

# Vishal Bharti

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## About

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I'm a dedicated technology innovator who turns challenges into elegant, user-centric solutions that enrich everyday life. Blending creative vision with technical expertise, I craft intuitive systems that empower users and ignite breakthrough ideas. I thrive on pushing boundaries and transforming obstacles into opportunities for lasting impact.

## Education

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

## Experience

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

## Publications

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Anand, P., Bharti, V., Srivastava, A.: Curtain UI: Augmenting Curtains for Tangible Interactions. In: SIGGRAPH Asia 2024 Posters. pp. 1–2. Association for Computing Machinery, New York, NY, USA (2024) | DOI: [10.1145/3681756.3697935](https://doi.org/10.1145/3681756.3697935)

## Projects

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- **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

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Languages: Python , HTML , Java , CSS

Technologies: Figma , TinkerCAD , MATLAB