

Mr. Joshua Matthew Kellerman

Software Technical Leadership and Excellence – Cloud, Data, ML / AI

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EXPERIENCE

Tech Lead, Sr. Engineer

Dec 2024 — Present

Intuit Credit Karma (Credit Ecosystem Offline Team) – Charlotte, NC

- Project and Technical lead on Credit Ecosystem core backend team, offline data.
- **Owned major data micro-services consolidation:** Spearheaded simplifying infrastructure from three services to one. Code and process improvement led to processing roughly **50% data volume due to enhanced data cleanliness** with a **significant increase in data quality due to fixed user states**.
- Spearheaded and roadmapped Twitter Finagle micro-service modernization across Credit Ecosystem services.
- Ran interviews and helped specify the bar for coding excellence in recruiting, contributing to CK stock coding questions.
- Ran weekly university-course style Scala sessions weekly to up-level and mentor Junior engineers.
 - Several Junior Engineers on my team who attended were promoted for their outstanding contributions.
- Owned investigation with major Credit Bureaus to solve state drift issues and improve data quality.
 - Architected, oversaw, and ran improvement that led to a **measured increase in revenue of roughly \$2M a year** due to resolved data inconsistencies. Owned problem => shipped solution with direct impact.
- Led a cross-functional initiative between Data and Product to resolve inconsistencies, resulting in a VP-level roadmap.
- Led a team of 6 engineers to build a PoC technical documentation-writing robot powered by RAG using **Knowledge Graphs & Similarity Search as LLM context, which cut hallucinations down to zero**.

Cloud Architect

2023 — Dec 2024

Self-Employed (Consultant) – New York City, NY

- Aligned with business leaders in various startups to set technical strategy for ML / NLP, SaaS, AWS / GCP, Containerization, Orchestration, Security, Micro-services – NYC, CA, various.

Principal Backend Engineer / EM

2022 — 2023

Echo360 (Video Capture Team) – Washington, D.C.

- **Owned major feature upgrade of video recording service to four channels from hard-coded two.** Ran a team of four engineers to upgrade data structures in the website monolith, upgrade the user-facing timeline editor, process video in the cloud, update websockets, and upgrade the Desktop capture client. Delivered on time and under budget.
- Recruited into a **culture of excellence**. Trained. Ran standup. Negotiated with Director and VP stakeholders.
- Spearheaded, architected, and ran a team developing video chaptering micro-service MVP for customer evaluation in Scala / Play Framework, Docker, Kubernetes and other Distributed Systems.
- Owned bugfix where AWS SQS sent double messages and triggering processes twice, architected solution that used indicator message with timestamp as key to prevent double sending, **saving millions yearly**.

Interim EM / Sr. Software Engineer

2020 — 2022

Twitter (Health UX Team – User Empowerment, Contract) – San Francisco, CA

- **Product managed Safety Mode** (rolled out mid-2021), which served 36 million active monthly users to protect them from abusive comments. Spearheaded, designed, and implemented a social Graph Edge TTL system in Hadoop, Kafka, AWS Lambda for Safety Mode.
 - Created and then expired social connections (SmartBlocks) automatically after n days.
 - Aligned with VPs on and co-owned the Smartblocking User Timeline back-end. Worked with SocialGraph team to create a custom Timeline Mixer.
- Owned the migration of the Twitter Abuse Reporting Flow to entirely new architecture in Scala.
- **Interim EM for SRE team** in the months leading to the Elon Musk takeover bid, **managing eight engineers**.
- Product managed, owned, and architected a method of data extraction for the Twitter Health Ecosystem, tracking Workflows and Commits per-team, then sending the metadata to BigQuery and an in-house instance of the Google Four Keys project.
 - **After our PoC, VP of Engineering Efficiency selected this project for the entirety of Twitter.**
- **Staff Engineer FTE Offer**, but retracted when team laid off in Elon Musk takeover in 2022.

Machine Learning Engineer / Sr. Backend Engineer

2018 — 2019

Mosaix.ai – Palo Alto, CA

- Owned the re-architecture of the NLU engine which saw a substantial gain in quality of service (**4000% increase in query throughput, stability increased to 100%** up to 20 concurrent requests with **> 50% reduction in query latency**)
- Under the mentorship of Google ML Lead Scientist Ni Lao, ran a team which prepared data for, updated and trained machine learning ranking models, knowledge graph for Spotify data. 200% higher coverage and 2-3% higher accuracy.
- Owned the new "text analysis" Mosaix.ai service for NLU engine where customers could buy use of any one micro-service. **Evaluated and accepted by Huawei.**
- Oversaw a team which modernized the cache / Recommendations engine for tight deadline. It fluidly served hundreds of thousands of Arabic and Hindi requests daily as end-users started using the product. **400% faster.**
- Owned business logic such as third party API business components and rate limiter.
- Recruited, mentored, and trained team members in NLU (research) and API teams.
- Spearheaded testing / debugging / logging framework for components in API and NLU engine. Identified bottlenecks. Increased server throughput, reliability, stability. Owned the cloud-based common development back end for NLU Engine to ensure consistency among developers.
- Integrated Dockerized Python as micro-service into the NLU Engine to host PyTorch as well as Stanford NLTK
- Oversaw design of data structure and edges for Wikidata scraping for Personal Assistant SDK.
- Designed and helped implement a blacklisting system for offensive content, keyed by country and language.
- Used Python, Java, Scala, Typescript, JavaScript, Redis, MySQL, C++, Bash, Ubuntu & Alpine Servers on AWS and Google Cloud Platform

Consultant

2018 — 2020

Yubico (Part Time – Website and Advertisements) – Palo Alto, CA

- Video Production and Back-end Engineering consultant

Web Team – Lead User Experience Engineer

2015 — 2018

Yubico – Palo Alto, CA

- Owned Yubico's website and web store for 3 years as technical lead.
- Recruited and mentored additional team members to Web team (EM).
- Oversaw research, design, and implementation of UX / UI on desktop/mobile, web applications, media.
- Designed a common User-Flow experience **for all of (FIDO 2) web-facing apps**, for technology partners. This user-flow experience had **industry-level influence** and directly contributed to FIDO alliance's protocol for all Hardware Security Keys.
- Designed Yubico's "Solutions Integrations" page in D3.JS and JQuery.
- Promoted within first six months after demonstrated engineering ability to Lead UX Engineer.
- Involved in the planning and implementation of modern website architecture based on Magento API, NodeJS / Express.js, Docker, Kubernetes, SCSS, Webpack, React with Redux store and Jest.
- Redesigned and implemented UI for YubiKey Manager 1.0.0 in QT Creator and QML, and Python
- Owned the development of a full-stack, secure order portal for a top-5 tech company.
- Spearheaded, owned, and built the **YubiKey for Windows Hello** application, working internally with Yubico's CTO and Head of R&D along with Microsoft Login Framework team. It was **the first application built on the Windows Companion Device Framework** and appeared on stage during the Microsoft Ignite 2016 keynote.
- Served as video director/editor for all Yubico created marketing video content and imagery

EDUCATION

COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK, New York, NY, USA

Masters in Fine Arts, Film, 2020 – 2024

Certificate in Film Directing from internationally renowned conservatory: La Femis, Paris

UNIVERSITY OF WISCONSIN-MADISON, Madison, WI, USA

BA in English / Computer Science, 2014

6 semesters taken in French (not quite a Minor)

Study abroad in 2013-14 in France and attended Grande École Sciences-Po : Aix-en-Provence

SKILLSETS

Natural Languages

English, French (Level B2/C1), Functional Spanish

Engineering and Product Management

AGILE, SCRUM, Yearly / Semester / Quarterly Planning with KPIs, C-Level and VP Alignment, Long-Term Technical and Business Strategy, Stakeholder meetings, 360 Reviews, Kanban, Code Reviews, Performance Reviews, Scoping, Story Points, etc.

Filmmaking and Culture

Storytelling, Screenwriting, Workshopping, Script Doctor, Film Directing, Film Producing, Cinematography, 3D Animation, 2D Animation, Generative AI (Video, Audio, Images, Text)

Cloud and AI Development

Functional and OO Programming; API Design; GraphQL; Docker; Kubernetes; CI/CD_Hadoop, Kafka, SQS, BigQuery, SQL, Postgres, DynamoDB, MongoDB, Redis, Stitch / Spark equivalent, Elasticsearch, Classical ML, Deep Learning, Neural Nets (CNNs, RNNs, FFNs), Transformers, Data Engineering, Unit, Integration, and Functional Testing Frameworks; Mocking Functions and Data Structs; Full Code Coverage, Scala, Java, C#, CPP, C, Python, Typescript / Javascript, GoLang, Bash, Finagle / Finatra, Play, Cats, Flask, NumPy, Pandas, Pytorch, Keras, PyTest, Node.js, React/Redux, ExpressJS

PORTFOLIOS

My Engineering portfolio can be found at joshuamk.com/engineering.

My filmmaking portfolio with samples of my writing and art can be found at joshuamk.com.
