Gabriel Gironda

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Dual Australian and US citizen; authorised to work in both countries.

About

Principal engineer in backend systems, infrastructure and security. Currently tech lead at TXI, a software consultancy, where I lead engineering for a US railcar lessor's new repair management applications and TXI's work automating delivery with coding agents. Previously principal and staff engineer at Shipt, Stripe and The New York Times, CTO of a fintech startup, and platform engineer for the 2016 Clinton campaign.

Work History

TXI Digital

Tech Lead, October 2025 - Current

Lead engineer for AITX, a US railcar lessor with a 96,000-car fleet. I own the architecture, cloud platform and delivery practice for its new repair management applications, and work directly with its operations staff, IT leadership and executives.

- Leading TXI's work automating delivery with coding agents: introduced spec-driven development, wired agents into CI pipelines, and built AI reviews that anyone can request from a pull request comment to check a change against product requirements and architecture decisions
- Building a spec-to-code pipeline: designers write specs alongside their prototypes, which become Jira tickets for review and scheduling. Agents implement small tickets automatically once they're scheduled, and engineers take the larger ones
- Running a pilot where delivery managers and product people use coding agents to make changes and open their own pull requests, in cloud development environments I built on Coder
- Designed and built AITX's Azure platform from the ground up, so every service ships independently, with all infrastructure as code, private networking and keyless deployments
- Designed and built the shop portal's event integration with AITX operations, so their staff own repair workflows in Power Automate instead of waiting on engineering changes
- Wrote the modernisation strategy for AITX's legacy ASP.NET Web Forms systems and presented it to audiences from engineers to executive leadership
- Prototyped AI document intake, starting with invoices: emails to a shared inbox are read through Microsoft Graph, extracted with Azure AI Content Understanding and filed into M-Files
- Advised AITX on hiring its Senior Director of Information Systems

Shipt

Principal Software Engineer, Security, August 2022 - January 2025

- Led the migration of all of Shipt's web traffic from Cloudflare to Fastly, covering CDN and web application firewall, with deployment workflows, automated infrastructure tests and published CDN documentation
- Designed and built a proof-of-work challenge in Fastly VCL to stop credential stuffing
- Established Shipt's first vulnerability management program and led the technical work for PCI compliance
- Migrated the Go-based privacy request processing system from AWS to Google Cloud

Stripe

Staff Software Engineer, May 2021 - June 2022

- Led the re-architecture of the support portal so product teams could build their own support experiences
- Led the launch of Spanish and French chat and phone support, and moved the support stack from Zendesk and Serenova to Twilio

The New York Times Company

Staff Software Engineer, March 2019 - April 2021

- Built pull request preview deployments and modernised development workflows during the move from AMIs to containers on Amazon ECS
- Led incremental re-architecture of the web frontend and API backend, and consolidated job queues in the Rails monolith
- Ran weekly office hours and pairing sessions on design, architecture and operations

HeavySet

Co-founder, 2018 - 2025

Technology consultancy. Built a recruiting data ingestion system, multi-architecture build infrastructure and a Chrome extension for recruitment software.

Six Trees Capital

CTO, June 2017 - March 2018

Led product and engineering at a fintech startup. Designed and built Max My Interest, including its integrations with financial institutions, and grew the engineering team. Named inventor on its patent for automated optimisation of financial assets.

Timshel

Platform Engineer, June 2015 - June 2017

Built API infrastructure for The Groundwork, the platform behind Hillary Clinton's 2016 campaign website, which handled about $500M in donations at peaks of 3,500 requests per second. Designed and ran its API gateway, built developer libraries and identity features in Python and Go, and led security audits.

Independent Project

Squeezebox Classic firmware

October 2026 - Current

Rebuilding the software for a 2005 network music player whose CPU, the Ubicom IP3023, has no maintained toolchain. I direct the work: architecture, order of work and acceptance criteria tested against reference implementations and the original firmware. Coding agents write the code and review each other's work.

- LLVM 22 backend for the IP3023, with Clang, LLD, LLDB and C/C++ runtimes, checked against the original GNU assembler and LLVM's own test suites
- MAME-based emulator that plays the original firmware in real time against an unmodified Lyrion music server, with live display and remote control
- Replacement FreeRTOS firmware with WPA2 Wi-Fi, gapless MP3 and a FLAC decoder written from the specification. The FLAC decoder's output is bit-exact with the reference decoder, and it uses under an eighth of the instructions per sample that the original firmware's decoder does

Earlier Experience

TXI

Engineer (Contract), May 2013 - May 2015

Built Rails and React applications, AWS Lambda services, high-security fintech infrastructure in Ruby, Go and C, and iOS image processing. Reviewed and fixed security issues in legacy Rails applications.

Desktime

Senior Software Engineer, February 2012 - January 2013

Built a Rails platform for coworking space bookings and payments, and ran release engineering.

Centro

Engineer and Development Lead, Feb 2008 - Feb 2009, Aug 2009 - Feb 2012

Led Rails development for advertising campaign management and managed six engineers, reporting to the CEO. Introduced continuous integration and led the split of the monolith into services.

Earlier roles: developer at Rosetta Stone and Byrne & Gilles IT Solutions; VoIP network engineer and first employee at HiTech Telecom.