

Alejandro Valdez

626-975-6211 | alejandror@valdezmedina.dev | valdezmedina.dev | github.com/avaldezmedina | linkedin.com/in/avaldezmedina

EDUCATION

University of California, Berkeley

Berkeley, CA

Bachelor of Science in Electrical Engineering and Computer Science

PROJECTS

Mental Tabs | *Next.js, TypeScript, Supabase, Zustand, Anthropic Claude, Tailwind CSS* May 2026 – Present

- Built a full-stack AI productivity app on Next.js and Supabase, designing a unified PostgreSQL schema that preserves brain-dump session lineage through AI-powered reorganization.
- Built a Claude-powered API endpoint that classifies unstructured entries into structured life-category tabs, with a keyword-matching fallback that keeps the feature working when no API key is configured.
- Structured the frontend around five domain-specific Zustand stores so components never query Supabase directly, then deployed to Vercel with Row Level Security enforced on all 9 tables and a network-first PWA service worker for offline access.

F1 Strategy Analysis | *Python, FastAPI, PostgreSQL, Celery, React, TypeScript, Docker* March 2026 – July 2026

- Architected an event-driven data pipeline where Celery workers ingest OpenF1 telemetry, compute stint pace and tire degradation analytics, and build precomputed race replay bundles, exposed through a FastAPI REST API with async task queuing.
- Built a broadcast-style replay viewer that plays back 250ms position frames at 60fps using requestAnimationFrame interpolation, with a bisect-indexed per-driver timeline for $O(\log n)$ frame lookups.
- Designed a race control flag state machine with sector-scoped deduplication and a driver strategy panel that maps playback time to estimated lap and live pit recommendations.

EXPERIENCE

Software Engineer

March 2026 – Present

My Baby My Way Foundation

Discovery Bay, CA

- Architected and deployed a full-stack internal AI platform (Next.js 16, Supabase, PostgreSQL, Claude API) serving 50+ community health workers, projected to reduce resource lookup time by 30–50% and support 10,000+ monthly client interactions.
- Built a hybrid search architecture combining full-text and trigram search, zip-code distance sorting, and an additive pgvector semantic similarity boost across a verified PostgreSQL resource library.
- Designed team-scoped access control around a shared boundary function enforced in both RLS policies and RPCs across three role tiers, so admins see only their assigned CHWs while super admins retain full visibility.
- Shipped bulk user invites through Brevo, CSV import and export, an automated 14-day inactivity reminder, and a server-side weekend usage lockout enforced at login and mid-session for CHW accounts.

Software Engineer

July 2025 – August 2025

CTC Food International

Irwindale, CA

- Developed and shipped JavaScript features across login, checkout, and onboarding surfaces on a live B2B platform serving 10K+ companies, maintaining 99% uptime across critical customer flows.

Research Software Engineer - AMISTAD Lab

May 2023–July 2024

Harvey Mudd College

Claremont, CA

- Co-developed the multi-agent simulation engine for two research manuscripts modeling researcher incentive structures and information-theoretic complexity metrics, then automated the experiment pipeline, cutting turnaround from 8 hours to 30 minutes for systematic parameter sweeps.

Software Engineer

August 2020–December 2020

National Aeronautics and Space Administration (NASA)

Whittier, CA

- Engineered autonomous navigation systems in C++ integrating IR and ultrasonic sensor fusion, achieving 90% navigation accuracy as the sole developer within a 10-person NASA engineering cohort.

TECHNICAL SKILLS

Languages: Python, SQL, C/C++, JavaScript, TypeScript

Frameworks & Tools: React, FastAPI, Node.js, Docker, Celery, Redis, PostgreSQL, Firestore, SQLAlchemy, Alembic, NumPy, Git, REST APIs, Azure, GCP, Agile, CI/CD, GitHub Actions

AI & ML: Computer Vision (EasyOCR), NLP, Predictive Analytics (regression modeling), LLM integration, Anthropic Tool Use, Prompt Engineering