Zac Fermanis
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EDUCATION

2017	**Boston University**	**Boston, MA**

- MS in Computer Science with Concentrations in Security and AI

2007	**University of Southern Maine**	**Portland, ME**

- BS in Computer Science, Minors: Mathematics, Economics

PROFESSIONAL EXPERIENCE

2017 - Present | *Solutions Engineer*   Remote

Liberty Mutual - Corporate Functions - Talent and Enterprise Services

- Named Corporate Functions AI Champion, advising Senior Leadership and Enterprise Architecture on AI strategy and implementation.
- Established best practices and security guidelines for Agentic Coding, including the creation of multiple MCP servers to accelerate application development.
- Provided architectural support for Talent and Enterprise Services, a department of **150+** engineers.
- Architected, designed, and led implementation of "Concierge," an award-winning intranet portal centralizing feedback management, performance evaluations, and merit/pay administration; resulting in **$5M+ in annual savings**.
- Authored high-profile architectural strategies, including:
  - Fine-Grained Authorization using OPA
  - Micro-Frontend Architectures
  - Microservices Architectures
  - SuperGraphQL Data-flow
- Produced department-wide North Star Architecture diagrams and Reference Architectures.
- Certified LeanIX practitioner.
- Mentored junior developers and contributed to a High-Performance Engineering culture.
- Led design and development of a DEI portal to improve accessibility and **reduce IT support call center volume by a measured 36%** in first year.
- Led architecture and implementation of a company-wide overhaul of the Performance Ecosystem, leveraging Micro-Frontends and SuperGraphQL architecture.
- Orchestrated cross-functional "Game-Day" exercises to enhance performance engineering and site reliability practices.
- Enabled distribution of **37,000+** annual bonus statements in a single day with an **error rate under 0.5%**—the **largest volume in company history.**
- Finalist (2nd Place) in the 2022 company-wide Hackathon (3,000+ participants).

2016 - Present | *Chief Technology Officer - CoFounder*   Remote

Elegant Elephant Travel

- Oversaw all technical operations and strategy, enabling **$1M+ in annual revenue** with a lean infrastructure footprint of **less than $5K in annual operating costs.**
- Designed and developed a high-performance, SEO-optimized eCommerce website with full social media integration: **elegantelephanttravel.com.**
- Built and integrated automated workflows using TravelJoy.com APIs and additional travel CRM/ portal tools to streamline client and itinerary management.
- Created and deployed multiple AI-driven automation tools, including:
  - Automated Daily Email Summarizer
  - Follow-Up Detection System
  - "Ask My Inbox" natural language inbox assistant
  - Itinerary Validator for catching typographical, logistical, and geographical errors in 3rd-party vendor documents

2012 - 2017 | *Principal Software Engineer*   **Dover, NH**

Liberty Mutual - Enterprise Technology Services – Security Delivery
- Led architecture, design, development, system administration, and release engineering for a portfolio of 5 enterprise-wide systems and **35+** supporting applications.
- Supported high-scale J2EE n-tier applications serving **5M+** customer accounts and **50K+** employee identities across the organization.
- Reduced release cycle overhead by **over 60%** by scripting and automating previously manual deployment and maintenance tasks.
- Refactored legacy systems to support hot-swappable configuration changes, eliminating downtime and enabling more agile deployments.
- Provided architectural guidance and technical leadership to multiple development squads; mentored junior developers to build internal engineering capabilities.

2010 - 2012 | *Software Developer*   **Dover, NH**

Liberty Mutual - Products & Distribution Applications Development
- Contributed to the successful release of a refactored Auto Insurance sales platform (GEARS), serving as the jQuery Subject Matter Expert (SME) for the front-end team.
- Served as lead developer and UI/UX designer for the Personal Liability Protection (PLP) sales application, a high-visibility initiative within the organization.
- Collaborated in an enterprise Java environment using IBM Rational Application Developer (RAD) and Rational Team Concert (RTC) for development and source control.

2005 - 2010 | *Senior Programmer Analyst*   **Boston, MA**

Citigroup - Applications Development
- Led multiple integration initiatives under the Model Office (AIS Portal) program to onboard the newly acquired Bisys Group into Citi's infrastructure, including upgrading and re-engineering several .NET/ASP applications to align with Citi's Information Security Standards and enterprise policies.
- Served as Lead Developer for XSP (SWIFT/FPML) processing projects at CDIL, implementing the SWIFT API using Java/J2EE and acting as Subject Matter Expert (SME) for integration workflows. Spearheaded knowledge-sharing efforts to train peer developers.
- Led all trade processing and reporting integrations for BGI (Barclays Global Investors), delivering scalable Java/J2EE and .NET applications using SWIFT, MQ, and SQL.
- Engineered systems capable of processing **1M+** transactions per minute, supporting over **$5B** in daily Assets Under Management (AUM).

2000 - 2002 | *Quality Assurance Engineer*   **Shrewsbury, MA**

Compaq Computer Co. / Hewlett Packard - StorageWorks - SANSOFT
- Designed and executed network testing scripts for high-availability SAN systems.
- Tested across IBM Shark/DS4400, Solaris, Red Hat Linux, and Windows Server.
- Utilized Fibre Channel connections for multi-platform validation.
- Analyzed and documented test results to ensure system stability.
- Ensured cross-platform performance and compatibility compliance.

PROFICIENT LANGUAGES/PRODUCTS/FRAMEWORKS/CONCEPTS

Front End:
- React, Next.Js, Vue, Vite Angular
- HTML5/XML/ JSP/ASP
- CSS/SASS
- Javascript/ Typescript
- jQuery
- Groovy/Grails
- Htmx

Back End:
- Node
- Java/J2EE
- .NET (C#, VB, J#)
- SQL (pSQL)
- Go
- Rust
- Spring Boot
- Python
- Serverless
- AWS CDK
- Kafka

Concepts:
- Agentic Coding w/ MCP servers & Memory Banks
- Well-Architected Framework
- High Performance Engineering
- Networking/Network Security
- Neural Networks / Artificial Intelligence / Machine Learning /Genetic Algorithms
- C4 Diagramming
- Big Data - Hadoop/Hive
- AWS/Azure/Google Cloud
- OIDC / OAuth 2.0 Flows
- Cloud: AWS, K8s, OCF, Vercel, Google

Utilities:
- NPM/YARN/PNPM
- CVS/SVN/GIT
- Github Actions
- K6 Load Testing
- Bamboo/Bamboo Specs
- Maven/Gradle
- Ab Initio, Informatica (ETL)
- LeanIX
- PowerBI
- NeoVIM