Twarit Waikar

Portfolio · Github · LinkedIn
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SUMMARY

Systems programmer interested in Operating Systems, Computer Graphics, Virtual Reality and Cloud. Eager to learn new technologies. Can search for niche solutions on Google

EDUCATION

B.TECH COMPUTER SCIENCE AND ENGINEERING
CGPA 7.661

Indian Institute of Technology, Roorkee, India (2021)

CBSE 10+2 NON-MEDICAL (COMPUTER SCIENCE)
Boards 95.2%

Delhi Public School, Sector-19, Faridabad, India (2017)

SKILLS

LANGUAGES
Comfortable
Modern C++ 11/14/17, Lua, Unreal Blueprint, Python, Java, C, PHP, JavaScript, HTML/CSS
Familiar
TypeScript, CoffeeScript, C#

FRAMEWORKS/LIBRARIES
Comfortable
Win32 API, DirectX 11, OpenGL 3, Unreal Engine 4, Godot Engine, SFML, GLFW, Terraform, AWS Boto3, GCP Client APIs
Familiar
Unity 3D, SUMO, ToroPHP, MySQL, Docker, OpenStack

TOOLS
Version Control(Git, Github), IDEs (VS, VSCode, Eclipse), CMake, Scons, Vcpkg, Windows, Linux, MacOS

EXPERIENCE

SOFTWARE ENGINEER Associate Member of Technical Staff
Salesforce, Hyderabad since June 2021

- Created a **C++ tool** called p4-fusion to convert Perforce depots to Git repositories **about 100 times faster** than the official Git based solution.
- Open sourced p4-fusion under the BSD-3 license in the Salesforce Github organization. **Click here to view the code on github.com/salesforce.**
- Collaborated in **building proof of concepts of developer tools** to support the developers at Salesforce.

CLOUD INFRASTRUCTURE COST OPTIMIZATION Remote Internship
Salesforce Hyderabad 2020

- Implemented a cloud service agnostic, infrastructure crawling framework in **Python** 3 which crawls **GCP** and **AWS** in search of unlabeled, unnecessary resources.
- Designed the framework in a manner that it is extensible to any other cloud service with minimal effort.

GOOGLE SUMMER OF CODE 2019 AND 2020 Version Control System Integration | Code | Docs
Godot Engine

- Developed and now maintaining the complete **Version Control systems integration** in the Godot Editor.
- Integrated **Godot GDNative C++ API** with **libgit2** which is a re-implementation of **Git** written in C.
- Mentored a feature expansion of the VCS Integration project in GSoC 2020.

3D TRAFFIC DRIVING SIMULATOR IN UNREAL ENGINE 4 Internship
Robert Bosch, Bangalore 2019

- Integrated a traffic simulation engine using proper traffic rules called SUMO in **Unreal Engine 4** which used the **SUMO/TraCI API** .
- Applied Unreal Engine's user interface and **procedural generation** tools to create a traffic behaviour data collection virtual environment.

PROJECTS

ROOTEX ADVANCED C++17 3D GAME ENGINE Code | Docs
SDSLabs, IIT Roorkee

- Designed and implemented an ECS-based **C++** game engine using **DirectX 11** with a **Lua scripting API** and a **Dear ImGui** editor GUI.
- Implemented an frame-wise event manager, **multithreaded** resource loader, **OpenAL** audio engine, **Bullet physics engine** integration, DirectX 11 renderer backend for an overlay system using **HTML/CSS/Lua** , and other essential parts of a game engine like editor tools, overall architecture, post processing, profiling/optimizations etc.

RUBEUS C++17 SIMPLE 2D GAME ENGINE Code | Docs
SDSLabs, IIT Roorkee

- Implemented a 2D rendering engine in **OpenGL 3.3** and a **custom 2D physics** engine written from scratch using simple collision detection algorithms.
- Designed other sub-systems in the engine such as audio, input, asset management, level loading etc.