# Rakesh Patibanda

**PhD Candidate, Faculty of Information Technology, Monash University**

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## Research Focus

I am an HCI researcher passionate about exploring emerging technologies, speculative design, and playful interactive experiences. My expertise spans the entire design process, from understanding user needs to developing novel technological systems. I employ mixed methods to evaluate user experiences, providing valuable insights into the impact of emerging technologies. I will be graduating with a PhD in Information Technology from Monash University in December 2024, where my research focuses on designing playful interactions involving shared bodily control between users and computers. My work seeks to blur the boundaries between humans and computers to create technological interactions that facilitate self-compassion, empathy, awareness of self and others', and social connectivity.

## Education

2020 – present — Monash University – *PhD (Computer Science)*

- Thesis: Body-Actuating Play: Towards Understanding the Design of Play where Users Share Bodily Control with a Computer
- Advisors: Prof. Florian 'Floyd' Mueller & Prof. Elise van den Hoven

2015 – 2017 — RMIT University – *Master of Design (By Research)*

- Thesis: Understanding the Design of Breathing Exercise Games
- Advisors: Assoc Prof. Jonathan Duckworth & Prof. Florian 'Floyd' Mueller

2007 – 2011 — Jawaharlal Nehru Technological University, Hyderabad, India – *Bachelors in Electronics and Communications Engineering*

## Professional Experience

2017 – 2020 — Senior UX Researcher, RMIT University, Melbourne, Australia

- Led a team to enhance the university's digital experiences, resulting in a 15% increase in student satisfaction through strategic redesign.
- Initiated projects focusing on student engagement, earning the Education Leadership Award.
- Provided data-driven insights leading to significant cost reductions and fostered cross-functional collaboration.

2015 – 2017 — Lead UX Consultant, 7 Cups

- Implemented a gamified user experience that boosted engagement, resulting in a 50% increase in new users, 30% longer session durations, and 20% higher assessment completion rates.
- Conducted extensive user research and data analysis, including A/B testing with over 2,000 participants.

2011 – 2015 — Co-Founder & Lead UX Researcher, GoLive Games, Hyderabad, India

- Led user research to drive product development, resulting in a 5% increase in Monthly Active Users (MAU) and 10% increase in player engagement.
- Secured $75,000 in government funding and $350,000 in seed funding for game projects, contributing to the company's recognition for innovation.

## Ongoing Research Projects

Body-Actuating Technologies and Physiological Sensors — Developing and exploring technologies such as electrical muscle stimulation (EMS), pneumatics, and exoskeletons to facilitate playful interactions, support embodiment in everyday activities, and enhance memory.

Augmented Reality, Neurofeedback, and Contact Improvisation — Collaborating with Botao Amber Hu, founder of HoloKit, on "Cell Space," an interactive art experience integrating augmented reality, neurofeedback, and contact improvisation.

## Research Scholarships and Support

2016 – 2017 — Collaborated with BreathingLabs.com to secure hardware equipment worth USD 25,000 for my master's research project.

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| 2020 – 2024 | Recipient of the Australian Government Research Training Program (RTP) Scholarship to pursue a PhD at Monash University (DP190102068). |
| 2023 | Secured an additional AUD 30,000 under the RTP grant for equipment and travel related to my PhD research. |
| 2024 | Received the Post-Publication Award from Monash University worth AUD 6,100 for research excellence. |

## Teaching/Guest Lectures

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| 2016 – 2017 | Guest Lecturer, RMIT University: Presented master's research to Bachelor of Design (Games) students, engaging over 165 students. |
| 2017 | Invited Speaker, Zurich University of the Arts (ZHdK): Presented my master's work to faculty and graduate research students in the Department of Design. |
| 2022 | Invited Speaker, LMU Munich, Germany: Invited to deliver lectures in the Department of Human-Centered Ubiquitous Media on the role of sharing bodily control with computers for play. |
| 2023 | Guest Lecturer, Games Institute, University of Waterloo: Spoke on user experiences and ethics of sharing bodily control with computers, a core topic of PhD research. |
| 2024 | Guest Lecturer, Department of Engineering, Cambridge University: Presented on the concept of control in HCI and its effect on users' sense of agency when interacting with technologies capable of controlling the human body. |

## Supervision

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| 2016 – 2017 | Supervised two honors students as research assistants during master's research. |
| 2020 – 2021 | Co-supervised two master's students from Eindhoven University of Technology on major research projects in virtual reality and muscle memory development. |
| 2021 – 2023 | Co-supervised four undergraduate research assistants over three years on projects related to PhD research. |

## Service

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| 2021 – Present | **Digital Media Chair, Melbourne Local Chapter of ACM SIGCHI:** Facilitating connections among HCI and UX professionals, academics, and enthusiasts. |
| Reviewer for: | CHI, CHI PLAY, TEI, DIS, IMWUT, SIGGRAPH, AHs<br>*Received multiple special recognitions for outstanding reviews.* |
| Conference Roles: | 2018: CHI PLAY – Video Co-chair<br>2020: CHI – Mobile App Co-chair and Student Game Design Competition Co-chair<br>2020: TEI – Associate chair<br>2021: INTERACT – Associate chair<br>2022: DIS – Student Volunteer Co-Chair |

## Select Publications (~ 38 + with over 850 citations)

- Rakesh Patibanda, Florian 'Floyd' Mueller, Matevz Leskovsek, and Jonathan Duckworth. 2017. Life Tree: Understanding the Design of Breathing Exercise Games. In Proceedings of the Annual Symposium on Computer-Human Interaction in Play (CHI PLAY '17). *H-Index of Venue: 62.*
    - **Impact:** Over 147 citations; foundational work in designing interactive breathing exercises. This work offers insights for designers aiming to create engaging breathing exercise games.
- Florian 'Floyd' Mueller, Richard Byrne, Josh Andres, and Rakesh Patibanda. 2018. Experiencing the Body as Play. In Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI '18). *H-Index of Venue: 229.*
    - **Recognition:** Best Paper Award (Top 1%); over 130 citations. This paper argues for experiencing the body as play, moving beyond traditional interfaces to embrace the body both as an object and an active participant, contributing to a more humanized technological future.
- Joseph La Delfa, Mehmet Aydin Baytas, Rakesh Patibanda, Hazel Ngari, Rohit Ashok Khot, and Florian 'Floyd' Mueller. 2020. Drone Chi: Somaesthetic Human-Drone Interaction. In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (CHI '20). *H-Index of Venue: 229.*
    - **Recognition:** Honourable Mention (Top 5%).
- Rakesh Patibanda, Chris Hill, Aryan Saini, Xiang Li, Yuzheng Chen, Andrii Matviienko, Jarrod Knibbe, Elise van den Hoven, and Florian 'Floyd' Mueller. 2023. Auto-Paizo Games: Towards Understanding the Design of Games That Aim to Unify a Player's Physical Body and the Virtual World. (CHI PLAY '23). *H-Index of Venue: 62.*
    - **Recognition:** Best Interactivity, Audience Choice Award.
- Rakesh Patibanda, Nathalie Overdevest, Shreyas Nisal, Aryan Saini, Don Samitha Elvitigala, Jarrod Knibbe, Elise Van Den Hoven, and Florian 'Floyd' Mueller. 2024. Shared Bodily Fusion: Leveraging Inter-Body Electrical Muscle Stimulation for Social Play. In Proceedings of the 2024 ACM Designing Interactive Systems Conference (DIS '24). *H-Index of Venue: 62.*
    - **Contribution:** This paper offers new possibilities for creative interactive systems that go beyond visual and audio feedback, creating direct, physical interconnections between users.