

Bhavya Chopra

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Education

Indraprastha Institute of Information Technology, Delhi
Bachelor in Technology, Computer Science and Design with Honors

August 2018 - June 2022
CGPA: 9.14/10.00

Delhi Public School, R.K. Puram, New Delhi
CBSE AISSCE Class XII

May 2018
Aggregate: 95.6/100.0

Work Experience

Research Fellow at PROSE Team, Microsoft Research

July 2022 - Present

Advisor: Dr. Austin Henley

Conducting human centered (HCI) research to develop interfaces for Human-in-the-loop (HITL) data wrangling for data scientists and low-code users.

MathWorks Engineering Development Group Internship

May 2021 - July 2021

- Refactored functional tests for MATLAB (R2021b) Support Package for Raspberry Pi Hardware and increased test code coverage to 65%.
- Developed *MatSight*, a visualisation and analysis tool for the User Experience Team during a company hackathon; **awarded Best Hack and Most Voted Hack prizes.**

Research & Publications

Reality Tales: Facilitating User-Character Interaction with Immersive Storytelling

August 2020 - April 2021

Advisor: Dr Aman Parnami, **Published & Awarded 2nd Prize at ACM CHI 2021 Student Research Competition (Undergraduate Category)**
Developed *Reality Tales*, a platform to facilitate voice-based conversational interaction with story characters as a novel dimension to digital interactive storytelling, following a user-centered design process. (Methods Used: **Semi-structured Interviews, Survey, Wizard of Oz, Iterative Prototyping, Inductive Thematic Analysis, Concurrent Think-Aloud**) ([Publication](#) / [Website](#) / [Video](#) / [Presentation](#) / [Poster](#))

StoryBox: Interactive Storytelling for Children with Blindness and Visual Impairment

August 2021 - Present

Advisor: Dr Richa Gupta, **Published at ACM CHI 2022 Late-Breaking Work**

Developed StoryBox, a multi-modal agent to facilitate independent storytelling experiences for children (5-12 years) with visual impairment. The platform takes inspiration from the fading Rajasthani tradition of oral storytelling - '*kaavad banchana*', and supports audio-based story narration and spatial, verbal, and tangible interactions with story elements via sensor-enabled tactile clay figurines. (Methods Used: **Semi-structured Interviews, Roleplay, Prototyping, Survey, Deductive Thematic Analysis**) ([Publication](#) / [Video](#) / [Preview](#) / [Poster](#))

Automatic Assertion Generation: B.Tech Thesis at Program Analysis Group

January 2021 - Present

Advisor: Dr Rahul Purandare

Studying the usage of assertions in Java programs across popular GitHub repositories using program analysis techniques. We aim to develop a tool that performs automated generation of context-aware assertions to aid software developers in authoring Java programs.

Selected Projects

Plants Vs Zombies: Strategy Video Game

October 2019 - December 2019

Re-implemented Plants vs Zombies, following object oriented programming principles. The project is well received in the open source community, with widespread attention from enthusiasts in various online forums. (Technologies Used: **Java, JavaFX**) ([GitHub](#) / [Video](#))

TechTree: Institute Internship

June 2019 - August 2019

Guide: Ms. Sheetu Ahuja (Senior Academics Manager at IIIT-Delhi)

Designed and developed web application for visualization of course dependencies via interactive tables and graphs for courses on offer at IIIT-Delhi, to help 3000+ students take informed decisions while planning their courses. (Hosted at: techtree.iiitd.edu.in)

LiveErr0r: Real-time feedback for elementary learners

January 2019 - February 2019

Designed and developed an interactive system to check the correctness of handwritten mathematical expressions in real time, providing instant haptic feedback to elementary learners. (Technologies Used: **Python, Microsoft Azure Computer Vision API, Android, Arduino**)

Chidiya Udd: Early Hearing Loss Detection for Children

August 2021 - December 2021

Developed and gamified a reliable online audiometry test in the form of 'Chidiya Udd' - a popular game among children in India. Designed a collaborative table-top interface for early hearing loss detection and tracking in a classroom setting for preschoolers, ensuring regular testing, while eliminating the fear associated with visits to doctors. (Methods Used: **Literature review, Contextual observation, Thematic analysis, Ideation, Prototyping, Usability-evaluation**)

Easy Wash: Redesigning Washing Machines for Accessibility

August 2021 - October 2021

Identified exclusions created by washing machines, built persona-spectrums via roleplays, and proposed accommodations, as well as a complete redesign for inclusion. (Methods Used: **Empathy mapping, Persona-Scenarios, Roleplay, Ideation, Cardboard prototyping**)

Skills

Programming Languages

Python, Java, C++, JavaScript, F*, MATLAB

Tools and Technologies

Figma, Miro, LaTeX, Git, Spoon, OpenGL, Shell Scripting, Habanero C, OpenMP, MPI, JavaFX, Flask

Relevant Coursework

Advanced Topics in Human Centered Computing*, Design of Interactive Systems*, Inclusive Design - Universal Design and Accessibility*, Human Computer Interaction, Research Methods in Social Science and Design, Design Drawing and Visualization, Visual Design and Communication, Computer - Information Ethics and Society, Machine Learning, Big Data Analytics*, Program Verification*, Decision Procedures*, Foundations of Parallel Programming*, Computer Graphics*, Analysis and Design of Algorithms (* Graduate-level courses)

Awards & Honors

ACM CHI 2021 - Second Position, Student Research Competition (Undergraduate Category)

May 2021

Awarded by ACM Student Research Competition

GHC'21 Student Scholarship

July 2021

Awarded by AnitaB.org to attend 2021 Virtual Grace Hopper Celebration

Dean's List Award for Excellence in Research (2020-21) and (2021-22)

September 2021, September 2022

Awarded by Dean of Innovation, Research & Development (DIRD), IIIT-Delhi

Dean's List Award for Excellence in Academics (2020-21)

September 2021

Awarded by Dean of Academic Affairs (DoAA), IIIT-Delhi

Gary Marsden Travel Grant Award, SIGCHI

April 2021, April 2022

Awarded by SIGCHI for presenting my research work at CHI 2021 and CHI 2022

Ishwar Chandra Memorial Award, DPS R.K. Puram

October 2017

Awarded by Ms Joanna Kempkers, the High Commissioner of New Zealand, for excellent academic performance

Positions & Leadership

Founding Member, Accessibility and Inclusive Design Lab

August 2021 - June 2022

Research Group led by Dr Richa Gupta at IIIT-Delhi

Member, Program Analysis Group

November 2020 - May 2022

Research Group led by Dr Rahul Purandare at IIIT-Delhi

Undergraduate Teaching Assistant, Introduction to Human Computer Interaction

January 2022 - May 2022

Teaching Assistant for course Introduction to HCI (DES102) at IIIT-Delhi, taught by Dr Rajiv Ratn Shah

Undergraduate Teaching Assistant, Program Analysis

August 2021 - December 2021

Teaching Assistant for course Program Analysis (CSE503) at IIIT-Delhi, taught by Dr Rahul Purandare

Student Volunteering

Student Volunteered for CSCW 2022, CSCW 2021, CHI PLAY 2022, and IndiaHCI 2021 conferences

Reviewer

ACM CHI 2022 Late-Breaking Work Track, ACM CHI 2023 Papers

Delhi Chapter Head, Women in Machine Learning and Data Science (WiMLDS)

March 2021 - Present

Organisation supporting women and gender minorities who are interested in Machine Learning and Data Science

- Organised the chapter's first 4-week Mentorship Programme with 30 participants.
- Organised Knowledge Series to conduct talks on data science, machine learning and artificial intelligence.

President, Women in Tech

June 2020 - Present

Tech Society at IIIT-Delhi to support Women in STEM

- Delivered talks on HCI research, web-development, ask-me-anything sessions, and conducted hackathons to promote diversity in tech.
- Deployed the club's [website](#) for easy access to resources and opportunities in STEM, actively used by 2900+ community members.