

Meghna Gupta

Research Fellow, Microsoft Research India

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Education

Aug 2016 May 2020	Indraprastha Institute of Information Technology, Delhi (IIIT-Delhi) B.Tech (Honors), Computer Science & Engineering CGPA: 8.83 out of 10	New Delhi, India
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Research Interests

My research interests lie in understanding the emergent socio-technical practices of marginalized populations to design more inclusive and culturally-appropriate technologies that can meaningfully impact their lives. I aspire to use ethnographic research methods to investigate, engage with, and harness the existing social, cultural, and digital infrastructures embedded within communities during technology design.

Experience

Present Jul 2021	Microsoft Research India Technology and Empowerment (TEM) [🌐] Research Fellow / Advisors: Dr. Indrani Medhi Thies , Dr. Mohit Jain , Dr. Pratyush Kumar Working on research problems around Human-computer Interaction (HCI) and Information and Communication Technologies for Development (ICTD) in the Global South, specifically in the context of <i>emerging digital technologies, health, and accessibility</i> .	Bangalore, India
Jan 2021	Research Intern / Advisor: Dr. Indrani Medhi Thies Worked on understanding smartphone usage among emergent users in low-income communities in India across both urban and rural areas.	
Jan 2022 May 2020	IIIT-Delhi Interactive and Intelligent Systems Lab [🌐] Research Assistant / Advisors: Dr. Pushpendra Singh , Dr. Neha Kumar Worked on research problems around gender, health and well-being, and labor in India, with specific focus on (1) women safety in public spaces, and (2) care routines of frontline health workers (FHWs) during COVID-19.	Delhi, India
Aug 2019 Sep 2020	IIIT-Delhi Living Lab [🌐] Undergraduate Researcher / Advisors: Dr. Grace Eden Worked on understanding how Delhi residents assess their personal risk around air pollution and the safety measures they take to mitigate that risk. [Dean's Recognition for Significant Achievements]	Delhi, India
Aug 2020 Jan 2021	NatWest (Royal Bank of Scotland) Software Engineer / Personal Banking Worked on enhancing the user experience of a CI/CD dashboard (Hygieia) by customizing the widgets corresponding to various stages of integration and deployment pipeline in the Software Development Cycle (SDC).	Gurgaon, India
May 2019	Software Engineer Intern / Commercial and Private Banking Designed and developed a proof-of-concept for automatic cheque imaging problem using Flask to extract essential data from scanned digital images of cheques.	

Publications

S=In Submission, C=Conference, W=Workshop, P=Poster/Demo

- [S.2] **Understanding Voice Search Use by Emergent Smartphone Users in India**
[Meghna Gupta](#), [Indrani Medhi Thies](#)
[Working Paper]
- [S.1] **Understanding the Technology-Mediated Home Phlebotomy Ecosystem in India**
[Nimisha Karnatak*](#), [Meghna Gupta*](#), [Mohit Jain](#) (* = Equal Contribution)
[In Submission]
- [C.4] **Imagining Caring Futures for Frontline Health Work** [🌐]
[Azra Ismail](#), [Deepika Yadav](#), [Meghna Gupta](#), [Kirti Dabas](#), [Pushpendra Singh](#), [Neha Kumar](#)
ACM Conference On Computer-Supported Cooperative Work And Social Computing (CSCW) [CSCW'22]

- [C.3] **Sophistication with Limitation: Understanding Smartphone Usage Among Emergent Users in India** [🔗]
Meghna Gupta, Devansh Mehta, Anandita Punj, Indrani Medhi Thies
ACM SIGCAS & SIGCHI Computing and Sustainable Societies (COMPASS) [COMPASS'22]
- [C.2] **The Human-Air Interface: Responding To Poor Air Quality Through Lived Experience and Digital Information** [🔗]
Meghna Gupta, Grace Eden
ACM SIGCHI Conference on Designing Interactive Systems (DIS) [DIS'22]
- [C.1] **AICA: Artificial Intelligence Conversation Assistant** [🔗]
Arpit Bhatia, Meghna Gupta, Abhishek Gupta, Nishtha Singhal
Student Design Competition, ACM SIGCHI Conference on Designing Interactive Systems (DIS) [DIS'20]
- [P.1] **Understanding the Role of Technology-mediated Solutions for Women's Safety in Urban India** [🔗]
Jasmeet Kaur, Meghna Gupta, Pushpendra Singh
ACM SIGCAS & SIGCHI Computing and Sustainable Societies (COMPASS) [COMPASS'22]
- [W.2] **Seeking Digital Care in Low-Resourced Contexts: Identifying Opportunities and Challenges** [🔗]
Meghna Gupta
Information-Seeking Online, CSCW 2022 [CSCW'22]
- [W.1] **Meaning in Language: From Professional to Local Contexts** [🔗]
Meghna Gupta, Grace Eden
In (Coping With) Messiness in Ethnography Workshop, ECSCW 2020 [ECSCW'20]

Selected Research Projects

Understanding Emergent Technology Use among Low-income Communities in India Jan'21 - Present

- > Conducted and thematically analyzed 30 semi-structured interviews to understand smartphone usage among emergent users from low-income communities across both rural and urban areas in India [COMPASS'22]
- > Worked on understanding voice search use among emergent low-literate smartphone users in India. Conducted and analyzed 21 in-depth semi-structured interviews and 10 task-based observation studies to propose recommendations for designing voice search for emergent users. [Working Paper]

Understanding Technology-Mediated Home Phlebotomy Ecosystem in India Apr'22 - Present

- > Worked on a project to examine the roles, responsibilities, and technology-mediated workflows of home phlebotomists amidst platformization of healthcare in India.
- > Conducted and analyzed 26 semi-structured interviews with phlebotomists, patients, and riders, supplemented by work-day of 3 home phlebotomists. [In submission]

Designing Accessible Video Conferencing Platforms for DHH Community Sep'22 - Present

- > Working with Anant Mittal (PhD student) on designing, developing, and evaluating an accessible video conferencing prototype for deaf and hard-of-hearing community in India.
- > Conducting remote user studies and in-depth semi-structured interviews with DHH, interpreters, and hearing participants. [Working Paper]

Imagining Caring Futures for Frontline Health Work July'20 - Jun'22

- > Examined the emerging digital ecosystem of frontline health workers (FHWs) in India during the COVID-19 pandemic and government-imposed digitization.
- > Applied ethnographic research techniques including interviews, surveys & thematic analysis. [CSCW'22]

Understanding the Role of Technology-mediated Solutions for Women's Safety in Urban India July'20 - Dec'21

- > Worked on a project to investigate women's perceptions and desires around these technological solutions for safety in public spaces in India.
- > Conducted and analyzed 2 surveys, 25 semi-structured interviews, and speculative scenario-based discussions using inductive thematic analysis. [Note@COMPASS'22]

Risk Perceptions and Aspirations of Air Quality Interfaces Aug'19 - Jan'21

- > Worked on understanding how residents across both low- and high-resourced communities interpret air quality information and how it informs their understanding of risk and the safety measures they take to mitigate that risk.
- > Conducted and analysed 19 semi-structured interviews to suggest recommendations for improving the interpretability and relevance of air quality interfaces. [DIS'22]

Reviewer	CHI 2023, CSCW 2022, CHI 2022, CHI LBW 2021
Volunteer	SV at DIS 2022
Talks	What does working in HCI for Global Development look like? (Introduction to HCI, Winter 2022, IIT Delhi) Technology and Global Development at CHI 2021 (TEM Reading Group, MSR India)

Selected Software Projects

HyWay: Enabling Unstructured Conversations in the New Hybrid World Oct'21 - Feb'22

- › Developed a hybrid communication platform to improve interactions between today's physical and virtual users
- › Designed a virtual map of an office floorplan for fluid movement, muffled audio of users based on the distance for porous conversations, and setup hybrid conversation zones on the office floor for seamless interaction
- › Deployed the prototype during a conference with 100+ attendees

Delhi Metro Rail Corporation (DMRC) Connect [📱] [🌐] Aug'19 - Dec'19

- › Developed a mobile application to facilitate interactions between DMRC officials and Delhi Metro users using human-centered design methodologies. Covered by various media houses across New Delhi.
- › *Technology Stack: Android, Java, MongoDB, and Adobe XD*

Conference Portal [🌐] Mar'18 - Jan'19

- › Designed and developed a Django-based web platform that can be used by conferences (academic or non-academic) to automatically generate a customized android application for their conference as per their requirements. Used at ICTD 2019 to generate official conference mobile application.
- › *Technology Stack: Django, Android, Java, Shell script*

Career Portal Nov'17 - Mar'18

- › In collaboration with [Udayan Care](#), worked on developing a mobile application that allowed disadvantaged fellow women to apply for jobs and get hired directly.
- › Worked on gathering a domain understanding of the constrained environment of the fellows.

Honours and Awards

Undergraduate Thesis. Received Dean's letter of appreciation and recognition for significant achievements in undergraduate thesis.

Google Women Techmakers Travel Grant, 2017. Youngest of the 10 women across the world to be awarded a travel support to attend the Firebase Dev Summit 2017 in Amsterdam.

Google India Challenge Scholarship, 2018. Awarded a scholarship in Android Developer Track, Udacity to pursue Android Development Nanodegree.

National Talent Search Exam Scholarship, 2014. Awarded by Government of India to identify and recognize students (top 0.01% students) with high intellect and academic talent at national level.

Junior Science Talent Search Exam Scholarship, 2013. Awarded by Central Board of Secondary Education to academically bright students (top 150 students) belonging to Delhi State.

BYLD Hackathon, 2017. Awarded the first position for developing a mobile application that recommends songs depending upon the mood of the person.

Leadership and Volunteering

TEM Reading Group, MSR India *Organizer* Jul'21 - Dec'21

- › Organized a weekly lab-wide reading group focused on research taking place in the area of Technology and Empowerment (TEM). Responsible for organizing talks in HCI, ICTD, and related areas by internal and external speakers.

Summer Camp, Government Senior Co. Educational Senior Secondary School *Teacher* May'17 - June'17

- › Taught a class of 30+ students at a Government School in Delhi for 3 weeks. Responsible for teaching academic curriculum as well as taking art and craft, computer lab and fitness sessions.