Bhushan Wagh

Frontend & 3D Graphics Engineer

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PROFILE

Frontend and graphics engineer building React/TypeScript products and interactive 3D tools. Reduced draw calls by approximately 85% and raised frame rates from ~30 to 55-60 fps on integrated GPUs. Creator of TSL Graph, a visual shader editor with 3,000+ users. Experience owning product features end to end, from rendering and procedural geometry to application architecture and persistence.

FEATURED PROJECT

TSL Graph | Visual Shader Editor

tsl-graph.xyz | Three.js, TSL, WebGPU, WebGL

- Built and launched a visual shader editor used by **3,000+ people**, including 1,100+ Google/GitHub sign-ups; featured in Bruno Simon's WebGPU + TSL course.
- Built node graphs that compile to TSL shaders with live 3D previews, using WebGPU with a WebGL fallback; supports 200+ nodes and Three.js JavaScript export.
- Added custom TSL/WGSL code nodes, reusable subgraphs, post-processing and multiple render targets, with node inspection, undo/redo and shareable graphs.

EXPERIENCE

3D Engineer | Broadpoint Group

Mar 2026 - Nov 2026 | Remote | Client: Rebode / MasterBrand

- Developed Rebode's React Three Fiber kitchen visualizer, enabling customers to explore and restyle their kitchens, and delivered a Next.js kitchen planner end to end.
- Cut draw calls from **1,200-1,400 to 150-200** and raised frame rates from **~30 to 55-60 fps** on integrated-GPU Windows laptops using BatchedMesh, instanced hardware, shared materials and pooled lights.
- Optimised 3D loading with Draco-compressed GLBs, texture cleanup, smaller environment maps, caching and parallel loads; moved hotspot calculations to a Web Worker.
- Built procedural crown moulding by extruding SVG profiles along cabinet runs. Replaced manually positioned hotspots with geometry-driven placement and added first-person navigation with collision and mobile controls.
- Took the Matrix planner from a Vite prototype to a **Next.js 15 App Router app in 11 weeks**, replacing a 500-line state machine with typed, deep-linkable routes.
- Built tested session/workspace persistence with token refresh, save/hydrate, timeouts and retries. Integrated photo-to-layout AI vision and a staging-render flow with progress, errors and consistent snapshot capture.

EXPERIENCE CONTINUED

Independent Developer | Self-employed

Sep 2025 - Feb 2026 | Remote

- Built and launched TSL Graph and Akruti, independently delivering visual tools for shader authoring and multimodal AI workflows.

Lead 3D Developer | Ctruh

Sep 2023 - Aug 2025 | Bengaluru

- Led a storefront-platform rewrite that **cut publishing time by 60%**, keeping scene data local and cloud assets referenced by pointer while optimising React rendering.
- Built a browser-based 3D editor supporting **models over 2 GB**, advanced PBR materials and real-time collaboration.
- Delivered custom 3D experiences for enterprise clients with React state management and API workflows; mentored developers and reviewed performance and accessibility.

3D Visualization Engineer | Paninian

Jul 2022 - Sep 2023 | Pune

- Built React interfaces for backend visualisation systems and published a Plotly.js ECG Visualizer npm package for real-time health data.
- Set up GitHub Actions CI/CD pipelines for React and Node.js applications.

Frontend Developer | Revirt.space

Oct 2021 - Jul 2022 | Remote

- Built an interactive 2D multiplayer environment with React, Three.js and Socket.io, supporting **300+ concurrent users** in one shared space.
- Migrated application state from Redux to Zustand, reducing bundle size and simplifying maintenance.

ADDITIONAL PROJECTS & OPEN SOURCE

Akruti | akruti.xyz

- Built a node-based AI canvas connecting 30+ models across language, image/video generation, speech and 3D synthesis. Implemented type-safe nodes, connection validation, 3D previews, usage credits, cloud uploads, undo/redo and autosave.

babylon-msdf-text - Created a TypeScript library for crisp MSDF text in Babylon.js, with wrapping, alignment and instanced rendering.

react-zdog - Contributed pointer events, render hooks and on-demand rendering to React bindings for the Zdog graphics engine.

opentui/vue - Contributed Vue bindings, composables, documentation and examples for terminal UIs.

TECHNICAL SKILLS

Graphics: Three.js, React Three Fiber, Drei, Babylon.js, WebGPU, TSL, WebGL, GLSL, instancing, BatchedMesh, procedural geometry, PBR, Draco/GLB optimisation

Frontend: React, Next.js App Router, TypeScript, JavaScript, Vue.js, Zustand, Redux, TanStack Query, Tailwind CSS

Delivery & APIs: Vite, Turborepo, pnpm, Vitest, Web Workers, GitHub Actions, Azure DevOps, Docker, Node.js, REST, WebSockets, npm publishing, Figma