

Roman Gurovich

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Senior Engineer who owns the full solution. I take abstract requirements and build robust, end-to-end systems in any domain or stack. I work iteratively and correctly, delivering high-quality software with minimal oversight. Seeking a high-trust team for sustainable, purpose-driven work.

PROFESSIONAL EXPERIENCE

VP Engineering @ Tuo

May 2024-Present

Set strategic technical direction and personally implemented all software/infra aspects of the business

- Built a full-stack SaaS platform for mortgage and financial services using FastAPI, React, and Temporal.io, enabling multi-tenant agencies to manage leads, process client intake, and perform financial calculations with automated workflow orchestration
- Architected the platform with agency isolation, fine-grained RBAC, and flexible scoped role hierarchies
- Designed distributed workflow orchestration using Temporal.io for reliable, stateful lead processing workflows with idempotent activities, replay testing infrastructure, and search attributes for analytics
- Built async-first backend with FastAPI (Python 3.12), PostgreSQL, SQLAlchemy/SQLModel, and Redis for high-performance request handling
- Developed financial calculation engine using NumPy Financial for mortgage payments, amortization schedules, HELOC calculations, and debt prioritization algorithms
- Implemented PDF generation system using Playwright for headless browser rendering with Jinja2 templates and AWS S3 integration for document storage
- Developed analytics dashboards for lead funnel tracking, workflow metrics, and user performance
- Created interactive web frontend with TypeScript, TailwindCSS, React, HTMX, Alpine, and real-time updates via Pusher/Soketi WebSocket integration
- Built comprehensive REST API with Pydantic validation, automatic OpenAPI documentation, and centralized error handling and logging
- Created email notification service with HTML template rendering and transactional email delivery
- Implemented test suite with pytest covering unit, integration, and Temporal workflow replay tests, with MyPy type checking, Black formatting, and Ruff linting
- Migrated legacy MySQL database to PostgreSQL with Alembic migrations and data transformation scripts
- Managed architecture with Kubernetes, Helm Charts, Docker, and auto-scaling Digital Ocean droplets
- Built Tuo's Identity API, a proxy to Intellicheck, with considerations for scale, security, and ergonomics
- Built Tuo's corporate site; a static site which represents Tuo to customers and partners
- Built a utility to scan identification cards, so that our customers can easily test our Identity API
- Chose technology partners and sub-processors to meet our functional and compliance needs
- Set up CI/CD infrastructure w/ automated testing to deploy our software with confidence
- Interfaced with clients and partners to drive the business forward

Senior Software Engineer @ Fulcrum

Oct 2022-April 2023

Implemented new services and features in Fulcrum's manufacturing ERP to attract and retain customers

- Designed and implemented a real-time domain-aware chat subsystem to help on the manufacturing floor
- Served as team lead for 2 additional software engineers-- scoping, coordinating, coding in the trenches
- Leveraged technologies such as C#, GraphQL, Typescript, Angular, and Mongo on top of Azure to ship fast
- Deployed iteratively to our most valuable customers, ensuring a tight feedback loop
- Project got strong uptake and featured prominently in marketing differentiating us from our competitors
- Fixed a sensitive, complex bug in inventory valuation, unblocking customers from painful workarounds
- Developed validation logic and UI to notify and block workflow plans for Bill of Materials (BOM) fulfillment if prerequisites were not met on associated machinery, manpower, and inventory

Senior Full Stack Engineer @ Trax Retail

May 2019–June 2022

Created an invoicing platform that enabled our company to bill clients accurately and in itemized detail

- Fully isolated application with its own web UI, BFF, API layer, DB, and messaging mechanisms
- Consistent and auditable with a CQRS pattern that allowed us to replay events and verify correctness
- Designed and implemented the infra, much of the data model, and core parts of the service and UI

Drove a major cross-functional initiative to bring Computer Vision into mobile application for retail stocking

- Coordinated 7 teams in 4 time zones to pull together resources necessary for integration
- Built an orchestrator service to ingest AI/ML predictions and distribute them to interested parties
- Helped develop the API to enrich mobile application with a combo of AI insights and business logic

Built a variety of features for our crowdsourcing management platform, such as:

- Ingestion feeds into data lake
- Date-based lookup for submission statistics
- Templated questionnaire builder
- Registration flow for workforce MVP

Senior Full Stack Engineer @ Tout

Aug 2017–April 2019

Built and launched an innovative VPAID ad tag that fused custom ads & content in an embedded video player

- Designed the tag with small initial footprint and async hooks to enable performance & compatibility
- Integrated video player with configurable behavior on how ads/content are injected + navigated
- Ensured consistency across various ad delivery networks, devices, and browsers

Developed functionality for our video player, SDK, and partner CRM. Highlights include:

- Embeddable lightweight SDK
- Ad vendor adaptors
- Header bidding
- Tagged video search

Software Engineer @ Ellucian

May 2015–March 2017

Helped build Brainstorm, a first-of-its kind Competency-Based Education (CBE) platform

- Led cross-functional effort to integrate Student Information Systems (SIS) into the gradebook
- Developed a secure, but flexible way for tenants to white-label their implementations
- Built a module for advisors with dashboard, an event feed, alerts, messaging, and graphs
- Created a subcomponent service to incrementally validate courses as they're published
- Standardized UI to work across desktop and mobile browsers, with support for touch devices
- Worked on internationalization with support for timezones, LTR languages, and alternate calendars
- Helped develop a highly flexible authorization scheme with roles and bundles of permissions
- Implemented preview screens for exams, so course designers could see how they'd look and function
- Introduced conditional locking on assessments, implemented as a tree of requirements
- Contributed to a comprehensive suite of automated E2E regression tests

Software Engineer @ BeRecruited

March 2014–April 2015

Delivered core contributions in every facet of the product, a social network for high school athletes

- Built a multistep activation flow that increased monthly signups by 20% by chunking information
- Led the effort to convert site to be responsive, so that we could serve an increasing % of mobile users
- Developed various forms and endpoints such as signup, activation, edit pages, checkout, search, etc.
- Built interactive onboarding dialog system to guide athletes and coaches through new features
- Crafted impactful email templates that worked across various mail clients
- Integrated video tracking and metrics so we could get insights about how people were using the site
- Implemented a popular module to enable students to bookmark and follow their favorite universities

Software Engineer @ Weedmaps

Sept 2013-Jan 2014

Created "Weedmaps Deals", a deal discovery platform for marijuana dispensaries and patients

- Today, it drives the lion's share of the company's revenue and is the primary user-facing experience
- Architected and implemented all of the front-end, with composable components and a distinctive style
- Integrated with location-aware geo search service to surface the right deals to the right clients
- Developed features such as pageable infinite scroll, google maps popups, and printable labels
- Built a dashboard of graphs for dispensaries to track their advertising targets

Analyst @ Infosys

June 2007-Oct 2012

Executed a number of initiatives for Infosys directly and for clients, AT&T and Warner Music Group

- Quality assurance
- Supply/demand planning
- Business acquisition & strategic partnerships
- Deployment readiness

COMPETENCIES

Languages: Python • Typescript • Go • Elixir • Ruby • C# • Javascript • HTML • CSS • SQL

Frameworks: PyTorch • ASP.NET Core • Rails • Phoenix • FastAPI • React • Angular • NextJS • GraphQL

Data: Postgres • MySQL • SQLite • MongoDB • Redis • BigQuery • Spark • Aurora • RDS • SNS/SQS • Temporal

Infra: Terraform • Docker • Github Actions • AWS • GCP • Azure • Cloudflare • Digital Ocean

Inclinations: Domain-Driven-Design (DDD) • SOLID • CQRS • Event-Sourced Systems • Functional Core • KISS

EDUCATION

B.A. Psychology @ UC Irvine 2007 ~> ABET SW Engineer @ Infosys 2008 ~> 2nd batch @ App Academy 2013

PROJECTS

Bookish (2025): created software that ingests and categorizes bookmarks, with an AI-fueled crawler and a web UI

Virtual Cell Challenge (2025): trained a middle-of-the pack model to predict how a cell responds to perturbations

Liquid Handling Automation (2025): created a multi-parameter optimization protocol on a test tube plate, so that scientists can use a robotic liquid handler to determine the perfect pouring settings for viscous reagents

Globulin Bandage (2025): created a pipeline w/ proteinBert to search for amino acid motifs along hemoglobin's globulin strand of RNA and to predict the composition of an effective allosteric patch against Sickle Cell Anemia

The Month of Jokes (May 2025): created a jokes API, an MCP server to pull jokes from it, and trained a jokey LLM

Chrome Extension bonanza (May 2025): created chrome extensions for cat-replacing and yen conversion

Artsy Stuff (April 2025): created a flipboard-style word transition web app <https://flipwords.wagglebutt.com/>

Biotech Fixation (Dec 2024): created a ligand pocket-finder system using protein-folding LLM Chai in a pipeline

Volunteering (2023-2024): led engineering on a project at USDR to qualify students for summer school meals