

Vishal Bharti

<https://vishal-20264.github.io/vishalbharti-portfolio/>

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EDUCATION

Indraprastha Institute of Information Technology Delhi (IIIT-Delhi)
B.Tech (ECE)

Delhi, India

EXPERIENCE

Creative Interfaces Lab, Indraprastha Institute of Information Technology, Delhi
Research Assistant · Creative Interfaces Lab

Delhi, India

May 2022 - Present

- **Tangible Interactions with Curtain:** Engineered an innovative interface that transforms traditional curtains into interactive digital surfaces by integrating sensor-based inputs and dynamic UI feedback. This project bridged physical gestures with digital control, enhancing user experience.
- **VoxCraft:** Developed interactive, voxel-based environments enabling real-time 3D design and manipulation. Provided intuitive tools for constructing and modifying digital architectures, fostering creativity and experimentation.
- **Immersive MR/VR/AR Experiences:** Gained extensive hands-on experience with Mixed Reality, Virtual Reality, and Augmented Reality technologies, working with Meta Quest 2 and 3 devices. Developed immersive applications that seamlessly merge physical and digital interactions.

PROJECTS

Simple Assembler and Simulator: Developed an assembler and simulator for a custom instruction set architecture, enabling machine-level execution of assembly code. Implemented opcode translation, memory management, and execution logic, ensuring accurate simulation of program execution.

Prototype of a Societal Impact App : Designed and prototyped a mobile application aimed at addressing a real-world societal challenge. Conducted user research, wireframing, and UI/UX design using Figma. Developed an interactive prototype demonstrating core functionalities and potential impact.

Tangible Interactions with Curtain: Engineered an innovative interface that transforms ordinary curtains into interactive, tangible UI elements. Utilized embedded sensors and actuators to detect user gestures and enable dynamic digital interactions. Published findings in SIGGRAPH Asia 2024 Posters.

Voxcraft: Developed interactive voxel-based environments enabling creative and modular design. Implemented real-time manipulation of 3D structures, allowing users to construct, modify, and experiment with digital architectures intuitively.

PROGRAMMING SKILLS

Languages: Python , HTML , Java , CSS

Technologies: Figma , TinkerCAD , MATLAB