**SADANAND NAIK**

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**Objective:** Seeking an Internship or a Full-time position as a developer/programmer, starting May 2020.

**Education:**

* **Rochester Institute of Technology (RIT)**, Rochester, NY.

*Master of Science* in *Game Design & Development Expected by 2020*

CGPA - 3.83 out of 4.

* **Symbiosis Institute of Technology**, Pune, India.

*Bachelor of Technology* in *Electronics and Telecommunications. Earned October 2016*

**Skills:**

* **Languages:** C++, C#, HLSL, GLSL.
* **Tools:** Visual Studio 2017/2019, DirectX11, OpenGL 4+, Unity.

**Projects:**

* **GPU accelerated Fluid Simulation** (Solo/Personal (Credited)/C++)**:** Currently Ongoing
* Implemented Collision Detection/Response on existing GPU particle system.
* Researching ways to improve the accuracy of collisions and applying Navier-Stokes equations.
* **Graphics Independent Study** (Solo/Personal (Credited)/C++)**:** August-December 2019
* Implemented Real Time water Simulation on DirectX 11 using Gerstner waves.
* Implemented CPU, Hybrid CPU/GPU and compute shader-based GPU particle Systems.
* Implemented Refraction and Depth of Field on Water Surfaces on GPU using DirectX11.
* Researching techniques to apply screen space reflections on particle effects.
* **Capstone Project: Game Engine for Motorsport** (Team/Academic/C++): Currently Ongoing
* Created and Integrated a parallelized job system for fast multi-threaded performance.
* Created and Integrated an Octree for Frustum Culling rendering optimizations.
* Designed and Developed the Entity-Component-System for fast Game Object processing.
* Created a scene graph for maintaining parent-child hierarchy calculations for all game objects.
* Helped Integrate Scene Loading using Rapid Json.
* Integrated Event Handling/Messaging system in the engine.
* Integrated model loading using Assimp libraries.
* Integrated Input handling.
* **Data-Oriented PlayStation4 Game** (Team/Academic/C++): December 2019
* Implemented data-oriented Entity component system using Structure of Arrays.
* Implemented data-oriented physics system for brute force collision detection.
* Implemented gameplay mechanics using data-oriented code design.
* Achieved massive performance boost over non data-oriented version.
* **Game Graphics Engine** (Team/Academic/C++): February 2019- April 2019
* Integrated importing of .raw files and generating Terrains in DirectX11.
* Implemented Post-Processing effects such as bloom and blur.
* Implemented Lighting Equations and Reflection Techniques.

**Experience:**

**Intern Software developer** September 18, 2017 - December 29, 2017

*IDZ Digital Pvt. Ltd.* Borivali East, Mumbai, Maharashtra 400066, India

* Created and modified educational games as indicated by the lead developer and designer.
* Ensured deployment and integration of 3-5 games each week on the company’s main app.
* Unofficially hAssisted Lead Developer with analysis of development delays.