

GARNIK GILOYAN

Engineering Manager | Solution Architect

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SUMMARY

Engineering leader and solution architect with 15+ years in software development, including 8+ years leading engineering teams and architecting production systems across web, mobile, and cloud platforms. Proven track record designing multi-tenant SaaS architectures, microservices, and database systems for enterprise clients, while managing cross-functional and offshore teams through full delivery lifecycles. Experienced in both Agile and Waterfall environments, with growing expertise in applied AI, including RAG pipelines, AI agent design, and LLM integration. Comfortable operating as a hands-on architect, a people manager, or a fractional CTO advising founders and stakeholders.

CORE SKILLS

Leadership & Management: Engineering Team Leadership, Agile & Scrum, Waterfall, Kanban, Project Management, Fractional CTO Advisory, Stakeholder & Client Management, Cross-Functional & Offshore Team Coordination, Business Analysis, UML

Solution Architecture: Microservices Architecture, API & System Design, Multi-Tenant SaaS Architecture, Database Architecture (Oracle, PostgreSQL, MySQL), Cloud Architecture (AWS, Azure), Event-Driven Architecture (Redis, BullMQ)

AI & Automation: Retrieval-Augmented Generation (RAG), Google Enterprise ADK, Model Context Protocol (MCP), LLM Integration, OpenAI API, Prompt Engineering, NLP/NLU Pipelines, AI Agent Design, n8n Automation

Programming Languages: TypeScript, JavaScript, Python, Swift, C#, C++, Objective-C, Visual Basic, PHP, Kotlin, Java, T-SQL

Frameworks & Libraries: Node.js, NestJS, Express, React.js, Next.js, SwiftUI, .NET / .NET Core, FastAPI, Django, GraphQL

Cloud & DevOps: AWS (ECS, CloudFront, CloudFormation), Azure (Key Vault, Blob Storage), Google Cloud Platform (GCP), Cloud Run, Docker, Kubernetes, CI/CD (GitHub Actions, Jenkins, CircleCI), Nginx

Databases: Oracle, PostgreSQL, MySQL, MongoDB, Redis, NoSQL, SQLite, Elasticsearch, Apache Cassandra

PROFESSIONAL EXPERIENCE

Solution Architect / Engineering Manager (Contract) *(Jan 2024 – Present)*

Tech Lead & Solution Architect — Multi-Tenant Customer Portal for a Leading North American Coil Manufacturer | 2025 (~1 year)

- Architected a large-scale, multi-tenant customer portal enabling industrial clients to view coil inventory, manage orders, and track fulfillment in real time
- Designed and reviewed Oracle database schemas for data integrity, scalability, and high-performance querying across multiple tenants
- Directed NestJS microservices development, enforcing best practices in caching, async processing, and error handling
- Ran regular client and development-team meetings, translating business requirements into technical scope and milestones
- Delivered a production system that passed all client security audits

Tech Stack: Oracle Database, Node.js, NestJS, TypeORM, Custom SQL, React.js, Docker, Microservices, Cloud Architecture (AWS/Azure), CI/CD

Fractional CTO & Solution Architect — AI-First Pool Service Management Platform | 2026

- Led architecture, project management, and client communication for an AI-first pool service management platform, directing a team of offshore developers
- Architected a web-based office management system with AI agents handling customer and worker communication, dispatch, and recurring job scheduling
- Designed the backend using NestJS and PostgreSQL, with Redis and BullMQ for event-driven job processing
- Built AI agents using RAG, Google Enterprise ADK, and LLMs to automate customer and worker interactions, with a Model Context Protocol (MCP) layer connecting agents to backend tools and data
- Designed a training table used by the AI agent to reference approved responses and context before communicating with customers
- Integrated Stripe for payments/invoicing and Twilio for SMS notifications

Tech Stack: NestJS, PostgreSQL, Redis, BullMQ, RAG, Google Enterprise ADK, MCP, LLMs, Stripe, Twilio, React.js

Engineering Manager & Project Manager — Enterprise RFQ / Quotations Platform

- Directed backend, frontend, and QA delivery of a production-grade RFQ/quotations platform

- Defined and prioritized engineering workstreams, reducing manual quoting effort for client teams
- Designed automation features for PDF/Excel export, AI/NLP-assisted item extraction, and vendor/email workflows
- Established code review, CI/CD, and testing practices; tracked KPIs (time-to-quote, error rates) to guide improvement

Tech Stack: *Node.js, NestJS, TypeScript, React, PDF/Excel generation, NLP-assisted extraction, Docker, CI/CD*

Backend Integration Developer — Rutter API Integration Module (Leading North American FinTech Company)

- Designed and implemented a module integrating the Rutter API into financial transaction systems for unified accounting and banking data access
- Integrated Rutter, Stripe, and QuickBooks Online APIs for seamless data synchronization
- Built background job workers for periodic sync, error retries, and real-time updates, with OAuth-based authentication and structured logging

Tech Stack: *Node.js, NestJS, TypeScript, PostgreSQL, Rutter API, Stripe API, QuickBooks Online API, BullMQ, Docker*

Lead Developer — RSearch AI, Statistical Analysis & Research Microservice

- Built a FastAPI microservice for automated academic research and statistical analysis with OpenAI GPT-4o-mini integration
- Implemented 30+ statistical methods (regression, ANOVA, t-tests, reliability testing) and assumption/outlier diagnostics
- Integrated Server-Sent Events for real-time progress updates and built a PDF/DOCX parser for hypothesis extraction

Tech Stack: *Python, FastAPI, Pandas, SciPy, scikit-learn, statsmodels, OpenAI API, Docker*

Engineering Manager, Lead Software Developer — Qase Inc., Vancouver, BC (Jul 2018 – 2026 (engagement scaled down from 2024))

- Led a cross-functional team of in-house and offshore developers delivering an enterprise-scale legal referral platform serving multiple bar associations across North America
- Drove technical architecture decisions and coding standards across 40+ interconnected modules
- Architected a comprehensive ETL data migration pipeline for 6+ entity types, processing 100K+ records with batch transaction management and automatic rollback
- Designed a modular microservices architecture using NestJS with 40+ modules following SOLID principles and the repository pattern (TypeORM)
- Integrated Stripe, Twilio, HubSpot CRM, Google/Outlook/iCloud calendars, and AWS S3
- Built a lawyer-matching algorithm with 15+ filtering criteria and a real-time, multi-timezone calendar availability system
- Implemented automated cron jobs, error handling, and an AWS S3 file upload pipeline with security controls

Tech Stack: *TypeScript, Node.js, NestJS, TypeORM, MySQL/PostgreSQL, Stripe, Twilio, HubSpot, AWS S3, Docker*

Independent Consultant — Concurrent, non-competing contracts (May 2021 – Dec 2023)

Fractional CTO — Smart Study, Web-Based Learning Platform

- Acted as Fractional CTO, communicating directly with the client and leading architecture decisions for backend and frontend
- Converted business requirements into technical tasks and sprint plans; documented workflows using UML
- Led architecture using Node.js, NestJS, TypeScript, and React.js, with MySQL database design and Stripe payment integration
- Integrated third-party APIs for document processing and voice-to-text transcription (AWS Whisper)

Tech Stack: *Node.js, NestJS, TypeScript, React.js, MySQL, AWS Whisper, OpenAI API, Stripe, Docker, GitHub Actions*

Co-Founder & Board Member / Engineering Manager — BeeChintzy, Mobile & Web Platform for Local Deals

- Co-founded and served on the board (25% equity) while leading full-cycle engineering for a cross-platform consumer and merchant system
- Personally developed the iOS app in SwiftUI (MVVM), including Apple/Google/Email login, Apple Maps location-based offers, and dynamic merchant theming
- Led database and API architecture design (Node.js, NestJS, MySQL, TypeORM), with offshore developers implementing frontend and API features under his direction
- Designed cloud infrastructure on AWS ECS Fargate with Secrets Manager and GitHub Actions CI/CD
- Managed daily coordination with offshore developers across web and mobile workstreams

Tech Stack: *SwiftUI, MVVM, Node.js, NestJS, React Native, MySQL, AWS ECS Fargate, Stripe, GitHub Actions*

Lead Developer — SOW Insights, AI-Powered Project Pricing Microservice

- Built a Python microservice analyzing historical project documents to estimate pricing for new submissions, integrated into a .NET frontend via REST APIs
- Applied NLP and regression models to correlate new requirements with historical data, reducing manual analysis time by over 70%

Tech Stack: *Python, FastAPI, Pandas, OpenAI API, Docker, REST APIs, .NET*

AI Quote — iOS App, Personal Wisdom & Motivation Generator (Personal Project)

- Conceived, designed, and built a consumer iOS app that reached ~300 organic users, using SwiftUI and a NestJS/OpenAI API backend
- Integrated Apple StoreKit subscriptions and AdMob for a recurring-revenue model

Tech Stack: *SwiftUI, StoreKit, AdMob SDK, NestJS, TypeScript, OpenAI API*

Fractional CTO — Medical Mobile App (Confidential Client)

- Reviewed code from offshore developers and provided technical direction for a medical mobile app
- Helped select the technology stack (NestJS API, Flutter, AWS cloud); project was shut down by the owner before launch

Lead Developer — Scheduling Web App, Appointment Management Platform

- Built a REST API backend (Node.js/NestJS) with JWT authentication and Nylas API calendar synchronization
- Integrated Stripe for booking payments and deployed on Azure with Key Vault-secured configuration

Tech Stack: *Node.js, NestJS, React.js, Nylas API, Stripe, JWT, Azure, GitHub Actions*

Lead Developer — Thib iOS App, Insurance Form Submission & Document Management

- Built a Swift/UIKit app with local storage, email/Dropbox submission, and in-app PDF document signing

Tech Stack: *Swift, UIKit, REST API, Dropbox API, EPSignature*

Lead iOS Developer — Medical iOS App, Skin Health Detection Platform

- Built a Swift app using Core ML to classify skin lesions from captured images, with Google login and REST API integration

Tech Stack: *Swift, UIKit, Core ML, REST API, Google Login*

Additional Experience & Ventures

- Led a web product shipped on Vercel with an internal team, using Node.js, Angular, React.js, and a relational database
- Co-Founder & 50% Shareholder, Kangaroo Delivery (Armenia) — an Uber-for-delivery service; grew it successfully until discontinuing operations in 2021 upon immigrating to Canada

Earlier Career (2009 – 2018)

- Senior iOS Developer, Keystroke (Toronto, ON), Jan 2017 – Apr 2018 — maintained an Objective-C iOS app and developed 80% of the ProjectKickStart Desktop app in C#/.NET
- Team Lead, Dixon Walther PSC – Armenian Branch (Yerevan, Armenia), Dec 2015 – Jan 2017 — established the Armenian branch, hired and trained developers, and led delivery of e-commerce and web platforms (ASP.NET MVC, T-SQL, ReactJS)
- Software Engineer, Scharc Group (Stockholm, Sweden), Sep 2014 – Nov 2015 — developed Archicad/Revit plugins using C/C++, C#, and the AC API
- Full Stack Developer, BigBrain (Yerevan, Armenia), Jan 2013 – Aug 2014 — built features for a medical web app using PHP and PostgreSQL
- Software Developer, Information Integration Group Inc. (Yerevan, Armenia), Jan 2012 – May 2013 — developed SharePoint and MAS 90 features using VB.NET and ProvideX
- Full Stack Developer, "Nork" IAC CJSC (Yerevan, Armenia), Feb 2009 – Jan 2012 — built and maintained back-end solutions using Classic ASP and MS SQL Server

PERSONAL PROJECTS

- Lynxary (lynxary.com) — Free suite of browser-based developer utilities (password/JWT/API key generators, UUID generator, Base64/URL encode-decode, JSON formatter, hash generator), fully client-side for privacy
- NorthOfEh (northofeh.ca) — Free content platform about Canada, featuring a provinces guide, wildlife field notes, a multi-author blog, and a Canadian citizenship practice quiz

EDUCATION

Bachelor's Degree in Civil Engineering — Armenian State Agrarian University 2005 – 2009