

SUMMARY

Software engineer with about two years of Java backend experience and a focus on cinematic, interactive 3D web experiences and AI-powered applications built with React, TypeScript, and Three.js. Ships complete products end to end, from Spring Boot and Node.js services to scroll-driven WebGL front ends tuned for 60 FPS, mobile fallback, and accessibility.

TECHNICAL SKILLS

Languages	Java, JavaScript, TypeScript, C, C++, Python (basic), HTML5, CSS3
Frontend	React, Tailwind CSS, Vite, Next.js, Progressive Web Apps (PWA), Web Audio API
3D & Animation	Three.js, React Three Fiber, Drei, WebGL / WebGL 2, GLSL Shaders, GSAP, Lenis, Particle Systems, PBR
Backend	Java, Spring Boot, Node.js, REST APIs, WebRTC Signaling, Telegram MTPROTO, PostgreSQL, SQLite, Gradle
AI & Tooling	LLM APIs, Local LLMs, Multimodal and Agent Tooling
Practices	Modular Architecture, Performance Tuning (adaptive quality, instancing), Accessibility, Reduced-Motion Support, Git & GitHub

EXPERIENCE

Software Engineer, Independent

2024 – Present

- Built Java backend services with Spring Boot, PostgreSQL, JDK 21, and Gradle, paired with Vite front ends (about two years of Java backend work).
- Designed and shipped real-time systems in Node.js and React, including WebRTC video calling with a custom signaling server and full-stack media streaming applications.
- Produced a portfolio of cinematic WebGL experiences with zero-console-error builds, adaptive quality, mobile fallbacks, and reduced-motion support.

SELECTED PROJECTS

tele-music

TypeScript • Node.js • SQLite • React PWA • Telegram MTPROTO

- Private Telegram-powered music streaming app using Saved Messages as its library, featuring secure friend access, personal libraries, playlists, favourites, history, resume positions, and owner-controlled authentication.
- Implemented HTTP range streaming, an LRU disk chunk cache, metadata and artwork extraction, and per-user data over a shared library with PWA playback.

solar-system

HTML • Three.js • WebGL • GLSL

- Immersive 3D solar system atlas with procedural planetary surfaces, live ephemeris data, natural satellites, orbits, atmospheres, rings, and asteroid and Kuiper belts.
- Engineered interactive exploration and cinematic WebGL visuals with a boot sequence that pre-warms shaders to avoid compile freezes.

black-hole

HTML • WebGL 2 • GLSL Shaders

Cinematic real-time WebGL 2 black hole simulation featuring relativistic ray tracing, gravitational lensing, accretion disk physics, and interactive camera exploration.

SELECTED PROJECTS (CONTINUED)

AurumCard

[JavaScript](#) • [WebGL](#) • [3D PBR](#) • [Web Audio API](#)

Ultra-luxury interactive 3D credit card experience featuring 7 dynamic Physically Based Rendering (PBR) finishes, exploded X-ray architecture, Web Audio spatial synthesis, and a scroll-registered colophon.

incredible-india

[HTML](#) • [Three.js](#) • [WebGL](#) • [GSAP](#)

Immersive 3D web experience and scroll-driven showcase of India's culture, destinations, heritage, and food, complete with cinematic animations, interactive visuals, horizontal travel sections, a lightbox gallery, and a responsive layout.

rupan-bloom

[HTML](#) • [JavaScript](#) • [CSS](#) • [Particle Systems](#)

Immersive cinematic digital identity experience designed for Rupan Pahari, featuring premium choreography animations, real-time particle effects, and an interactive visual design.

unit-cube

[HTML](#) • [JavaScript](#) • [3D Graphics](#)

Interactive 3D unit cube engineered with smooth arcball rotation, momentum physics, dynamic lighting, camera zoom controls, and responsive light/dark themes.

cartoon-weather

[CSS](#) • [JavaScript](#) • [Open-Meteo API](#)

Cartoon-style animated weather application providing real-time forecasts, city search, geolocation, hourly and 7-day outlooks, and dynamic weather scenes powered by Open-Meteo.

form-and-feeling

[HTML](#) • [WebGL](#)

Immersive interactive particle experience where chaos transforms into structured form, designed and created by Rupan Pahari.

glass-calculator

[TypeScript](#) • [HTML/CSS/JS](#)

Modern glassmorphism scientific calculator built with HTML, CSS, JavaScript, and TypeScript with clean expression evaluation.

neon-glass-clock

[HTML](#) • [CSS](#) • [JS](#)

Premium real-time analog clock featuring neon phosphor effects, glass-style hands, animated light trails, and responsive layout.

Skycast

[JavaScript](#) • [HTML/CSS](#)

Modern and immersive weather forecasting web experience engineered with a clean, responsive user interface.

EDUCATION & LANGUAGES

Bachelor of Computer Applications (BCA)

Mangalmay Institute of Management and Technology

Spoken Languages:

English

Hindi

Bengali

ACHIEVEMENTS

- **Geography Knowledge Test (2017):** First place at district level (Class 10); ranked second in class.
- **State Athletics (2020):** State-level participant in discus throw.
- **District Athletics (2019):** District-level gold medalist in discus throw.