ANIRUDDHA PRITHUL

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EXPERIENCE

August 2018- Current	**Graduate Research Assistant**, University Of Nevada - Reno
	• Published 4 papers focusing on virtual reality (VR) and Human Computer Interaction (HCI).
	• Collaborated with Psychology Lab and Neuromechanics Lab at the University of Nevada-Reno to help design and implement VR experiments.
June 2017- April 2018	**Game Developer and Designer,** Mindfisher Games Inc / Ulka Games
	• Developed highly acclaimed android game `Mukti Camp' with over **500,000** downloads.
	• Lead programmer of combat gameplay and combat AI.
	• Responsible for deploying post-launch asset bundle integration.
	• Integrated play game services with considerations for handling cloud save anomalies for a large player base.
	• Used Unity and C# with Git to collaborate with the development team of **20+** people.
2013- 2014	**Freelance Game Developer -** part time, Freelancer.com
	• Developed 3 paid android game projects for clients.
	• Met milestone deadlines and delivered final products with maximal customer satisfaction.

EDUCATION

Ph.D., CSE, 2020 – ongoing (expected:2023), University of Nevada – Reno

Master's, CSE, 2018 - 2020, University of Nevada – Reno – (CGPA 3.97/4.0)

Bachelor's, CSE, 2012 - 2016, Khulna University – (CGPA 3.5/4.0)

TECHNICAL SKILLS

C++, C, Unity and C#, OpenGL, Python, SDL2, Linear Algebra, Game Engine development, Visual Studio, Debugging, Git

AWARDS

• Winner of 'Grameen Phone Game Jam 2017'

• Winner of 'EATL-Prothom Alo Mobile Apps Contest 2015'

PERSONAL PROJECTS

- **BrewEngine** – A 2D C++ game engine.

  - **Imgui** based runtime editor,
  - **Opengl** based 2D renderer,
  - Dynamic and static batching (around **3x** and **6x** performance improvement respectively),
  - **GJK + EPA** based collision detection and resolution (**multithreaded**),
  - Custom 2D **physics** engine.

- **Dynamic destruction system** plugin for Unity.

  - Let's you add **semi-dynamic destruction** to Unity.
  - Creates a graph from a fractured model with fracture pieces as nodes. The graph is traversed at runtime to decide which fracture pieces should take part in destruction.
  - See my youtube video tutorial for details.

- A homebrew port of **Commander Keen** for the Nintendo Switch:

  - I ported the open-source Commander Keen clone (Clone Keen) to Nintendo Switch homebrew.
  - Ported renderer and Input system from SDL1 to SDL2

- **Bengali language support** plugin for Unity.

  - • A free tool that lets you render Bengali language script at runtime. Unity has very poor support for rendering Bengali (and other complex scripts like Hindi) unfortunately.

  - • I wrapped the Omicron lab Avro keyboard into a .dll file. So it's possible to write Bengali in the editor and in Runtime even if you don't have a Bengali keyboard installed.

PUBLICATIONS

- Prithul, A., Adhanom, I. B., & Folmer, E. (2021). **Teleportation in virtual reality; a Mini-Review. Frontiers in Virtual Reality, 2.** https://doi.org/10.3389/frvir.2021.730792

- Prithul, A., Adhanom, I.B., & Folmer, E. (2021). **Embodied Third-Person Virtual Locomotion using a Single Depth Camera.**

- A. Prithul and E. Folmer, **"Analysis of Positional Tracking Space Usage when using Teleportation,"** 2021 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW), 2021, pp. 480-481, doi: 10.1109/VRW52623.2021.00122.

- Aniruddha, P., Zaman, N., Tavakkoli, A., & Zuckerbrod, S. (2019). **"A parametric perceptual deficit modeling and diagnostics framework for retina damage using mixed reality."** Advances in Visual Computing, 258–269. https://doi.org/10.1007/978-3-030-33723-0_21.

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