# SOUMYAJIT CHAKRABORTY

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Software Developer with Rapid Prototyping, Ambitious Researcher, Strong Interdisciplinary Collaborator, and Have Expertise with Virtual and Augmented Reality Experiments in The Field of Human-Computer Interaction

## EDUCATION

· **Doctor of Philosophy in Computer Science** August 2019 – Anticipated May 2025
Vanderbilt University, Nashville, TN

· **Master's in Computer Science** August 2017 - May 2019
The University of Iowa, Iowa City, IA

· **Bachelor of Technology in Computer Science & Engineering** September 2012 – August 2016
Narula Institute of Technology, affiliated to Maulana Abul Kalam Azad University of Technology, West Bengal, India

## TECHNICAL QUALIFICATIONS

· **Game Engine –** Unity 3D Game Engine
· **Programming Languages –** C# (Unity Scripting), R (Data Analysis), Latex (Paper Writing)
· **Designing Software –** Adobe Photoshop

## PROFESSIONAL EXPERIENCES

***GRADUATE RESEARCHER***

Department of Electrical Engineering and Computer Science, Vanderbilt University — Fall 2019 – present

· Looking at the effect of asymmetric locomotion methods on collaborative navigation and wayfinding in a shared virtual environment — Spring 2022 - present
· Generated real-time full body motion captured high fidelity avatars for another graduate student for his study — Summer 2022 – Summer 2023
· Investigated whether Inter-Pupillary Distance of a VR HMD has any effect on perceived distance in VR — Fall 2021 – Spring 2022
· Helped another graduate student in her research to find the latency of the HTC Vive Pro system — Fall 2021
· Conducted remote experiments to perceive distances through mobile AR displays using various avatar animations as cues — Summer 2020 – Spring 2021
· Ran an experiment to perceive distances through Microsoft HoloLens using animated avatars as a cue — Fall 2019 – Spring 2020

Department of Computer Science, The University of Iowa — Fall 2017 – Summer 2019

· Generated a real-time full body motion captured pedestrian avatar and connected it with the driving simulator at National Advanced Driving Simulator, University of Iowa — August 2018 – July 2019
· Developed a real-time head motion captured pedestrian avatar and connected it with the driving simulator at the University of Wisconsin, Madison — September 2017 – July 2018

***GRADUATE TEACHING ASSISTANT***

Department of Electrical Engineering and Computer Science, Vanderbilt University — Fall 2019 – present

· Created online tutorials for the students taking the Projects in Virtual Reality Design (CS-4249/5249) course in Fall 2020, and 2023, and have become the TA of this course for five consecutive years since Fall 2019
· Graded homework, provided meaningful feedback, and cleared doubts of 40-60 students on average for Computer Networks (CS-4283/5283), Principles of Software Engineering (CS-4278/5278), and Projects in Virtual Reality Design (CS-4249/5249) courses

Department of Computer Science, The University of Iowa — Fall 2017 – Spring 2018

· Evaluated assessments and cleared doubts of 60 students for Algorithms (CS-3330) course for two consecutive semesters

***GRADUATE RESEARCH MENTOR***

Department of Electrical Engineering and Computer Science, Vanderbilt University Summer 2021 – Summer 2023

· Mentored several undergraduate students on different research projects related to human perception in virtual reality, navigation and wayfinding in virtual reality, and eye tracking in head mounted displays

***UNDERGRADUATE RESEARCH ASSISTANT***

Department of Computer Science, Narula Institute of Technology Fall 2015 – Spring 2016

· Designed a web-based voting system using Aadhar Card (biometrics enabled government ID card for each citizen of India) to allow people to vote securely using their fingerprints for authentication

## CONFERENCE PRESENTATIONS AND PUBLICATIONS

· Effects of Asymmetric Locomotion Methods on Collaborative Navigation and Wayfinding in Shared Virtual Environments, presented at **Doctoral Consortium** at **IEEE VR** conference — March 2022

· Distance Estimation with Social Distancing: A Mobile Augmented Reality Study, presented at **PERCxR** Workshop at **ISMAR** Conference — September 2021

· Using Mobile Augmented Reality for Spatial Cognition, presented at 8th International Conference on Spatial Cognition (**ICSC**) — September 2021

· Distance Estimation with Mobile Augmented Reality in Action Space: Effects of Animated Cues, presented at **VHCIE** Workshop at **IEEE VR** Conference — March 2021

· Distance Perception in Augmented Reality with Animated Avatars as a Cue, presented at **VHCIE** Workshop at **IEEE VR** Conference — March 2020

## OTHER PUBLICATIONS

· Lauren E Buck, **Soumyajit Chakraborty**, Bobby Bodenheimer. "The Impact of Embodiment and Avatar Sizing on Personal Space in Immersive Virtual Environments". IEEE Transactions on Visualization & Computer Graphics 01 (2022): 1-1.

· Yu Zhao, **Soumyajit Chakraborty,** Jeanine K. Stefanucci, Sarah H. Creem-Regehr, & Bobby Bodenheimer. "Remote Mobile Augmented Reality for Spatial Cognition". ***Accepted at*** *Remote XR Studies: Exploring Three Key Challenges of Remote XR Experimentation Workshop in The ACM Conference on Human Factors in Computing Systems (CHI) 2021*.

· Joseph K Kearney, David A Noyce, Kelvin R Santiago-Chaparro, **Soumyajit Chakraborty**, & Yuanyuan Jiang (2018). "Multi-Modal Distributed Simulation Combining Cars, Bicyclists, and Pedestrians". *Safety Research Using Simulation (SAFER-SIM) University Transportation Center*.

· **Soumyajit Chakraborty**, Siddhartha Mukherjee, Bhaswati Sadhukhan, & Kazi Tanvi Yasmin (2016). "Biometric voting system using aadhar card in India". *International journal of Innovative research in Computer and Communication Engineering*, *4(4)*.

## HONORS AND AWARDS

· Mentored and collaborated with student groups in the VR course (2022 – 2023), leading **two groups** to win **First Prizes in 2022 and 2023**, and **one group** to secure a **Second Prize in 2023** at Vanderbilt University's final showcase competition

· Awarded **Russel G. Hamilton Fellowship** for **three years** (2019 – 2022) and **Engineering Graduate Fellowship** at Vanderbilt University

· **1st Runner Up** of "*Design Your Learning Curve*" contest held by Narula Institute of Technology for **drawing**

· **Winner** of the **drawing contest** in the Senior Division of "*Uday Sangha Club"* in my locality in West Bengal, India

## HOBBIES

· Photography
· Driving
· Writing stories and poems
· Painting