

# 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:** HCI, AI, Computer Ethics, Security, Critical Technology Practice

### 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 ( $\geq 9.5$  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

- 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

**CommunicateHealth, Inc.**

Rockville, MD

- 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**

**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. Orij, K. Juarez, N. Tieanklin, J. Fogarty, S. A. Munson: **Menopause Legacies: Designing to Record and Share Experiences of Menopause Across Generations**. CSCW'24. [Publication]
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. [Publication]
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, K. I. López, J. A. Rojina, L. K. Ko, M. Rosenfeld, B. S. Wilfond, J. Fogarty, S. A. Kraft: **Developing a Resource for Supporting Community-Based Health Research: Towards Considerations for Advancing Equity in Mobile Health Technology**. CSCW'24 Poster. [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

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- 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

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- 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-Montgomery at UMD Fall 2019
- HSS 2xx **Digital Ethnography**, with Shriram Venkatraman at IIIT-D Fall 2017

## Academic Service

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- 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

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- 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

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