

Jyoti Rautela

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RESEARCH VISION

My research explores how technology can be designed **WITH** people who are often excluded from dominant design processes. Across my projects, I focus on them through three values:

1. By giving them agency and not treating them as passive recipients - **Participatory Framework** [P1, P2, P4]
2. Surfacing that technology doesn't exist alone, it is embedded in services, relationships and care ecosystem - **Embodied Understanding** [P1, P2, P3]
3. Using AI to help people critically analyze their own preferences - **AI that supports** [P1, P3]

EDUCATION

IIT Roorkee, Uttarakhand, India
M.Des. in Industrial Design, DOD

July 2024 - May 2026
CGPA 8.77

NIFT Bhubaneswar, Odisha, India
B.Des. in Accessory Design

Aug 2016 - Sep 2020
CGPA 8.0

RESEARCH EXPERIENCE

Mobility & Vehicle Design (MVD) Lab

Research Intern (Advisor: Prof. Unni Mohan M.)

Jun- Aug 2025
IIT Bombay, India

- Helm and cockpit redesign - Kochi Water Metro, Kerala. | *HCI-Ergonomics-HFD*

Mobility & Vehicle Design (MVD) Lab

Graduate research Intern (Advisor Prof. Nishant Sharma)

Sept - Dec 2025
IIT Bombay, India

- Research project on a low-floor mobility aid for women with lower-limb impairment, integrating anthropometric data, with co-speculative and participatory design frameworks.
| *Disability-Affordability-Built environments-Social infrastructure justice*

PROJECTS

Low floor Assistive Device - Understanding Assistive Mobility Barriers for People with Lower Limb Disabilities in domestic Indian context [P1]

Sept 2025 - May 2026

- Developed a modular wheelchair rear-wheel prototype addressing everyday mobility barriers with expandability feature; translated participatory insights into mechanisms to test and prototype for spatial accessibility frictions using Unity environments and Meta Quest module.
| *Field co-design and participatory study with clinicians & PwDs* (Delhi, Mumbai, Roorkee)
| *Advisor: Prof. Madhan Vasudevan, Prof. Abinash Swain (IITR), Prof. Nishant Sharma (IITB)*

AuraMist - Multimodal Mood Sensing & Just-in-Time Interventions [P2]

Aug - Nov 2024

- Fused wearable skin temperature (digital watch) and eye tracking methods to infer arousal and valence, (paced breathing, focus blocks) with a BLE aroma-haptic device.
| *Advisor: Prof. Saptarishi Kolay (IITR)*

- RetroWalk - In-Shoe Gait Imbalance Sensing for Older Adults [P3]** **Oct 2019 - Feb 2020**
- Built an instrumented insole prototype with on-device fusion and load cells to estimate stride asymmetry and push real-time data via BLE app for safer walking and posture for elderly.
| Advisor: Prof. Harish Rajiv (NIFT Bhubaneswar), Mr. Ankit Sengar (Benetton India Pvt. Ltd.)

CONFERENCE

Emerge Conference 2026, IIT Bombay **Mar 2026**
Full Paper Presentation on Participatory Design for Assistive Mobility in Indian Homes

IDEAS Conference 2024, IIT Roorkee **Oct 2024**
Presented Abstract on Tackling Postural Imbalance in Elderly People: A Technological Approach

INDUSTRIAL EXPERIENCE

Myntra Fashion **Mar 2023 - Aug 2024**
Associate - Design | Footwear & Accessory **Bangalore, India**

- Built 3D CAD models: Sizing analytics-prototype material-aware design collections for Ducati, Nautica, HrX. Trend forecasting, Materials procurement, Sample handoffs.

Rapawalk Pvt. Ltd. **Nov 2021 - Mar 2023**
Product development & Sourcing Management | Accessory **Bangalore, India**

- Led end-to-end accessory development & sourcing: Material selection, vendor onboarding,
- QC, and CAD-to-sample handoffs-for on-time, manufacturable launches.

Benetton India **Dec 2019 - May 2020**
Footwear Design Intern **New Delhi, India**

- Automated footwear product lifecycle: standardized lasts & molds, and worked in R & D department for my final year project [P3]

LEADERSHIP

Department of Design, IIT Roorkee **Sept 2024 - May 2026**
Department Placement Representative

- Led department internship/placement ops-employer outreach, recruitment drives, and portfolio clinics-while hosting a “Women in Design” workshop to advance inclusive hiring.

Student Wellness Society, IIT Roorkee **Sept 2024 - May 2025**
Women in Design Coordinator (dept-level)

- Led the talks on menstrual health, safety of students-conducted expert sessions/workshops

SKILLS

Methodology: Speculative and Participatory Design, Responsible Innovation, Interdisciplinary Approaches, Inclusive AI systems, Human-Computer Interaction, Research through Design (RtD)
Design & Prototyping Tools: Adobe Creative Cloud, Figma, Unity, Arduino Uno, Rhino, 3ds max.
Programming Languages: Python (data processing, prototyping), HTML, CSS, JS.

AWARDS

Silver Medal, Inter IIT Sports Meet <i>Basketball</i> IIT Madras	Dec 2025
Most Valued Player, Inter IIT Sports Meet <i>Basketball</i> IIT Kanpur	Dec 2024
Gold Medal, Inter IIT Sports Meet <i>Basketball</i> IIT Kanpur	Dec 2024

REFERENCE

Dr. Madhan Kumar Vasudevan <i>Assistant Professor</i> <i>Thesis Supervisor</i> madhan.vasudevan@design.iitr.ac.in +91 1332285825 ; +91 97917 61753 Human-Computer Interaction (HCI), Haptics, Neuroscience, Affective Computing, Machine Learning	IIT Roorkee, India
Dr. Abinash Kumar Swain <i>Associate Professor</i> <i>Thesis Supervisor</i> abinash.swain@me.iitr.ac.in +91 7439979147 Mechanical engineering design, HMI, Design Methodology	IIT Roorkee, India