Rishi Vanukuru

Website: rishivanukuru.com
Contact: rishi.vanukuru@gmail.com

Education

IDC School of Design, IIT Bombay **2018 - 2020**
M.Des, Interaction Design GPA: 9.59/10

Indian Institute of Technology Bombay **2014 - 2018**
B.Tech, Civil Engineering, Minor in Design GPA: 9.12/10

Experience

Research Associate **Autumn 2020**
IDC School of Design, IIT Bombay Guide: Dr. Jayesh Pillai
Supporting Remote Learning with Mobile AR

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

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]

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 2020
(1st rank in the M.Des program)

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

Teaching & Service

Teaching Assistant
DE677 - Design for Virtual Reality, DE681 - Design for Immersive Media 2018 - 2020
CE102 - Engineering Mechanics 2018

Conference Tech Lead, Virtual Operations
IndiaHCI 2020

Student Volunteer
UIST 2020, IndiaHCI 2019, TypoDay 2019

Student Mentor, Indian Institute of Technology Bombay 2016 - 2018

Project Info

More details & 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
- Developing a cross-platform prototype for spatial conferencing using Unity, that adapts to suit the device being used

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 AR Foundation, 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#, R
Web Dev: HTML, CSS, Javascript, R Shiny

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 VR & 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