Rudra Ojha

+91 8509625824 | rudraojhaif@gmail.com | linkedin | github

Experience

Livsyt

livsyt.ai

3D SDE

January 2025 - Present

- Automated generation of metro infrastructure perspectives and 3D assemblies for corridors over 2 km, integrating data-driven workflows for load analysis and structural integrity assessment.
- Built parametric modeling tools in Grasshopper (C# / Python) to automate bridge super- and sub-structure construction, improving design efficiency and accuracy.
- Streamlined geometry creation and optimization pipelines for large-scale urban transit and structural design projects.
- Led R&D and performance enhancement of in-house 3D software, leveraging OpenGL, Coin3D, OpenCascade, OpenUSD, and OpenInventor for advanced geometry computation and visualization.
- Engineered a web-based 3D modeling solution connecting backend geometry kernels (OpenCascade) with frontend Three.js, enabling parametric modeling, visualization, and interactive editing.
- Developed full-stack modules using FastAPI, SQLAlchemy, TypeScript, React, and Python, supporting team management, role-based access, reporting, and CAD tool integration.
- Created 2D viaduct sub-structure data viewers with SDL3 and built custom GUIs using Qt and modern frameworks for enhanced design workflows.

Livsyt

livsyt.ai

Unreal Engine Dev II

November 2024 - Present

- Developed advanced procedural and instanced mesh systems for efficient real-time geometry manipulation and seamless integration with dynamic environments in Unreal Engine.
- Implemented vertex, edge, and face editing tools to enable precise and intuitive modification of complex 3D models for metro architecture within a virtualized environment.
- Applied frustum culling and other rendering optimization techniques to enhance performance, ensuring efficient resource usage and smooth camera interactions in large-scale metro simulations.
- Engineered core systems and custom UI widgets in C++, integrating Cesium with Unreal Engine for geospatial data visualization and interactive architectural modeling.
- Built tools allowing users to import and utilize real-world geospatial data, enabling immersive and scalable urban infrastructure design directly in the Unreal environment.
- Implemented an automated Bill of Quantities (BOQ) generation system based on 3D geometry volume calculations, facilitating accurate material estimation and cost analysis.

Asset Store

FAB | Itch

Fab/Itch.io

January 2016 - November 2024 (Assets still live)

- FAB verified publisher
- Itch io indie game / assets / tools store
- Collaborated with teams in creating games/tools
- Provided game development services

Skills

Language Proficiency

C++, C#, Python, TypeScript, SQL, Java

Game Development

Unreal Engine, Blueprints, HLSL, GLSL, OpenGL 4.6, Blend Trees, Ragdoll Physics, Particle Systems, Gameplay Mechanics, Procedural Generation, VFX, Sound Integration, Cooldowns & Ability Systems, Hit Detection & Directional Hit Systems, LOD, Frustum Culling, PBR (Cook-Torrance BRDF), Parallax Occlusion Mapping, Image-Based Lighting (HDR), Atmospheric Scattering, Volumetric Fog, Post-Processing (Bloom, Chromatic Aberration, Depth of Field), Terrain Rendering, Procedural Mesh Placement, Level Design Tools, Plugin Development, PayPal SDK

CAD / 3D Development

OpenCascade, OpenUSD, OpenInventor, Coin3D, Three.js, Cesium, Grasshopper, Civil NX API, Adsec C#, Qt

Web Development

React, FastAPI, SQLAlchemy, TypeScript, Python, Docker, PostgreSQL, Git, Unit Testing

Certifications

- Unreal Engine 5 C++ Developer
- Unreal Engine 5 C++ Multiplayer
- Connect and Protect: Networks and Network Security, Google
- Play It Safe: Manage Security Risks, Google
- Assets, Threats, and Vulnerabilities, Google
- Foundations of Cybersecurity, Google
- Tools of the Trade: Linux and SQL, Google
- Automate Cybersecurity Tasks with Python, Google