

Rishi Vanukuru

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Education

IDC School of Design, IIT Bombay M.Des, Interaction Design	2018 - 2020 GPA: 9.59/10
Indian Institute of Technology Bombay B.Tech, Civil Engineering, Minor in Design	2014 - 2018 GPA: 9.12/10

Experience

Research Associate IDC School of Design, IIT Bombay Supporting Remote Learning with Mobile AR	Autumn 2020 Guide: Dr. Jayesh Pillai
Research Intern Laval Institute, Arts et Métiers, France Studying Creativity and Design in Virtual Reality	Summer 2019 Head: Dr. Simon Richir

Publications

- Rishi Vanukuru, Amarnath Murugan, and Jayesh Pillai. 2020. **Dual Phone AR: Exploring the use of Phones as Controllers for Mobile Augmented Reality**. In 26th ACM Symposium on Virtual Reality Software and Technology (VRST '20). [\[Poster preprint\]](#)
- Rishi Vanukuru, Amarnath Murugan, and Jayesh Pillai. 2020. **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). [\[Demo\]](#)
- Rishi Vanukuru. 2020. **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). [\[SRC\]](#)
- Fleury, S., Agnes, A., Vanukuru, R., Goumillout, E., Delcombel, N., & Richir, S. (2020). **Studying the Effects of Visual Movement on Creativity**. Thinking Skills and Creativity, 100661. [\[Short Article\]](#)
- Vanukuru, R., & Velaga, N. R. (2018, April). **Multimodal Transportation Network Design Using Physarum Polycephalum-Inspired Multi-agent Computation Methods**. In International Conference on the Applications of Evolutionary Computation (pp. 105-116). Springer, Cham. [\[Paper\]](#)

Awards

Institute Silver Medal, IIT Bombay (1 st rank in the M.Des program)	2020
1st Position, CHI Student Research Competition (Graduate category)	2020

Teaching & Service

Teaching Assistant DE677 - Design for Virtual Reality, DE681 - Design for Immersive Media CE102 - Engineering Mechanics	2018 - 2020 2018
Conference Tech Lead for virtual operations IndiaHCI 2020	
Student Volunteer UIST 2020, IndiaHCI 2019, TypoDay 2019	
Student Mentor , Indian Institute of Technology Bombay	2016 - 2018

Project Info

More design projects
at rishivanukuru.com

Supporting Remote Learning with Mobile Augmented Reality

Sep 2020 -
Ongoing

- Conducting interviews with middle school teachers and students to understand their experience with online learning during the pandemic
- Helping design and develop a Remote Mobile AR classroom environment, to support spatial learning activities in mathematics
- Designing and executing a mixed-methods experimental study to assess user experience and engagement with the remote classroom

Remote Social XR: Mixed Reality Mixed Ability Conferencing

Oct 2020 -
Ongoing

- Developing a cross-platform prototype for spatial conferencing using Unity, that adapts to suit the device being used, and is potentially more accessible for persons with impaired vision

Exploring the use of Phones as Controllers for Mobile AR

Feb 2020 -
June 2020

- Defined and explored a Design Space of possible interaction methods when using a second phone as a controller for mobile AR
- Designed and developed a demo application using Unity and ARFoundation, and published it on the Google Play Store
- Conducted an initial remote evaluation with 8 participants to discuss their experience and seek feedback about the idea

Accessible Spatial Audio Interfaces with Concurrent Speech

July 2019 -
Mar 2020

- Developed an experimental prototype of a screen reader capable of rendering parallel, spatially-separated streams of speech using Unity and Resonance Audio, as well as demo of a 'Spatial Auditory Torch'
- Conducted a pilot empirical study with 4 persons with impaired vision and 4 sighted persons to assess the use of these interfaces for search & browse tasks using screen readers
- Conducted a meta-review of literature on projects that build upon the idea of the Spatial Auditory Torch to chart the course for future work

Studying Creativity and Design in Virtual Reality

May 2019 -
July 2019

- Developed a virtual environment to test the effect of peripheral visual motion on creativity, and assisted in conducting and analysing a quantitative experiment about the same
- Designed and developed prototypes of new interactions and interface elements for 'Time2Sketch', an in-house collaborative 3D drawing application for the HTC Vive

Skills

Programming

C/C++, C#

Web Development: HTML, CSS, Javascript

Design Research

Qualitative User Studies, User Testing & Usability Evaluation, Statistics for HCI

Software

Unity, Adobe Suite, Ableton Live, FL Studio

Development Platforms

Windows Mixed Reality, HTC Vive, ARCore, Arduino

Courses

Design

- Design for Immersive Media
- Design Research Methods
- Human Factors in Interaction Design
- Instructional Design
- Interface Design
- Trends in Interactive Technologies

Engineering

- Introduction to Electrical Engineering
- Introduction to Computer Science
- Fundamentals of Urban Science
- Structural Design
- Transportation Engineering
- Statistics for Civil Engineering

Music

- Introduction to Music Production
(Berklee College of Music on Coursera)
- Music as Biology
(Duke University on Coursera)

Other

- Machine Learning
(Stanford University on Coursera)
- Introduction to the Study of Language
- Engineering Law

Test Scores

GRE: 338/340

Quant: 160/160, Verbal: 158/160,
Analytical Writing: 5/6

TOEFL: 118/120

Reading: 30/30, Listening: 30/30,
Speaking: 29/30, Writing: 29/30