Curriculum Vitae

Rahul Bhaumik

Academic Profile

Rahul Bhaumik is a designer and researcher in the field of Human-Computer Interaction (HCI) focusing on the design and development of passive and soft tangible interfaces for enhancing everyday user interactions. His research explores multi-material fabrication, textile-based interfaces, and inductive sensing technologies for interactive systems. Rahul's work lies at the intersection of digital fabrication, HCI, and embodied interaction.

Education

PhD in Computer Science (38th cycle)
Free University of Bozen-Bolzano, Italy
2023 – Present

Master of Design (Product Design & Engineering)
Indian Institute of Science (IISc, Bangalore)
2016 – 2018

Bachelor of Architecture
School of Planning and Architecture, New Delhi, India
2010 – 2015

Research Interests

• Tangible User Interfaces
• Textile and Flexible Interfaces
• Digital Fabrication and Computational Design
• Human-Centered Design
• Design Thinking

Other/ Professional Experience

Visiting PhD Student (provision under PNRR programme)
Interactive Structures Lab, Carnegie Mellon University (CMU), USA
2025 (May – October)

Assistant Professor
PES University, India
2018 – 2023 (March)

Selected Publications

• Bhaumik, R., et al. (2025). Inductive Pressure Sensors Using 3D-Printed Structures With Tunable Stiffness. IEEE Sensors Letters.

• Bhaumik, R., et al. (2024). Interaction with a 3D Surface for an Innovative Input Experience on a Central Console. ACM Conference Proceedings AutomotiveUI '24.

• Bhaumik, R., et al. (2023). Smart Vernacular Architecture: A Framework for Assessment and Virtual Reality-based Visualisation of Indigenous Toda Dwellings. Procedia Computer Science.

• Bhaumik, R., et al. (2023). An Intelligent Virtual Environment for Designers with Reduced Motor Abilities. Procedia Computer Science.

Teaching Experience

Rahul taught various courses such as Game Design, Human-Computer Interaction, Design for Virtual and Mixed Realities, and Interaction & Product Design Studios to Bachelor of Design students at PES University, Bangalore, India. He also served as the coordinator and guide for thesis and capstone projects in the B. Design programme, and actively engaged in multidisciplinary research activities while his tenure at PES University.

Technical Skills

• Digital Fabrication (3D Printing, Laser-cutting, Embroidery)
• CAD-Rhino/Grasshopper, Python, Unity.