Juan Ramon Martinez Bulnes

Software Engineer

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Summary

Software engineer with React, SolidJS and TypeScript experience. Spent six months at Diffusion Studio building video-editor UI, reusable controls and browser persistence fixes. Build open-source developer tools, real-time web applications and native desktop integrations, including a Solid renderer, a browser/Electron DAW, an iPhone nutrition app and per-user databases.

Professional experience

Diffusion Studio | Software Developer | 6 months **2025 - 2026**

- Migrated video-editor UI from React to SolidJS; built Figma-based panels and controls with TypeScript, Tailwind CSS and Kobalte.
- Built project and template dashboards with search and sorting, plus account, preferences and billing interfaces.
- Added asset selection, metadata panels, rename and download actions; extracted shared cards, forms and layout components.
- Fixed asset deletion to await IndexedDB persistence before removing items from the UI and reporting success.
- Added history-backed fill replacement and removal commands with undo/redo and preservation of video-trim state.
- Built prompt controls with model selection, image/video references, slash-command history and keyboard navigation.

UTRGV, IT Web Development Office | Student Web Development Assistant **2019 - 2020**

- Worked with faculty to design and build sites across utrgv.edu based on requirements from design meetings.
- Developed reusable Velocity/Java site templates so faculty could create and edit pages from shared modules.

Projects

GPUix Solid | github.com/jhomra21/gpuix-solid | Solid 2 • TypeScript • GPUIX/GPUI

- Built Solid 2 bindings for GPUIX/Zed GPUI with Solid's universal renderer. A JS shadow tree handles reconciliation while mutations batch into GPUIX's native retained tree.
- Implemented focus, scroll, selection, GPU-backed animation, App/Locator automation, cross-platform CI, and npm Trusted Publishing.

Mesurer Solid | github.com/jhomra21/mesurer-solid | Solid 2 • TypeScript • npm

- Ported Mesurer to Solid 2 and published mesurer-solid, an npm package for selecting, measuring, and inspecting browser UI.
- Added screenshot capture, plugins, programmatic selection, context, annotations, and repeatable visual checks.

DAW Browser Convex | github.com/jhomra21/daw-browser-convex | SolidJS • Electron • C++ • VST3

- Built a local-first DAW with a SolidJS browser editor and Electron app. Desktop hosts CoreAudio and VST3; the browser uses Web Audio and WASM.
- Built one project-control protocol shared by the SDK, CLI, MCP server, JSONL adapter, REST routes, and authenticated desktop client.

MACROS | github.com/jhomra21/MACROS-Monorepo | Swift • SwiftUI • SwiftData • Cloudflare

- Built a local-first iPhone calorie and macro tracker with food logging, barcode and nutrition-label scanning, history, insights, WidgetKit, and StoreKit.
- Added optional invite sharing with Convex and Cloudflare Workers. Normal tracking stays on-device and does not require an account.

Realtime Database per User | GitHub | Durable Objects • SQLite • WebSockets

- Built a notes app where each user gets an isolated SQLite database in a Cloudflare Durable Object; D1 and KV handle auth and sessions.
- Added WebSocket hibernation, acknowledgements, retries, reconnects, optimistic updates, and batched broadcasts.

Better Auth Infrastructure | github.com/jhomra21/better-auth-infrastructure-cf | SolidJS • Hono • D1 • KV • Convex

- Built a SolidJS dashboard that provisions per-tenant Better Auth deployments on Cloudflare, including a Worker, D1 database, KV namespace, migrations, secrets, and deployment status tracked in Convex.

Skills

Languages: TypeScript / JavaScript, Swift, C++, Python, SQL
Frontend: SolidJS, React, SwiftUI, HTML/CSS, Tailwind CSS, Kobalte, TanStack Router / Query, IndexedDB
Backend & cloud: Bun, Node.js, Hono, Cloudflare Workers, Durable Objects, D1, R2, KV, Convex, Postgres, SQLite, REST, OAuth
Native & desktop: Electron, SwiftData, WidgetKit, StoreKit, CMake, CoreAudio, VST3, WebAssembly
Tooling: Git, GitHub Actions, Playwright, CI/CD, npm publishing, Xcode, Vite, Docker, Oxlint, MCP

Education

Master of Computer Science | University of Texas Rio Grande Valley 2021 - 2023
Bachelor of Computer Science | University of Texas Rio Grande Valley 2017 - 2020
Associate in Computer Science | South Texas College 2015 - 2017