Phani **Srikar**

ENGINE DEVELOPER · GRAPHICS PROGRAMMER

Bangalore, Indoa

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"Pixels....Ummm.... I eat tasty pixels for Breakfast, Lunch and Dinner."

Skills

Programming Languages	C, C++, Assembly, Lua, C#, GLSL, HLSL, PSSL2
Consoles	PS5
Graphics APIs	AGC, OpenGL, Vulkan, DirectX 12, (GXM, GCM - homebrew)
Other APIs	QT
Tools	Visual Studio, RenderDoc, NSight, Blender, Razor
Game Engines	Unity, Unreal, Phyre Engine, Godot

Work Experience

Graphics Programmer
Bangalore, India

SONY INDIA SOFTWARE CENTER
Sep. 2021 - Present

- Project - SIE (PS5 SDKQA-Graphics team)
- Researching rendering techniques on PS5
- Developing an internal game engine for PS5 and PC for SARD, Sony India
- Developed Game Automation Framework for Engine using Imitation Learning and demoed it to SanDiego Studio
- Ported sony center metaverse to PS5 in unity

Computer Graphics Engineering Intern
Bangalore, India

VIGA ENTERTAINMENT TECHNOLOGY
Feb. 2021 - Apr. 2021

- Implemented IMU based motion capture pipeline from scratch and development of proprietary motion solving algorithms
- Implemented Research practices in motion capture to production pipeline
- Designed a QT - Vulkan application for visualisation of the 3D motion capture data + plugin for Unreal engine
- Contributed to understanding of IMU sensor data and improvement of sensors workflow

Unity Student Ambassador
Hyderabad, India

SREENIDHI INSTITUTE OF SCIENCE AND TECHNOLOGY
Sep. 2020 - Jun. 2021

- Conducted sessions on Introduction to Game Development.
- Implemented workshops on Unity and Blender workflow.

Gameplay Systems Designer Intern
Hyderabad, India

BONE GAME STUDIOS
Apr. 2020 - May. 2020

- Designed level management system for gameplay selection

Technical Head, Techvision Club
Hyderabad, India

SREENIDHI INSTITUTE OF SCIENCE AND TECHNOLOGY
Aug. 2019 - Aug. 2020

- Lead mentorship porgrammes for many students on various topics and projects.
- Lead the organisation of annual college tech festival and oversaw the technical competitions.

Projects

Razix Engine
https://github.com/ Pikachuxxxx/Razix

A WIP HIGH PERFORMANCE RESEARCH ENGINE FOR PRODUCTION PIPELINE

- Cross-Platform 2D and 3D engine with multi render API support (GL, VK). The engine architecture supports a very educational and optimized design
- Data driven Framegraph implementation and Bindless materials
- Jolt physics engine and lua based scripting
- Global Illumination using Light Propagation Volumes
- Editor and Tools built using QT
- Rich set of GUI and Commmand Line Tools along with the Editor for various purposes (Code Editor, Blender Importer/Exporter etc)

Fireworks Engine

LIGHTWEIGHT SANDBOX GAME ENGINE USING OPENGL FOR ADDITIONAL CUSTOMISATION AND QUICK PROTOTYPING

- Created a complete 2D and 3D rendering pipeline from scratch using OpenGL as the backend API
- Created a simple and clearly documented Engine and Scripting API for faster development and customisation
- Added support for 2D and 3D Audio with an extensive API using OpenAL
- Designed a component system for rigidbody, transform and supports up to 20 components with a simple Interface to extend to new components
- Implemented a simple material system that leverages both the forward and deferred rendering pipelines
- Implemented 2D sprite animation and 2D Physics (Box2D). Also supports true type font rendering
- Implemented 3D skeletal animation and primitive 3D physics algorithms and responsive camera system
- Designed Highly optimised Batch Renderers for 2D and 3D primitives as well as 3D models for static and dynamic meshes

R8

CUSTOM 8-BIT RASTERIZATION AND RENDERING API

- Created a CPU based **Rasterization algorithms and Rendering** API
- Designed a state machine mechanism to mimic the behaviour of OpenGL 2 for the Rendering API
- Designed a simple global rendering state manipulation functions and helper maths(matrix and vector) functions (similar to legacy OpenGL)
- Designed the API to be cross-platform since it is CPU accelerated
- Implemented scan-line rendering and various primitive modes such as line, point, line strip etc
- Implemented *Floyd-Steinberg* dithering algorithm for image dithering effects
- Designed a 8-bit depth buffer for early depth-testing and also support for blending and kernel effects such as gaussian blur and edge detection

Presentations

STEF'22 - Sony technology Exchange Fair

Tokyo, Japan

PRESENTER FOR AUTOMATING FAST GAMEPLAY TESTING USING IMITATION LEARNING

Dec. 2022

- Presented demos on how the system can be used with various engines/games to automate gameplay
- Participated in Q/A and discussion sessions

Open Source Contributions

Bosca Ceoil

BOSCA CEOIL IS A FREE, EASY TO USE TOOL FOR CREATING MUSIC!

- Maintainer of Bosca Ceoil for MacOS system
- Currently porting SiON library from hexa to C++ to port Bosca code base from actionscipt to C++
- Played a crucial role in extending the life and support of the software

Education

Sreenidhi Institute of Science and Technology

Telangana, India

B.TECH IN ELECTRONICS AND COMMUNICATION ENGINEERING

Aug. 2017 - July. 2021

Narayana Junior College

Telangana, India

CLASS XII

Aug. 2015 - Aug. 2017

Hobbies

- Gaming
- **Speedcuber** - can solve a wide range of puzzle before you say brrr.
- Badmition
- Amateur Guiarist
- Homebrew Development