Joshua **Kellerman** | Staff Software Engineer | Engineering Manager

New York / SF Bay Area / Charlotte / Remote

https://www.joshuamk.com/engineering

Professional Summary

Results-oriented Software Engineering Leader with over 10 years of experience architecting distributed systems at scale for top-tier tech companies (Twitter, Credit Karma). Proven track record of driving technical strategy, standardizing backend infrastructure, and mentoring teams. Expertise in Scala, Python, and Cloud Architecture (AWS/GCP). Successfully transitioned from Senior to Principal and Management roles, combining deep technical hands-on ability with high-level organizational leadership.

Technical Skills

- **Languages:** Scala (Finagle/Finatra, Play, Cats), Python (Flask, Pandas), Java, GoLang, TypeScript, Javascript, C, C++, C#.
- **AI & Machine Learning:** PyTorch, Keras, NLU/NLP (Natural Language Understanding), Knowledge Graphs, Ranking Models, Generative AI (LLMs, Diffusion), NumPy.
- **Infrastructure & Cloud:** AWS, GCP, Kubernetes, Docker, Kafka, SQS, Hadoop, Aurora/Mesos, Terraform.
- **Data & Storage & Retreival:** Vector Databases, Semantic/Similarity Search, PostgreSQL, DynamoDB, MongoDB, Redis, BigQuery, Spanner, Elasticsearch.
- **Concepts:** Distributed Systems, Microservices Architecture, Event-Driven Architecture, CI/CD, Agile/Scrum Leadership, Testing Frameworks.

Leadership

- **Engineering Management:** Served as Engineering Manager at Echo360, interim EM at Twitter, and Lead at Yubico/Mosaix.ai; managed team health, performance reviews, hiring, and execution planning for agile teams. Worked directly with VP and Director-level stakeholders to achieve goals.
- **Technical Mentorship:** Established and led weekly engineering excellence workshops at Credit Karma to up-level junior and mid-level engineers in Scala and distributed systems patterns.
- **Strategic Standardization:** Spearheaded a data-driven microservice consolidation and server standardization efforts at Credit Karma, reducing technical debt across the entire Credit Ecosystem.
- **Cross-Functional Leadership:** Led high-stakes technical integrations with two of the three major Credit Bureas and internal stakeholders to resolve critical data consistency issues affecting

millions of users. Led investigation into a major data inconsistency and brought a resolution to internal Data teams.

- **Team Building:** Proven ability to expand engineering capacity; hired and trained engineers at Mosaix.ai and Yubico, fostering a culture of technical rigor and collaboration.

Experience

Credit Karma (Intuit) **Charlotte, NC**

Tech Lead / Senior Backend Engineer *Dec 2024 – Present*

- Serving as Technical Lead for the Credit Ecosystem Core Backend team, driving architectural decisions for offline data processing.
- **Staff-Level Impact:** Spearheaded a cross-team initiative to standardize Finagle Server Architecture, significantly reducing technical debt and unifying service patterns across the organization.
- Architected the consolidation of fragmented microservices into a cohesive data-driven infrastructure, optimizing cloud costs and improving system reliability.
- Led high-stakes collaboration with TransUnion and Equifax to resolve member population state drift, restoring data integrity for millions of users.
- Established a weekly Scala engineering excellence series to up-level junior and mid-level engineers, fostering a culture of technical growth.

Self-Employed **New York, NY**

Backend Engineering Consultant *Dec 2023 – Dec 2024*

- Delivered high-impact cloud architecture solutions for diverse clients, specializing in ML/NLP integration and legacy modernization.
- Advised startups on scalability strategies, containerization (Docker/K8s), and microservice decomposition.
- Implemented secure, scalable data pipelines using Kafka and AWS Lambda for real-time processing applications.

Echo360 **Washington, D.C.**

Principal Backend Engineer & Engineering Manager *Sept 2022 – Aug 2023*

- **Dual Role:** Operated as both Principal Architect and Engineering Manager, leading technical delivery while managing team health and execution.
- Architected and delivered a video chaptering microservice MVP using Scala and Play Framework, enabling new revenue streams.
- Solved a critical distributed systems failure in AWS SQS that caused duplicate processing; designed an idempotent message handling pattern to guarantee exactly-once processing.
- Directed the modernization of the legacy video capture monolith into a four-channel microservice architecture.
- Oversaw the migration of WebSocket APIs to GoLang and UI upgrades to React, significantly improving system performance and user experience.

Twitter   **San Francisco, CA**
Senior Software Engineer (Contract, Health & Safety)   *Sept 2020 – June 2022*
- **On track to Staff Engineer** with FTE offer: Owned the architecture for high-visibility Safety features serving 36M+ monthly active users.
- Architected and led the migration of the Twitter Abuse Reporting Flow to a new Scala-based microservice architecture, improving reliability and maintainability.
- Designed and implemented the "SmartBlocks" social graph edge TTL system using Hadoop, Kafka, and AWS Lambda; instrumental in the 2021 launch of "Safety Mode" for VIP users.
- Engineered a custom Timeline Mixer backend in collaboration with the Social Graph team to filter abusive content in real-time.
- Built the "Health Engineering Dashboard" (Python/React), aggregating deployment metrics and KPIs to drive engineering efficiency across the organization.

Mosaix.ai   **Palo Alto, CA**
Senior Backend / Machine Learning Engineer   *2018 – 2019*
- Re-architected the NLU (Natural Language Understanding) engine, achieving a **4000% increase** in query throughput and reducing latency by 50%.
- Mentored the engineering team on NLU best practices and built a comprehensive testing/debugging framework.
- Optimized Spotify data knowledge graphs, resulting in 200% higher coverage and improved model accuracy.
- Designed, built, and delivered a machine-learned Recommendations engine for tight 1-month deadline, keyed by locality and language and personalized, with a Redis cache system. Fluidly served hundreds of thousands of requests daily.

Yubico   **Palo Alto, CA**
Lead User Experience Engineer   *2015 – 2018*
- Engineered the "YubiKey for Windows Hello" application, featured at the Microsoft Ignite 2016 keynote.
- Promoted rapidly to Lead and EM of Web Team; oversaw the redesign of Yubico's e-commerce platform and web-facing security applications.

Certifications

Lynda.com
Programming Fundamentals in the Real World, Python programming, object-oriented   *2016*

Education

Columbia University   **New York, NY**
Master of Fine Arts (MFA), Film   *2020 – 2024*
- Focus on Narrative Structure and Production Management.
- Graduated with Honors.

University of Wisconsin-Madison   **Madison, WI**
Bachelor of Arts, English / Computer Science   *2014*
- Dean's List, 3 semesters.

Interests

Generative AI (Video/Audio), Film Production & Directing, Screenwriting, Flying, Rock Climbing, Travelling.