ANGSHUMAN MAZUMDAR

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OBJECTIVE

Firm believer in the amalgamation of art and engineering. As an ardent follower of interactive media, I indulge in the idea that video games are a great platform for experiences to flourish, and ideas to be communicated. My vision is to be a pioneer in this industry and elevate others to share their stories, just like me, through this platform.

EDUCATION

Doctor of Philosophy - Technology (Computer Graphics)
Purdue University, West Lafayette (Indiana), Aug 2021 — Present (Expected May 2026)

Master of Science - Computer Graphics Technology
Purdue University, West Lafayette (Indiana), Aug 2019 — May 2021
- GPA: 3.98

Capstone Project (Semester Exchange Program) - Robotics
Rochester Institute of Technology, Rochester (New York), Jan 2019 — May 2019

Bachelor of Technology - Electronics and Communication
Vellore Institute of Technology (VIT), Vellore, Jul 2015 — May 2019
- GPA: 8.69

EXPERIENCE

Graduate Teaching Assistant — *Purdue University, Aug 2020 — Present*
- Instructed and assisted students with learning Siemens NX 1946, for the course "Graphical Communication and Spatial Analysis", focusing primarily on CAD (Computer Aided Design) education

Creative Director — *Hammerand Studios, Jan 2021 — May 2021*
- Created Hammerand Studios – a game development team under Purdue University
- Served as Creative Director for a VR (Virtual Reality) game ("Topplots"), built with Unreal Engine 4
- Created three functional levels, as a Level Designer, complete with player mechanics
- Researched on art direction, player-environment scale ratios, immersivity, and gameplay mechanics.

Audio Producer — *MAYJ Studios, Jan 2021 — May 2021*
- Created a workflow to store, organize, and manage audio files (voice lines, effects)
- Assisted in recording and production of character voice lines

Graphic Designer — *MOX-Movement of Expression, Feb 2018 — Jan 2019*
- Designed the logos for the event "Street Sangam"
- Served advisory to their design process for ideation phases for event marketing.

Summer Trainee — *Bharti Airtel, May 2018 — Jun 2018*
- Developed workflow for automated data collection, transformation, and sorting processes for SACFA Applicants
- Researched on Excel VBA for streamlining data recording pipeline
- Contributed to developing physical mural for network stations and equipment mapping

PUBLICATIONS & PROJECTS

Synthesizing Affective Virtual Reality Multicharacter Experiences (Master's Thesis), *Aug 2020 — May 2021*
- Developed a methodology for automatically synthesizing a multicharacter population (pedestrians placed in a virtual environment) with a specified affect.
- Created virtual reality setup using Unity and C# (enhanced with Asset Store items)
- Researched and developed optimization algorithm using Markov Chain Monte Carlo and Simulated Annealing
- Recorded participant's reactions to varied intensity levels, and conducted a validation study for the method
- Compiled and published research in CAVW Special Issue (24 May 2021) and presented in CASA 2021 (July 2021)

Virtual reality game level layout design for real environment constraints, *Jan 2021 — Apr 2021*
- Developed two minigames to implement the algorithm for an optimization-based approach for designing virtual reality game level layouts, based on the layout of a real environment
- Created both minigames ("Find the Treasure" and "Survive the Horde") for Oculus Quest, using Unity and Autodesk Maya
- Developed custom enemy follower with zone-based detection and follow intelligence in "Survive the Horde"
- Recorded presence levels, involvement levels, and fear-of-collision with real environment, in participants
- Compiled and published research in Special Issue: Conference of CAD & Graphics 2021 (June 2021)

Embodiment for the Difference: A VR Experience of Bipolar Disorder, *Aug 2019 — Mar 2020*
- Developed part of a simulation to simulate the experiences of a person with bipolar disorder
- Served as the primary level designer
- Created the virtual reality setup using Unreal Engine 4 (enhanced with various Marketplace Assets)
- Presented the experience in 3DUI Contest of IEEEVR Conference (Atlanta, GA; 22-23 March 2020)

Walking in a Crowd Full of Virtual Characters: Effects of Virtual Character Appearance on Human Movement Behavior, *Sep 2019 — Jan 2020*
- Contributed to research, collection, and organization of character models that made up the virtual crowd
- Worked with interfacing and optimizing Mixamo assets into Unity
- Contributed to streamlining data collection from participants
- Published results in ISVC 2020 (07 December 2020)

Parkinson's Disease Assist Device Using Machine Learning and Internet of Things, *Jan 2018 — Nov 2018*
- Developed CAD models using Autodesk 3DS Max for the prototype spoon housing
- Contributed to the Arduino coding for the counterbalance controller
- Presented and published in 2018 ICCSP Conference (08 November 2018)

Portfolio Website, *Dec 2018 — Present*
- Product of learning and experimentation with HTML and CSS; used as personal portfolio site

CERTIFICATIONS

Responsible Conduct of Research (RCR) Training - Faculty, Postdoctoral, and Graduate Students
CITI, *Oct 2019*

Group 2. Social Behavioral Research Investigators and Key Personnel
CITI, *Nov 2019*

SKILLS

Development:
   C#, C++, Python, Excel Visual Basic for Applications

Computer Vision and Graphics:
   Unity, Unreal Engine, SideFX Houdini, World Machine, Siemens NX, Autodesk Maya, Blender, Substance Painter

Design and Analysis:
   HTML5, CSS, Adobe Creative Suite, Microsoft Office Suite, Tableau, MATLAB

Management:
   Azure DevOps, Trello

LANGUAGES

- Assamese – *Native or bilingual proficiency*
- Hindi – *Professional working proficiency*
- English – *Professional working proficiency*
- French – *Elementary proficiency*

WEBSITES & SOCIAL LINKS

Portfolio
LinkedIn
YouTube