Rishi Vanukuru

ATLAS Institute
University of Colorado Boulder

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RESEARCH SUMMARY

As a designer and a Human-Computer Interaction (HCI) researcher, I build and study new interactive systems that support meaningful forms of collaboration across space and over time. In particular, I advance the field of Mobile Spatial Computing to solve challenges in remote and hybrid work, and contribute new frameworks, design processes, and interfaces that make use of Generative AI to better support the intricacies of modern knowledge work.

EDUCATION

2022– **University of Colorado Boulder**
Ph.D. in Creative Technology & Design

2018–20 **Indian Institute of Technology Bombay**
M.Des. in Interaction Design

2014–18 **Indian Institute of Technology Bombay**
B.Tech. in Civil Engineering
Minor in Design

RESEARCH EXPERIENCE

ATLAS Institute, University of Colorado Boulder Spring 2022 – Present
Graduate Research Assistant
Advisor: Dr. Ellen Yi-Luen Do
Supporting Meaningful and Memorable Collaboration using Mobile Devices

Microsoft Research, Cambridge, UK Summer 2024
Research Intern
Advisor: Dr. Sean Rintel
Intentionality Across Meetings: Generative AI tools for Temporal Work

Ericsson Research, USA Summer 2023
Research Intern
Advisor: Dr. Gregoire Phillips
Systems for Network-adaptive Augmented Reality Remote Communication

IDC School of Design, IIT Bombay Fall 2020 – Spring 2021
Research Associate
Advisor: Dr. Jayesh Pillai
Supporting Remote Learning with Mobile Augmented Reality

Laval Virtual Institute, Arts et Métiers, France Summer 2019
Research Intern
Advisor: Dr. Simon Richir
Studying Creativity and Design in Virtual Reality

SELECTED PUBLICATIONS

Journal & Conference Articles

2025 **Rishi Vanukuru**, Payod Panda, Xinyue Chen, Ava Elizabeth Scott, Lev Tankelevitch, and Sean Rintel. "Designing Interfaces that Support Temporal Work Across Meetings with Generative AI." In: *Proceedings of the 2025 ACM Designing Interactive Systems Conference (DIS '25)*. doi:10.1145/3715336.3735833.

2025 Xinyue Chen, Lev Tankelevitch, **Rishi Vanukuru**, Ava Elizabeth Scott, Payod Panda, and Sean Rintel. "Are We On Track? AI-Assisted Active and Passive Goal Reflection During Meetings." In: *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems (CHI '25)*. doi:10.1145/3706598.3714052

2025 Ava Elizabeth Scott, Lev Tankelevitch, Payod Panda, **Rishi Vanukuru**, Xinyue Chen, and Sean Rintel. "What Does Success Look Like? Catalyzing Meeting Intentionality with AI-Assisted Prospective Reflection." In: *Proceedings of the 4th Annual Symposium on Human-Computer Interaction for Work (CHIWORK '25)*. doi:10.1145/3729176.3729204

2025 Krithik Ranjan, Anika Mahajan, **Rishi Vanukuru**, and Ellen Yi-Luen Do. "The Design Space of Tangible Interfaces for Computational Tinkerability." In: *Constructionism Conference Proceedings, 8, 325-340.*. doi:10.21240/constr/2025/102.X

2023 **Rishi Vanukuru**, Suibi Che-Chuan Weng, Krithik Ranjan, Torin Hopkins, Amy Banic, Mark D. Gross, and Ellen Yi-Luen Do. "DualStream: Spatially Sharing Selves and Surroundings using Mobile Devices and Augmented Reality." In: *IEEE International Symposium on Mixed and Augmented Reality, ISMAR 2023*. doi:10.1109/ISMAR59233.2023.00028

2022 S. Sandra Bae, **Rishi Vanukuru**, Ruhan Yang, Peter Gyory, Ran Zhou, Ellen Yi-Luen Do, and Danielle Albers Szafir. "Cultivating Visualization Literacy for Children Through Curiosity and Play." In: *IEEE Transactions on Visualization and Computer Graphics, 2022*. doi:10.1109/TVCG.2022.3209442

2022 Torin Hopkins, Suibi Che-Chuan Weng, **Rishi Vanukuru**, Emma Wenzel, Amy Banic, Mark D. Gross, and Ellen Yi-Luen Do. "AR Drum Circle: Real-Time Collaborative Drumming in AR." In: *Frontiers in Virtual Reality, 91*. doi:10.3389/frvir.2022.847284

2022 Torin Hopkins, Suibi Che-Chuan Weng, **Rishi Vanukuru**, Emma Wenzel, Amy Banic, and Ellen Yi-Luen Do. "Studying the Effects of Network Latency on Audio-Visual Perception During an AR Musical Task." In: *IEEE International Symposium on Mixed and Augmented Reality, ISMAR 2022*. doi:10.1109/ISMAR55827.2022.00016

2022 Aurélien Agnès, Sylvain Fleury, **Rishi Vanukuru**, and Simon Richir. "Studying the effect of symmetry in team structures on collaborative tasks in virtual reality." In: *Behaviour & Information Technology, 42(14)*. doi:10.1080/0144929X.2022.2127375

2021 Sylvain Fleury, **Rishi Vanukuru**, Charles Mille, Killian Poinsot, Aurélien Agnès, and Simon Richir. "CRUX: A Creativity and User Experience model." In: *Digital Creativity, 32:2* (pp. 116-123). doi:10.1080/14626268.2021.1915339

2020 Sylvain Fleury, Aurélien Agnès, **Rishi Vanukuru**, Emma Goumillout, Nicolas Delcombel, and Simon Richir. "Studying the Effects of Visual Movement on Creativity." In: *Thinking Skills and Creativity, 36, 100661*. doi:10.1016/j.tsc.2020.100661

Short Papers, Posters, & Demos

2024 **Rishi Vanukuru** and Ellen Yi-Luen Do. "Spatial Mobile Memories: Recording and Sharing Everyday Moments using Mobile Augmented Reality." In: *Proceedings of the 2024 ACM International Conference on Interactive Media Experiences (IMX '24)*. doi:10.1145/3639701.3661087

2024 Torin Hopkins, Suibi Che-Chuan Weng, **Rishi Vanukuru**, Sasha Novack, Chad Tobin, Emma Wenzel, Amy Banic, Mark D. Gross, and Ellen Yi-Luen Do. "XR Jam: Design Considerations for Music Networking with AI in XR." In: *2024 IEEE International Conference on Artificial Intelligence and eXtended and Virtual Reality (AIxVR)*. doi:10.1109/AIxVR59861.2024.00021

2020 **Rishi Vanukuru**, Amarnath Murugan, and Jayesh Pillai. "Dual Phone AR: Using a Second Phone as a Controller for Mobile Augmented Reality." In: *Adjunct Publication of the 33rd Annual ACM Symposium on User Interface Software and Technology (UIST '20 Adjunct)*. doi:10.1145/3379350.3416139

2020 **Rishi Vanukuru**. "Accessible Spatial Audio Interfaces: A Pilot Study into Screen Readers with Concurrent Speech." In: *Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems (CHI EA '20)*. doi:10.1145/3334480.3381440

Workshop Papers

2023 **Rishi Vanukuru**, Ellen Yi-Luen Do. "Exploring the use of Mobile Devices as a Bridge for Cross-Reality Collaboration" In: *IEEE ISMAR 2023 Joint Workshop on Cross-Reality.* [paper]

2022 **Rishi Vanukuru**, Amarnath Murugan, Jayesh Pillai, and Ellen Yi-Luen Do. "Designing and Studying Social Interactions in Shared Virtual Spaces using Mobile Augmented Reality." In: *ACM CHI 2022 Workshop on Social Presence in Virtual Event Spaces.* [paper]

2021 Amarnath Murugan, **Rishi Vanukuru**, and Jayesh Pillai. "Towards Avatars for Remote Communication using Mobile Augmented Reality." In: *IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)* (pp. 135-139). doi:10.1109/VRW52623.2021.00032

In Preparation

2025 **Rishi Vanukuru**, Krithik Ranjan, Ada Zhao, David Lindero, Gunilla Berndtsson, Gregoire Phillips, Amy Banic, Mark D. Gross, and Ellen Yi-Luen Do. "Studying Mobile Spatial Collaboration across Video Calls and Augmented Reality". ***Under Review***.

2025 **Rishi Vanukuru**, Jens Emil Grønbæk, and Ellen Yi-Luen Do. "SpaceConnector: Cross-Reality Transitions for Mobile Hybrid Collaboration". *In Preparation*

AWARDS

2022 Dr. Awtar and Teji Singh Graduate Fellowship ($20,000)

2022 SIGCHI Gary Marsden Travel Award ($1,200)

2020 Institute Silver Medal, IIT Bombay *(1st rank in the M.Des program)*

2020 1st Position, CHI Student Research Competition *(Graduate category)*

TEACHING & SERVICE

Co-Instructor
Introduction to Virtual Reality (2022)

Teaching Assistant
Design for Virtual Reality (2019-2021), Engineering Mechanics (2018)

Organizing Committee
Lead for Virtual Operations, IndiaHCI 2020

Reviewer
CHI 2026, CHI 2025, VRST 2025, EuroVIS 2025, CHI 2024, DIS 2024, IEEE VR 2024, CHI 2023, INTERACT 2023, CHI 2021 Student Research Competition

Student Volunteer
UIST 2020, IndiaHCI 2019, TypoDay 2019

Student Mentor
Indian Institute of Technology Bombay, 2016–2018

FUNDING PROPOSALS

Title: "The Shared Reality Project: Towards an Ecosystem for Cross-device Holographic Communication"
PI: Dr. Ellen Yi-Luen Do & Dr. Mark D. Gross
Funding agency: Ericsson Research
Funding amount: $65,000

Title: "Augmented Reality as an Interface for the Internet of Things and People"
PI: Dr. Ellen Yi-Luen Do
Funding agency: Pervasive Personalized Intelligence Center, NSF IUCRC
Funding amount: $56,788

REFERENCES

Dr. Ellen Yi-Luen Do
Professor, ATLAS Institute
University of Colorado Boulder

Dr. Sean Rintel
Senior Principal Research Manager
Microsoft Research Cambridge

Dr. Gregoire Phillips
Senior Research Lead, Media Technologies
Ericsson Silicon Valley

Dr. Mark D. Gross
Director, ATLAS Institute
University of Colorado Boulder