

Patrick Astarita

Full-Stack Engineer: Product, Developer Experience & Internal Platform

Building on 10 years in manufacturing and hardware product development, I have recently developed an AI-native craft for building both the product and the platform beneath it: designing, shipping, and operating full-stack systems alongside the toolchains and internal infrastructure a team moves on.

New York City, NY | [LinkedIn](#) | [GitHub](#)

EXPERIENCE

Founding Engineer *Recharged.com*

Q1 2025 – Q2 2025

Founding engineer at an online EV-vehicle marketplace, owned integrations, forms, ETL, and DX.

- **External Integrations:** Carpool API for shipping quotes, geolocation with fallbacks/telemetry, tRPC + Tanstack Router with a custom API panel, and 1st-party calendaring against the HubSpot CRM.
- **1st-Party Form System:** reusable forms backed by persistent browser storage, SWR caching, and client/server validation (react-hook-form / Zod / react-query) with DrizzleORM-backed Neon Postgres.
- **Data Pipeline & ETL:** overhauled the ETL pipeline for observability and error handling; built an admin panel monitoring 93K fields across 1,200 entries with twice-daily processing and conditional badges for marketing.
- **CI/CD, DX, and Infra:** standardized an Error Factory (Pino/Sentry), automated CoLiMa-based Docker scripts for local DX/db:sync, and streamlined linter/formatter/testing (BiomeJS/Vitest/RTL) to 2x build efficiency.

Founder & Principal Engineer *Lanternade*

Q4 2025 – Present

Developer-tooling product that archaeologizes codebases into living diagram galleries, from business logic down to function syntax.

- **Built the Codebase Archaeologization Engine:** polyglot pipeline (TS/Python/Rust/Go) with an agentic validation engine that selects the best language implementation per algorithm; emits ~30 Mermaid diagram types per repo with automated faithfulness scoring (A–F).
- **Scale & velocity:** 255-package Bun/Turbo monorepo across 8 governance domains (6,000+ TypeScript files under packages/, 19 apps, 668 Next.js routes, 4,900+ markdown docs). 8,506 commits across 296 branches in 9 months, sole-authored, with full builds landing in ~63s at a 96.8% Turbo cache-hit rate.
- **Self-driving codebase:** every PR re-archaeolizes the repo itself (ouroboros self-test in CI), and an Archaeolization Control Plane orchestrates 13 subsystems (run registry with checkpoint/replay, CI-wake return loops, human-in-the-loop operator control), maintaining a 629-diagram machine-generated model of the repo's own architecture.
- **Delivered the Quarry Extraction system:** agentic 18-phase pipeline that converted procedural lib/ into 199 packages in 36 days, eliminating ~60% of per-package build overhead through a JIT shim-and-defer migration pattern.

Private Client CTO & Web Engineer *Solar Ash Wine*

Q2 2025 – Present

Launched the Solar Ash DTC brand site in 2025; sole technical owner since, in quarterly passes, now across the winery's whole web estate.

- **Performance Platform:** Next.js 15/React 19/Tailwind 4 with adaptive video delivery (480p/720p/1080p by viewport), WebP/AVIF optimization, and progressive parallax, page weight from 3GB to <200MB.
- **Email Deliverability & IT Infrastructure:** stood up domain email on the client's existing DNS, SPF, DKIM and DMARC records verified against a Resend sending identity, role forwarders (trade@, info@) to stakeholder inboxes, and a rate-limited, bot-protected contact route with delivery logging to Sentry.
- **SEO & Discoverability:** structured the site for search and trade discovery, robots and sitemap policy, responsive image srcset with descriptive alt coverage across the product photography, and metadata aligned to the distributor-facing tech sheet and sell sheet.
- **Account Ownership & Hosting Migration:** documented the transfer of every API and third-party account to the winery's own ownership with guides for non-technical operators; now executing it as a move from a personal Vercel account into a winery-owned organization.

Design Engineer & Procurement Manager (Contract) *Alphabet Inc.*

Q3 2023 – Q2 2024

Contract engineering for the Google Geo team, procured through my Hardware Design & Manufacturing Eng. Firm: [Factorita Industries, Inc.](#)

- **Google Geo Team:** engineered, fabricated, and shipped custom components for PCBA-integration of a military-grade IMU/geopositioning instrument that anchors Street View imagery on GPS-degraded mountain-bike trails.

EDUCATION

California Institute of Technology

Applied Physics / Materials Science (Cross-Enrollment) · 2018–2020

ArtCenter College of Design

Product Design · 2018–2020

Wentworth Institute of Technology

Industrial Design · 2016–2017

SKILLS

Languages & Core

Languages: TypeScript, Python, SQL
Frontend: React, Next.js (RSC), Tailwind
Runtime: Node.js, Bun

Backend & Data

APIs: tRPC, REST, Zod
Data: Drizzle, Neon Postgres, ETL
Auth: invite flows, session gating

AI & Agents

LLM: 7-provider hot-swap abstraction
Agents: phased pipelines, HITL control
Skills: 79 authored agent skills

Developer Experience

Monorepo: Bun/Turbo (255 pkgs, 19 apps)
CI/CD: GitHub Actions, per-PR previews
Tooling: BiomeJS, Vitest, RTL

Infrastructure

Hosting: Vercel, Cloudflare, AWS S3
Self-hosted: Forgejo, Garage, Valkey
Observability: OTel, Grafana, Sentry
Email: SPF/DKIM/DMARC, Resend

Documentation

Docs: 4,900+ markdown docs, ADRs
Indexing: custom index, JSDoc, YAML headers