

Nimisha Karnatak

Research Fellow at Microsoft Research

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RESEARCH INTERESTS

Human-Computer Interaction, Healthcare, Accessibility, Human-AI Interaction, ICTD

EDUCATION

- **International Institute of Information Technology, Bangalore** July 2019 - June 2021
Master of Science in Digital Society, Specialization: Data Intensive Digital Design **CGPA: 3.72/4.0**
 - Dean's Merit List of IIIT-B (For outstanding academic performance)
- **G.B. Pant University of Agriculture & Technology, Pantnagar** Sep 2014 - June 2018
Bachelor of Technology in Industrial and Production Engineering **CGPA: 8.093/10.0**
 - Vice Chancellor's Silver Medalist of the batch 2014 - 18 (awarded to the highest CGPA holder)
 - Toppers merit scholarship throughout the B.Tech. programme

WORK EXPERIENCE

- **Microsoft Research India** Bangalore, India
Research Fellow July 2021 - Present
 - **Project 1:** Understanding the ecosystem of BP management in low-resource communities of India
Advisors: [Dr. Mohit Jain](#), [Dr. Bill Thies](#), [Dr. Indrani Medhi Thies](#)
 - * Recruited 21 patients clinically diagnosed with hypertension or hypotension; conducted and analyzed 21 qualitative interviews.
 - * Proposed design recommendations to inform the future of chronic disease management in resource-constrained settings in India
 - * Submitted first-author paper in [TOCHI](#) journal
 - **Project 2:** Understanding the technology-mediated interaction of phlebotomists in India
Advisor: [Dr. Mohit Jain](#)
 - * Identified and recruited stakeholders of the phlebotomists' ecosystem
 - * Conducted and analyzed 26 qualitative interviews, including 3 observation study
 - * Proposed design recommendations to improve the transparency, trustworthiness, and confidentiality within the phlebotomy ecosystem
 - * Submitted first-author paper to [CHI 2023](#)
 - **Project 3 (Ongoing):** Improving interpretability of XAI methods for novice users to increase AI's trustworthiness
Advisors: [Dr. Mohit Jain](#), [Dr. Aditya Vashishtha](#) (Cornell University)
 - * Develop a set of prototypical questions and answers to augment the understandability of current XAI methods among novice users like ASHA workers
 - * Model a reference guide for the development of next-generation XAI methods.
- **Alpine College Of Management and Technology** Dehradun, India
Teaching Faculty July 2018 - July 2019
 - Worked as a Teaching faculty of mechanical engineering in the mechanical engineering department

FUNDED ACADEMIC RESEARCH

- **Indian Institute of Technology Roorkee** Roorkee, India
User Experience Research Intern June 2020 - July 2020
 - **Project:** Evaluation of urban space from the perception of the elderly to build an **inclusive** neighborhood
 - **Advisor:** [Prof. Saptarshi Kolay](#) (IIT-Roorkee)
 - **Responsibilities:** Created personas, and scenarios; designed survey for the user study containing a total of 65 questions and analyzed the qualitative and quantitative data to design ideas for the active aging of the elderly
- **International Labour Organisation (ILO)** Geneva, Switzerland
Qualitative Research Assistant Sep 2019 - June 2020
 - **Project:** Exploring the experiences of women working in the AI domain in India and understanding the ethical aspects of AI from the perspective of women.
 - **Advisors:** [Dr. Uma Rani](#) (Senior Economist, International Labour Organisation), [Prof. Preeti Mudliar](#) (IIIT-B)
 - **Responsibilities:** Recruited Indian female engineers working in the field of AI as participants through LinkedIn and snowball sampling methodology; designed questionnaire and conducted 24 qualitative interviews with average interview length of 120 min
- **Digital Identity Research Initiative at Indian School Of Business and IIIT-B** Bangalore, India
Research Intern Jan 2020 - June 2020
 - **Project:** Exploring the implication of Aadhar failure and consequential exclusion.
 - **Advisor:** [Prof. Bidisha Chaudhuri](#) (IIIT-B)
 - **Responsibilities:** Performed statistical analysis and generated info-graphics of the qualitative study conducted in South India using MS Excel; documented literature highlighting the biases of biometric technology and Aadhar

PUBLICATIONS

- **Nimisha Karnatak**, Meghna Gupta, and Mohit Jain (2022) “**Understanding the Technology-Mediated Home Phlebotomy Ecosystem in India**” under review at the [ACM CHI Conference on Human Factors in Computing Systems](#). ([Preprint](#))
- **Nimisha Karnatak**, Brooke Loughrin, Tiffany Amy Kuo, Odeline Mateu-Silvernail, Indrani Medhi Thies, Bill Thies, and Mohit Jain (2022) “**Is it even giving the correct reading or not?: How Trust and Relationships Mediate Chronic Disease Management in India**” under review at the [Transactions on Human-Computer Interactions \(TOCHI\)](#). ([Preprint](#))

ACADEMIC ACHIEVEMENTS

- Amongst the top 65 students out of over 15000 applicants across India to get selected as a **SPARK summer Intern, 2020** of Indian Institute of Technology, Roorkee (**IIT-R**)
- Won the ‘**Best Presentation Award**’ for my internship work at the SPARK Internship Program of the Indian Institute Of Technology, Roorkee (**IIT-R**) [Certificate Of Appreciation](#) by IIT-R and SPARK

ACADEMIC PROJECTS

- **User research to make mobile payment applications accessible for the visually challenged:** Developed low-fidelity prototype (Braille inscribed on cardboard simulating mobile phone screens) and high-fidelity prototype (by deploying Adobe XD) using design concepts from user research for usability testing
 - Research methodology: qualitative interviews of 30-40 minutes with 10 visually challenged participants using Zoom
 - Usability Testing methods: Think out loud and Participant observation followed by an interview
- **Virtual internship in Product Management:** Performed strategic evaluation of the Microsoft product ‘Workplace Analytics’ on the grounds of software product management and put forth recommendations for the product under the supervision of Professor Haragopal Mangipudi, Infosys veteran & Finacle creator and mentor Mr. Nishant Rajan, Product Manager at Microsoft.
- **High-fidelity prototype of a virtual classroom application using Adobe XD:** Aalyzed the impact of emergency remote learning during COVID-19 among the students of IIIT-B using data collected through quantitative and qualitative research
- **Time Series Analysis of Spatial Data for examining the Land Use and Land Cover:** Time Series Analysis of Spatial Data for examining the Land Use and Land Cover of Bangalore using GRASS GIS software for the year 2003,2010,2015 and 2020.
- **Bachelor of Technology Final Year Thesis Project:** Analyzed and compared the temperature and humidity variation between the Earth Energy Enabled Cooling System and Traditional Cooler.

RELEVANT COURSEWORK

- **Master Of Science:** Human-Computer Interaction; Quantitative Research and Qualitative Research; Web and the Mind; Software Product Management; Algorithms; Social Complexity and Systems Thinking; ICT Policy and Regulation; Technology and Society; Application Development for a Connected Society; Geographic Information System
- **Bachelor of Technology:** Work System Design; Automation and Robotics; Internal Combustion Engine; Thermodynamics and Heat Engines; Machine Element Design; Kinematics of Machine; Theory of Machines; Probability, Statistics, and Queuing Models; Industrial Engineering; Engineering Mathematics; Numerical Methods for Engineering, Material Science

SKILLS / TECHNOLOGIES

- **Human Computer Interaction:** User Study, Focus Groups, Prototyping, Wireframing, Adobe XD, Usability Testing and Evaluation, Design Thinking, Accessible and Inclusive design, Personas, Scenarios, Storyboards, Diary study, Survey Design and Sampling, Stakeholder/user interviews
- **Research skills:** Qualitative Research and Quantitative Research, Data Collection and Analysis, Participant Observation, Ethnographic Research
- **Data Analysis skills:** Microsoft Excel, Advanced Statistics, Tableau

POSITIONS OF RESPONSIBILITY

- **NGO: Jivaamrit Khelpur Shermou Roorkee (2018-19):** Volunteered for organic farming awareness among farmers.
- **Indian Red Cross Society (since 2015):**
 - Life member of Red Cross Society since 2015
 - Volunteered in organizing 5 blood donation camps and 4 health check-up camps.
- **National Service Scheme by Ministry of Youth Affairs & Sports, Government Of India (2014-2017):** Awarded B&C certification for completing 240 & 360 hours of volunteering in 2014-2016 and 2016-2017

EXTRACURRICULAR ACTIVITIES

- Created an Instagram page to create awareness for eating healthy with over 15000 followers [indian_weightloss_recipes](#)
- Selected in Global Leadership Experience Program 2019 organized by Common Purpose in collaboration with King’s College London and IIIT-B
- Winner of Netritva: Leadership Hunt contest 2016, organized by YUVA, The National Youth Awakening Festival.
- First position in Speech Competition organized by the Indian Red Cross Society and Youth Club in 2014