

Johanny Angarita

Senior Full-Stack Engineer | Real-Time Systems & WebGL

Colombia | +57 3014783391 | joh@jangerita.com
LinkedIn: [linkedin.com/in/jangerita](https://www.linkedin.com/in/jangerita) | Portfolio: jangerita.com

PROFESSIONAL SUMMARY

Senior Software Engineer with 20+ years of experience architecting high-performance web systems, interactive 3D experiences, and low-latency distributed architectures. Full-stack mastery across TypeScript, Node.js, and WebGL/Three.js, complemented by low-level systems programming in C++ and Rust/WASM for compute-intensive workloads. Specialized in high-concurrency WebSocket state synchronization, real-time telemetry pipelines, and scalable AWS cloud deployments. Proven background leading platforms from architectural design to production as Technical Director, ensuring high performance, fault tolerance, and zero regressions.

TECHNICAL SKILLS

- **Languages:** TypeScript, JavaScript, Rust/WASM, C++, C#, Python, Shaders (GLSL), HTML5/CSS3.
- **Backend & Cloud:** Node.js, Express, WebSockets, RESTful APIs, AWS (EC2, S3, RDS, Elastic Beanstalk), DigitalOcean, Docker, Linux, Git.
- **Frontend & Web3D:** Three.js, WebGL, React, Next.js, Phaser.js, HTML5 Canvas, WebXR, Tailwind CSS.
- **Databases:** PostgreSQL, MySQL, Redis, MongoDB.
- **Testing & Quality Assurance:** Vitest, Jest, Integration Testing, TDD, Code Reviews, Automated CI/CD Pipelines (Jenkins).
- **Architecture & Systems:** Distributed Systems, Microservices, Real-Time State Synchronization, High-Frequency Telemetry Pipelines, Performance Profiling & Memory Optimization.

PROFESSIONAL EXPERIENCE

Patched Reality | United States (Remote)

Senior Full Stack Engineer | July 2021 – April 2026

Technical lead across emerging technology agency initiatives, balancing internal R&D product incubation with high-velocity client contracts and regulated enterprise software delivery.

- **R&D & Proprietary Product Incubation:** Spearheaded technical architecture and prototyping for internal research initiatives that matured into commercial platforms, notably *Fluxtant* (automated 3D Digital Twin generation from OpenStreetMap GIS data with isolated multi-tenant droplet orchestration) and *Art School Fight Club* (real-time multiplayer 3D WebGL game with Algorand on-chain transactions and IPFS decentralized asset storage).
- **Clinical Kinematics & Rust/WASM Optimization (Reach VR):** Architected the backend services for a therapeutic VR platform (Meta Quest Store) computing anatomical joint rotations and reachable arm workspace limits. Re-engineered the heavy kinematic calculation engine from JavaScript to compiled Rust/WASM with multi-threaded Worker pools, slashing execution time from ~90 seconds to ~400ms (>220x performance gain) to generate patient movement grids in near real-time for clinicians.
- **Rapid Client Engagements & Interactive Software:** Delivered multiple interactive web platforms, rapid-turnaround agency client contracts, and digital marketing systems for enterprise clients, translating ambiguous specifications into robust production deployments under aggressive timelines.
- **Cloud Infrastructure & Multi-Tenant Orchestration:** Governed cloud infrastructure and automated CI/CD pipelines using Docker, Jenkins, and AWS (Elastic Beanstalk, EC2, S3, RDS) alongside DigitalOcean, automating server provisioning and enabling fast, repeatable deployments across staging and production environments.

- **Quality & Architectural Governance:** Established automated testing standards (Vitest/Jest) and schema validation across live data streams, mitigating technical debt and ensuring zero production regressions across 5 years of continuous multi-client releases.

Technologies: TypeScript, Node.js, Rust/WASM, Python, WebGL, Three.js, WebXR, WebSockets, Multisync, PostgreSQL, MySQL, Redis, AWS, DigitalOcean, Docker, Jenkins, Git, IPFS, Algorand API, Vitest/Jest.

Gametapas | United States (Remote)

Co-Founder & Lead Engineer | December 2019 – June 2021

Boutique HTML5 game development and interactive web studio. Spearheaded end-to-end technical execution across proprietary games, global publisher releases (FRVR), and bespoke web applications for enterprise clients.

- **Web Game Engineering (FRVR & Proprietary Releases):** Architected and shipped commercial HTML5/WebGL games leveraging Phaser.js and PixiJS, including titles optimized for the FRVR platform. Governed physics engines, render loops, and memory profiling to sustain 60 FPS on low-bandwidth mobile browsers.
- **Modular Component Architecture:** Designed decoupled, reusable gameplay architecture and shared systems in TypeScript, accelerating production delivery cycles by an estimated 30% across concurrent client releases.
- **Backend Services & Internal Tooling:** Built lightweight Node.js backend services and MySQL schemas for session state and global leaderboards, alongside Angular internal dashboards for asset compression and pipeline management.
- **Cloud Infrastructure & Automated Delivery:** Automated deployment workflows utilizing Jenkins, Git, and AWS, streamlining build distribution and asset caching for high-traffic browser games.

Technologies: TypeScript, JavaScript, Phaser.js, PixiJS, HTML5 Canvas, Node.js, Angular, AWS, Jenkins, MySQL, Git.

Pixowl | Argentina (Remote)

Systems & Performance Engineer | November 2017 – November 2019

Native systems engineering and runtime optimization for *Goosebumps Horror Town*, a high-traffic mobile game deployed globally on Android and iOS under rapid Live-Ops release cycles.

- **Startup & Preload Optimization:** Re-engineered the initialization and asset preloading pipeline in C++, substantially cutting cold-start load times and decreasing initial player drop-off.
- **Memory Profiling & Device Compatibility:** Profiled native runtimes and eradicated critical memory leaks in C++ and Cocos2d-X, eliminating out-of-memory (OOM) crashes and unlocking stable 60 FPS performance on lower-tier and mid-range Android devices.
- **CI/CD Automation & Pre-Build Static Analysis:** Implemented continuous integration pipelines using Jenkins, incorporating pre-build static code analysis and linters to intercept defects prior to native Xcode and Android NDK compilation, accelerating release cycles.
- **Regulatory Compliance & Privacy (GDPR):** Architected and integrated the global GDPR user consent and privacy management subsystem, building native bridges in Objective-C (iOS) and Java (Android JNI) for secure player telemetry and profile governance.
- **Feature Engineering & Live-Ops Triage:** Developed new core gameplay mechanics, seasonal live-event systems, and performed rapid triage on high-priority production bugs under continuous bi-weekly release cycles.

Technologies: C++, Cocos2d-X, Java, Objective-C, Xcode, Android Studio, Android NDK, Jenkins, CI/CD, Static Analysis / Linters, Memory Profiling Tools, GDPR Compliance, REST APIs, Git.

Joju Games | United States (Remote)

Technical Director & Engineering Lead | August 2010 – September 2017

Promoted from Game Developer to Technical Director; led technical architecture, engineering operations, and commercial delivery across 20+ web and mobile titles.

- **Technical Leadership & Governance:** Led technical hiring and directed an engineering team of 8 software developers; established peer code review standards, standardized QA protocols, and governed version control systems across SVN, Perforce, and Git.

- **Full-Stack & Real-Time Multiplayer Engineering:** Architected and developed end-to-end Flash and HTML5/Canvas games using PixiJS, skeletal animation (Spine, DragonBones), physics, and real-time multiplayer networking via WebSockets and SmartFox Server (Java), with PHP backends backed by MySQL and MongoDB.
- **CI/CD Automation & DevOps:** Implemented automated build and packaging pipelines using Jenkins, managing DevOps infrastructure to ensure continuous availability for live game servers and studio services.
- **Multi-Platform Delivery for Global Publishers:** Managed technical alignment, third-party SDK/API integrations, and multi-platform launches (web & mobile) for top-tier publishers (Atari, 505 Games, Kongregate, Mindjolt) utilizing ActionScript, JavaScript, Unity/C#, Java, and Objective-C.

Technologies: JavaScript, PixiJS, HTML5 Canvas, Spine, DragonBones, WebSockets, SmartFox Server (Java), ActionScript, Unity, C#, Objective-C, PHP, MySQL, MongoDB, Jenkins, CI/CD, Perforce, SVN, Git, DevOps.

Early Career | Colombia

Software Engineer & Interactive Developer | 2001 – 2010

Cross-functional engineering roles across high-velocity digital agencies (Studiocom, Imagen Digital, Tal & Pascual), delivering interactive software, rich web applications, and digital platforms under rapid production cycles for global enterprise brands.

- **Interactive Web & Multimedia Engineering:** Developed rich interactive web applications, browser games, and multimedia software leveraging JavaScript, Flash (ActionScript), HTML/CSS, and Macromedia Director (Lingo).
- **Backend Services & Data Integration:** Implemented backend business logic in PHP backed by relational MySQL databases to power dynamic web portals, user management systems, and high-traffic promotional campaigns.
- **Engineering Workflows & Global Client Delivery:** Early adopter of Subversion (SVN) version control within multidisciplinary agency teams, delivering dozens of client projects on schedule for enterprise brands including Coca-Cola, Mattel, Dunkin', Alpina, and Kimberly-Clark.

Technologies: JavaScript, HTML/CSS, ActionScript (Flash), Macromedia Director (Lingo), PHP, MySQL, Subversion (SVN).

EDUCATION & PROFESSIONAL DEVELOPMENT

- **Politécnico Grancolombiano**
Coursework in Software Engineering | 2020
- **Self-Directed Applied Computer Science & Systems Engineering**
20+ years of continuous research and production application across Distributed Systems Architecture, Real-Time Networking, Low-Level Memory Management (C++, Rust), and Cloud Infrastructure (AWS).

LANGUAGES

- **Spanish:** Native
- **English:** Professional Technical Proficiency (B1) — Proficient in technical documentation, code reviews, and asynchronous communication; intermediate speaking.