

OMAR B. RAMÍREZ

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SUMMARY

Solutions Architect & Full-stack Developer specialised in designing complex systems and scalable architectures within the AI-Augmented Software Engineering paradigm. My approach integrates deep analytical rigour with the implementation of high-performance 3D interactive interfaces (Three.js/WebGL). I have a proven track record in critical infrastructure optimisation, successfully stabilising systems under high concurrency and exceeding performance standards (achieving a 93/100 score on PageSpeed Insights). An expert in orchestrating robust validation flows and atomic data modelling, I translate international business requirements into premium technical solutions with an uncompromising focus on security and architectural efficiency.

TECHNICAL SKILLS

Frontend & 3D Engineering

- **Core:** TypeScript (Strict Typing), React 19, Next.js 16 (App Router, Server Components).
- **3D Ecosystem:** Three.js, React Three Fiber, AABB Collision Engines, Scene Optimisation, and Dynamic Occlusion.
- **State & Styles:** Zustand, Tailwind CSS, Framer Motion, Dynamic CSS Injection, and visual asset management.
- **Performance & A11y:** Web Core Vitals auditing, TTFB optimisation, and accessibility standard compliance (W3C/ARIA).

Backend & Infrastructure

- **Development:** Node.js, Hexagonal/Modular Architecture, Server Actions, REST APIs.
- **Data Science & Persistence:** PostgreSQL, Prisma (Atomic Ledgers), MongoDB, Supabase.
- **Cloud & DevOps:** AWS Certified Cloud Practitioner, Docker, GitHub Actions (CI/CD), Vercel.
- **Security:** Perimeter auditing, malware mitigation, database sanitisation, and SSL/HTTPS certificate management.

AI-Augmented Engineering

- **Architectural Orchestration:** Designing structural prompts for generating and validating complex implementation plans.
 - **Logic Verification:** Senior technical oversight for detecting and correcting logical hallucinations in automated workflows.
 - **Workflow Optimization:** Professional AI integration to accelerate software delivery without compromising code integrity or security.
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PROFESSIONAL EXPERIENCE

Universidad Anáhuac México (Faculty of Social Responsibility)

Full-stack Consultant & Solutions Architect | Feb 2026 – Present

- **3D Architecture:** Led the development of an isometric construction engine featuring multi-level support and procedural staircase generation for a social innovation doctoral project.
- **Collision Engineering:** Implemented an AABB (Axis-Aligned Bounding Box) collision detection engine synchronised between client and server to ensure real-time physical integrity of assets.
- **Transactional Gamification:** Designed a progression engine based on social competencies, managing over 125 3D assets through an atomic ledger system using Prisma and PostgreSQL.
- **3D UX Optimisation:** Developed dynamic occlusion systems (wall faders) and intelligent camera controls to enhance immersion in high-density complex scenes.

Sustainable Design & Furniture Startup (CDMX)

Frontend Developer / Interactive Experiences | Oct 2025 – Present

- **3D Configurators:** Created a modular spatial editor based on Three.js with decoupled logic for dynamic manipulation of geometries, materials, and asynchronous model loading.
- **Selection Automation:** Developed an interactive guided assistant wizard using intelligent filtering algorithms for large-scale furniture customisation.
- **Software Stability:** Established unit and integration test coverage with Vitest, reducing regression errors in interactive design interfaces by 30%.

Academia Ecuatoriana de la Lengua

Full-stack Consultant | Jul 2021 – Sep 2024 / Mar 2025 – Present

- **Security & Sanitisation:** Mitigated critical vulnerabilities through deep malware removal in the database and file system, enforcing HTTPS routing and isolating upload directories to block arbitrary script execution.
 - **Performance & Scalability:** Implemented application-level caching to reduce PHP/MySQL processing and optimize TTFB, stabilising the server during peak traffic and achieving a 93/100 Desktop Performance score.
 - **Frontend Optimisation:** Resolved rendering blocks by correcting asynchronous flows and CORS headers, and regenerated dynamic CSS to consolidate visual integrity.
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EDUCATION

- **AWS Certified Cloud Practitioner (CLF-C02)** | Stephane Maarek (2025)
- **BEng in Computer Engineering** | UNAM (2022)
- **BA in Linguistics** | BUAP (2020)
- **C1 Advanced English Certification** | Faculty of Languages, BUAP (2017)