Tapia Scholar 2022 | ACM-Women Scholar 2018 | Google IwD Scholar 2018

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Education

University of Washington (UW)   *Seattle, WA, USA*

PhD in Computer Science & Engineering; focus: Human-Computer Interaction & health informatics   *Sept 2021 - ongoing*

Advised by James Fogarty & Sean Munson | CGPA: 3.98 | **Selected Coursework**: Computer Ethics, HCI, AI, Critical Technology Practice, Security

University of Maryland - College Park (UMD)   *College Park, MD, USA*

Master of Science in Human-Computer Interaction   *Aug 2019 - May 2021*

Advised by Eun Kyoung Choe | Committee: Amanda Lazar, Beth St. Jean | CQPA: 4.0 | **Selected Coursework**: Health Informatics, Data Visualization, UX Research Methods, Interaction Studio, Makerspaces

Indraprastha Institute of Information Technology, Delhi (IIIT-D)   *New Delhi, India*

B.Tech. in Computer Science & Engineering   *Aug. 2015 - May 2019*

CGPA: 8.7/10 | Dean's List (>=9.5 GPA 3rd Year) | **Selected Coursework**: Data Structures, Algorithm Design & Analysis, Object-Oriented Programming, Databases, Operating Systems, Advanced Biometrics, Designing Human-Centered Systems, Wearable Applications

Skills

Research & Analysis

Human-Centered Design • Health Informatics & Technology Design • Generative AI for Health • Community-Engaged Research • User Experience • Participatory Design • Study Design • Qualitative Research & Analysis • Mixed-Methods • Data Visualization

Languages

Python • C/C++ • Java • Ruby • MATLAB • HTML • CSS • JavaScript

Tools and Technologies

Flask • Android Studio • Keras • SQL • NoSQL • MongoDB • Angular JS • Spring • D3.js • Tableau • LaTeX • Tinkercad • Figma • Invision • Balsamiq • Marvel • Sketch • Photoshop • Qualtrics • UserZoom • Nvivo • Dedoose

Experience

Institute of Translational Health Sciences (ITHS)   *Seattle, WA*

Research Intern   *June 2024 - Sept 2024*

- Working with the ITHS Hub Liaison & Network Capacity Team on a translational science project to help investigators improve participant diversity in clinical trial enrolment, with a focus on use of remote technologies.
- Conducting **interviews** & **focus groups** with clinical investigators and research coordinators.
- Building a bundle of potential interventions which can help medical researchers across ITHS, UW, & Seattle Children's Hospital to improve participant diversity in clinical research.
- Examining challenges in using identified interventions (e.g., technology access barriers, health disparities in different communities and geographies) & investigating implementation pathways.

Population Health Initiative (PHI) - UW   *Seattle, WA*

Social Entrepreneurship Fellow   *June 2023 - Aug 2023*

- Worked as a part of the PHI to **understand the market need** & **develop a strategy for adoption** of the new, culturally-responsive child developmental screening tool being developed by the project team (Julie Kientz, Kendra Liljenquist)
- Conducted **customer discovery & market research**, interviewing various stakeholders
- Provided recommendations on cost-measuring, policy, legal, & regulatory issues
- Discussed considerations for scaling, financial models, & sustainability of the tool 🔗

Parkview Mirro Center for Research and Innovation   *Fort Wayne, IN*

Research Intern   *June 2022 - Sept 2022*

- Worked with Jessica Pater on understanding data needs & communication practices between providers & Long Covid patients
- **Conducted interviews & focus groups** with medical providers
- Used **qualitative & quantitative methods** and **data visualization** to analyze **health tracking, survey, interview & health record data**
- Work resulted in 2 peer-reviewed publications & recommendations being integrated into Parkview's health ecosystem

Appruve   *Newark, DE*

User Experience Engineer Intern   *June 2020 - Aug 2020*

- Worked with product team to identify research questions and conduct **heuristic & usability assessments**, **interviews**, **surveys** & **research use-cases** for 2 consumer platforms - Appruve Identity & Appruve Financial
- Generated **user stories**, system requirements & **user workflows** for these Appruve products
- Applied **machine learning** & **computer vision** algorithms to detect & verify components of African IDs; integrated this with Appruve Identity

INRIA   *Lille, France*

RESEARCH COLLABORATOR | LOKI TEAM   *June 2020 - Aug 2020*

- Created a design space of visual & haptic perceptual factors that influence discovery of microgestural input methods in touch-based interfaces.
- Designed and implemented a collection of interactive graphical widgets using the proposed design space that affords microgestural input
- Designed a study to conduct **qualitative & quantitative user evaluations** of the proposed designs

University of Maryland - College Park   *College Park, MD*

RESEARCH ASSISTANT (UX)   *May 2020 - Sept 2020*

- Conducted **in-depth interviews** & **app-based diary studies** to understand strategies of students (international & local) to cope with COVID-19
- Conducted a cross-cultural study, ran 40 **online experiment sessions** with 4 participants each under 3 experiment conditions to gauge the effectiveness of machine translation in supporting multilingual teamwork

CommunicateHealth, Inc.   *Rockville, MD*

UX RESEARCH & DESIGN COLLABORATOR   *Sept 2019 - Dec 2019*

- Worked with CommunicateHealth to design accessible, understandable & usable mobile friendly website for healthfinder.gov for providing health information to low literacy users in the U.S.
- Employed **contextual design** & **user-centered design**: performed **contextual inquiry**, **affinity diagramming**, **experience modeling**, **low & high fidelity prototyping**, **wireframing**, **usability testing** & **inspections**

Mélange Lab, IIIT-Delhi   *Delhi, India*

RESEARCH ASSISTANT   *Aug 2017 - Sept 2019*

- Applied **participatory design** & **qualitative research** techniques including **interviews**, **surveys**, **think-aloud sessions** & **thematic analysis** to understand needs & aspirations of Menstrual Health Education & Hygiene in India & propose designs of culturally-responsive technologies
- Engaged with frameworks such as Feminist HCI, Aspiration-based Design, Asset-based Design & Storied Spaces for analysis

Selected Projects

Examining Use of Generative AI for Reflecting & Making Sense of Personal Health Informatics Data

- Examining the potential of Generative AI tools (e.g., ChatGPT & Copilot) for supporting individuals draw more personalized & actionable insights from their self-tracking health data
- Using a combination of **qualitative & quantitative research methods** to study how people prompt such tools using tracked health data & their perceptions of the responses received
- Analyzing data using **deductive & reflective thematic analysis** with the goal of developing a framework for Generative AI use for support tracking & acting on insights from personal health data

Examining Community-Responsive AI-enabled mHealth Tools for Hispanic & Latinx Populations

- Collaborating with research ethicists, pediatric pulmonologists & public health researchers Seattle Children's Hospital to examine Hispanic & Latinx community perspectives of AI-powered mHealth tools for monitoring pediatric asthma
- Conducted **focus group sessions** in rural & urban Washington to explore health condition & population-specific considerations for clinical utility, usability, burden, privacy & data sharing in mHealth tools
- Analyzed data using **thematic analysis**
- Developed a translational resource for supporting cultural-responsiveness in mHealth and AI/ML research in health

Designing to Record & Share Menopause Experience Across Generations

- Studied practices for recording & sharing menopause experiences across generations and within families
- Created **design sketches & probes** for recording & sharing menopause legacies to use in **remote co-design** sessions
- Analyzed data using **inductive thematic analysis**
- Work resulted in peer-reviewed publication

Analysing Heterogeneous Health Data using Bayesian Networks

- Modeled heterogeneous health data using Bayesian networks to support participants identify cause and effect relationships (tool and Bayesian network framework developed by Alex Okeson)
- Using a combination of **inductive and deductive thematic analysis** to analyze the technology probe user study to examine how people answer questions, evolve their tracking goals/behavior, and make health decisions based on interactions with the Bayesian network

Tracking and Managing Stigmatized Enigmatic Health Conditions

- Worked with Dr. Eun Kyoung Choe to study experiences of people with enigmatic conditions (e.g., PCOS) with the aim to support their tracking and collaboration needs
- Conducted **in-depth interviews**, **participatory design** & **research**, and **data analysis** on an online social support platform
- Work resulted in a peer-reviewed publication ⚲ and master's thesis ⚲

Design Methods for Dementia

- Worked with Dr. Amanda Lazar and Mary Radnofsky (a dementia rights advocate) to propose **user-centered design methods** for designing for and with people with cognitive disabilities, particularly people with dementia
- Designed and conducted workshops implementing the proposed method
- Used a **critical grounded theory** to analyze the collected data
- Work resulted in a case study publication ⚲

Designing Voice-Assistant Technologies for Older Adults
- Worked with Dr. Amanda Lazar and Alisha Pradhan (Ph.D student) on a project to understand voice assistant use by older adults
- Assisted with designing the study, including conceptualization and material creation for the **participatory design** sessions
- Conducted remote design sessions with older adults
- Submission currently under review

Selected Publications

1. **S. Chopra**, L. Orii, K. Juarez, N. Tieanklin, J. Fogarty, S. A. Munson: **Menopause Legacies: Designing to Record and Share Experiences of Menopause Across Generations**. CSCW'24.

2. **S. Chopra**, J. Carroll, J. Pater: **Providing Context to the "Unknown": Patient and Provider Reflections on Connecting Personal Tracking, Patient-Reported Insights, and EHR Data within a Post-COVID Clinic**. CSCW'24.

3. J. Pater, **S. Chopra**, J. Zaccour, J. Carroll, F. F. Nova, T. Toscos, S. Guha, F. L. Chang: **Charting the COVID Long Haul Experience – A Longitudinal Exploration of Symptoms, Activity, and Clinical Adherence**. CHI'24. [Publication ⚭]

4. Y. S. Sefidgar, C. L. Castillo, **S. Chopra**, L. Jiang, T. Jones, A. Mittal, H. Ryu, J. Schroeder, A. Cole, N. Murinova, S. A. Munson, J. Fogarty: **MigraineTracker: Examining Patient Experiences with Goal-Directed Self-Tracking for a Chronic Health Condition**. CHI'24. [Publication ⚭]

5. **S. Chopra**, A. Beretta, M. Duran, R. Javan, K. I. López, J. A. Rojina, L. K. Ko, M. Rosenfeld, B. S. Wilfond, J. Fogarty, S. A. Kraft: **Community-Informed Design Considerations for Advancing Equity in AI-based mHealth Technology: Learnings from Hispanic and Latinx Community Perspectives**. Designing (with) AI for Wellbeing, Workshop at CHI'24. [Publication ⚭]

6. **S. Chopra**: **A Discussion about Positionality, Research Stances, and Amplification of the "Right" Forces in Technology Design**. Feminist Voices about Ecological Issues in HCI, Workshop at CHI'22. [Publication ⚭]

7. **S. Chopra**, R. Zehrung, T. Shanmugam, E. K. Choe: **Living with Uncertainty and Stigma: Self-Experimentation and Support-Seeking around Polycystic Ovary Syndrome**. CHI'21. [Publication ⚭, Presentation ⚭]

8. **S. Chopra**, E. Dixon, K. Ganesh, A. Pradhan, M. Radnofsky, A. Lazar: **Designing for and with People with Dementia using a Human Rights-Based Approach**. CHI'21 Case study. [Publication ⚭, Presentation ⚭]

9. A. Tuli, **S. Chopra**, P. Singh, N. Kumar: **Menstrual (Im)Mobilities and Safe Spaces**. CHI'20. [Publication ⚭]

10. A. Tuli, **S. Chopra**, N. Kumar, P. Singh: **Learning from & with Menstrupedia: Towards Menstrual Health Education in India**. CSCW'18 [Publication ⚭]

11. **S. Chopra**: **Studying Intersections in Conducting Research with Minors from Lower Socioeconomic Background in India**. HCI Across Borders (HCIxB), Symposium at CHI'19 [Publication ⚭]

Awards & Achievements

2023	**Grace Hopper Conference Scholarship**, Received UW CSE funding to attend GHC 2023
2022	**TAPIA Conference Scholarship**, Received UW CSE funding to attend TAPIA Conference 2022
2021	**Wissner-Slivka Endowed Graduate Fellowship**, UW CSE 1st year fellowship
2020	**College of Information Studies Alumni Chapter Scholarship**, Exceptional UMD iSchool grad student award
2020	**Grace Hopper Conference Scholarship**, Received UMD iSchool scholarship to attend GHC 2020
2018	**ACM-Women Scholarship**, Received travel scholarship to attend CSCW 2018
2018	**Google IWD Scholarship**, Received travel scholarship to attend IWD Celebrations at Google, Bangalore
2018	**Dean's List for Academic Excellence**, 9.5+ CGPA in third year of undergraduate degree at IIIT-D
2018,17	**Dean's List for Excellence in Sports**, Excelled in discus throw & basketball at college, state, & national level
2018,16	**Dean's List for Overall Contribution to Student Activities**, Exceptional contribution to activities at IIIT-D

Teaching Assistant Experience

CSE 512	**Human Computer Interaction**, with James Fogarty at UW	*Fall 2023*
CSE 440	**Human Computer Interaction**, with Scott Ichikawa at UW	*Spring 2023*
INST 462	**Data Visualization**, with Babaki Fotouhi at UMD	*Spring 2021*
INST 201	**Introduction to Information Science**, with M. R. Sauter at UMD	*Spring & Fall 2020*
INST 362	**User-Centered Design**, with Rachael Bradley-Montgomerey at UMD	*Fall 2019*
HSS 2xx	**Digital Ethnography**, with Shriram Venkatraman at IIIT-D	*Fall 2017*

Academic Service

2021-24	**Reviewer**, ACM Conference on Human Factors in Computing (CHI)
2022-24	**Reviewer**, ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)
2024	**Reviewer**, ACM Designing Interactive Systems (DIS)
2023	**Reviewer**, ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)
2022	**Student Volunteer**, ACM Conference on Human Factors in Computing (CHI)
2021	**Web Co-Chair**, ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)
2019	**Student Volunteer**, Conference on Information & Communication Technologies and Development (ICTD)

Volunteer & Service Work

2024	**Visit Day Coordinator**, New Grad Visit Days at UW CSE
2022-23	**UW PhD Diversity Outreach & Recruiting Volunteer**, at Tapia & Grace Hopper Conferences
2019-20	**Organizer & Mentor**, "User-Centered Design of Tech for People with Dementia" workshop at TECHNICA
2018	**Design Hackathon Mentor**, Design360 Hackathon at ESYA, IIIT-D
2017	**Organizer & Coordinator**, Summer school for underprivileged middle schoolers at IIIT-D
2016	**Volunteer Teaching Assistant**, Summer school for underprivileged middle schoolers at IIIT-D

Certifications & Summer Schools

2024	**Menstrual Educator Certification**, by Menstrupedia
2017	**ACM Summer School on Machine Learning & Natural Language Processing**, at IIT Kharagpur