

AMOGH JADHAV

Graphics Engineer

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TECHNICAL SKILLS

Programming Languages: C++ (9+ years), JavaScript/TypeScript, C#, Python, GLSL (shader programming)

Graphics & Rendering: OpenGL (advanced), WebGL, Three.js, custom shader development, deferred rendering, raytracing, PBR materials, real-time rendering pipelines, post-processing workflows, optimizing GPU and CPU bound rendering paths, GPU profiling, GPU driver behaviour

Game Engines & XR: Unity3D (AR/VR, UI implementation), Meta Quest 3, Unreal Engine (basic), WebXR

Frontend & Web: HTML/CSS, React (basic), Three.js, WebGL, responsive design, interactive web experiences

3D Modeling & CAD: Blender (advanced), Rhinoceros 3D, Maya, Grasshopper (parametric), UV mapping, texturing, baking

Design & UI/UX: Figma, Adobe Creative Suite (Photoshop, Illustrator, After Effects), user research, interaction design

Specialties: Performance optimization, GPU batching/instancing, asset pipelines, cross-platform development, shader programming

PROFESSIONAL EXPERIENCE

XR/VR Designer & Researcher | Indian Institute of Science, Bangalore

March 2024 – March 2025

- Designed and implemented Unity-based AR simulation for space habitat research using Meta Quest 3 in collaboration with ISRO
- Created optimized 3D assets and interactive UI elements for real-time VR with performance constraints on standalone hardware
- Translated complex engineering requirements into intuitive immersive experiences through user research and iterative testing
- Conducted structural FEA analysis in ANSYS, creating visual representations of engineering data for immersive visualization

Product Designer & Technical Designer | Echostream, Sikkim

February 2023 - December 2023

- Developed Weavemaster: collaborative design tool combining UI/UX design with computational geometry in Rhino + Grasshopper
- Implemented parametric mesh generation algorithms for real-time 3D visualization from 2D pattern inputs
- Conducted 8 weeks ethnographic research, translating non-technical requirements into technical deliverables
- Built complete visual design system adopted by architecture firm for structural design projects

Technical Artist Intern | ARPM Design & Research (Remote)

May 2021 - August 2021

- Designed and implemented node-based visual scripting platform in C++/OpenGL optimized for 10,000+ UI nodes in real-time
- Applied GPU instancing, batching, and frustum culling to achieve 60fps performance with complex UI hierarchies

- Developed custom SDF-based font rendering system in GLSL for infinite-resolution text and smooth zooming
- Bridged C++/OpenGL backend with C# application layer, balancing visual requirements with performance constraints

KEY TECHNICAL PROJECTS

Lines of Sight - Interactive 3D Web Experience | *Three.js, WebGL, JavaScript, GLSL*

2022 | Design Lead + Developer | enter.linesofsight.nid.edu

- Led 3-person design team and solely developed production WebGL-based immersive experience for NID virtual installation
- Implemented custom GLSL shaders for atmospheric projector effects and interactive storytelling through real-time rendering
- Optimized 3D assets using Blender baked lighting for efficient cross-platform performance (mobile + desktop)
- Designed asynchronous loading system and UI layer for seamless experience across diverse hardware capabilities

SDF Fractal Rendering Engine | *C++, OpenGL, GLSL, ImGui*

2023 - Present | instagram.com/design_shenanigans

- Built real-time hybrid raster + raytracing renderer using signed distance functions for artistic 3D fractal visualization
- Implemented custom GLSL fragment shaders with importance sampling for physically-based lighting and Blinn-Phong fallback
- Created shader-based material system with real-time parameter controls and animation sequence export functionality
- Optimized rendering performance for 60fps interaction with complex procedural geometry

Algorithmic Trading Platform | *C++, ImGui, Real-time Visualization*

2022 - 2023

- Developed full-featured trading interface with real-time candlestick charts, indicators, and interactive data visualization
- Designed custom UI components for complex financial data display with performance-optimized rendering for live updates
- Implemented draw call batching and GPU-accelerated rendering for low-latency user interaction

Unity Game Development & VR Prototypes | *Unity, C#, Blender*

2020 - Present

- Created multiple game prototypes and VR experiences with custom C# behavior scripts and physics systems
- Modeled and optimized 3D assets in Blender for real-time rendering with performance-conscious workflows
- Participated in game jams, developing rapid prototyping and complete asset pipeline skills

EDUCATION

Bachelor of Design (B.Des) | National Institute of Design, Ahmedabad

2018 - 2023 | Focus: Computational Design, Human-Computer Interaction, CAD Modeling, UI/UX Design

ADDITIONAL STRENGTHS

- 9+ years graphics programming practice: Continuous learning in rendering, shaders, and real-time graphics since high school

- Bridge designer-developer gap: Fluent in both visual design language and technical implementation constraints
- Performance optimization mindset: GPU memory management, draw call reduction, batching, LOD strategies, asset compression
- Cross-platform deployment: Optimized 3D experiences for web, mobile, desktop, and VR with consistent performance
- User research methodology: Ethnographic studies, usability testing, translating user needs into technical solutions
- Technical storytelling: Creating engaging interactive experiences that combine technical depth with creative vision