

Rishav Banerjee

[Email](#) | [GitHub](#) | [LinkedIn](#) | [Google Scholar](#)

Summary

Human-computer interaction researcher and developer focused on virtual reality, wearable computing, gestural input, and multimodal AI systems. Builds end-to-end prototypes and research pipelines using Unity, Python, motion capture, and local speech or conversational AI tooling.

Education

PhD in Computer Science Jan 2024 – Expected May 2027
University of British Columbia CGPA: 3.7/4

B.Tech in Computer Science Jun 2019 – May 2023
SRM Institute of Science and Technology CGPA: 9.3/10

Experience

HCI Researcher Jan 2024 – Present
Okanagan Visualization and Interaction Lab

- Conduct HCI research on one-handed gestural input for smart glasses, covering hand-tracking interaction design, usability evaluation, and input translation pipelines for wearable computing.
- Designed Unity-based VR applications and a real-time Vicon plus Python WebSockets pipeline to stream hand-pose data into Meta Quest 3 environments for on-hand and around-hand user interfaces.

Robotics Engineer Feb 2026 – Present
Affiliated with Honda Research Institute

- Engineered AI sensemaking workflows for conversational robots for child interaction, supporting context-aware dialogue and multimodal human-robot interaction research.
- Implemented a fully local, privacy-preserving speech-to-text and conversational agent stack on consumer-grade hardware, then deployed it in a private middle school for 20+ successful child-robot interaction sessions.

Teaching Assistant Jan 2024 – Dec 2025
University of British Columbia

- Supported courses in AR/VR development, Unity game development, and immersive technology design, including work with the VEMS display environment.
- Mentored cohorts ranging from 15 graduate students to 150 undergraduate students in immersive technology, Unity development, and interactive system design.

Publications

- **Rishav Banerjee**, Shariff Faleel, Omang Baheti, Khalad Hasan, Pourang Irani. [ThumbSwype: Thumb-to-Finger Gesture Based Text-Entry for Head Mounted Displays](#). *ACM MobileHCI*, 2025.
- Shariff Faleel, **Rishav Banerjee**, Omang Baheti, Khalad Hasan, Pourang Irani. [What's the Thumb Doing? Improving Precision for Thumb-to-Finger Interactions on Hand Proximate User Interfaces](#). *Graphics Interface*, 2025.
- Celine Balay, **Rishav Banerjee**, Ghazaleh Shahin, Dingfu Lu, Pourang Irani, Cornelia Frank, Sarah Kraeutner. ['Substitute' knowledge of results provided through virtual reality enhances motor imagery-based learning](#). *Conference Proceedings*, 2026.
- **Rishav Banerjee**, Shariff Faleel, Pourang Irani. Exploring One-Handed Thumb-to-Finger Text Composition Systems for Head Mounted Displays. *ACM Designing Interactive Systems*, 2026 (in-press).

Awards and Fellowships

- Secured the **Mitacs Globalink Graduate Fellowship**, valued at **\$15,000**, to support graduate research in Canada.
- Awarded **\$32,000 in annual graduate funding** from the **University of British Columbia** for PhD studies in Computer Science.
- Won **1st place** at the **Girls in Tech Okanagan Hackathon**, earning a **\$2,000 prize**.

Technical Skills

Languages: Python, C#, C/C++, Go, Lua, ELisp, Clojure, Java, JavaScript/TypeScript
XR / Development: Unity, OpenXR, Meta SDK, MRTK, ROS
AI / Data: Deep learning, LLMs, audio processing, computer vision, PyTorch, Pandas, Seaborn, R
Research: Quantitative analysis, qualitative analysis, literature review, human studies
Tools: Git, Docker, Unix/POSIX CLI, Bash, PowerShell, WSL, Vim, Emacs, Neovim
Strengths: Leadership, public speaking, project management, collaborative teamwork