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 **75% increase in data quality**.
- Spearheaded and roadmapped Twitter Finagle micro-service modernization across Credit Ecosystem services.
- Ran weekly university-course style Scala sessions weekly to up-level and mentor Junior engineers.
- 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.
- Identified and solved major inconsistency in our data lake for VPs of Data. As a result, I contributed directly to enhanced roadmap for Intuit.
- Led a team of 6 engineers to build a PoC technical documentation-writing robot using **Knowledge Graphs with 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.

Founding 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 <u>Google ML Lead Scientist Ni Lao</u>, 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 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

SKILLSETS

<u>Natural Languages</u>
English, French (Level B2/C1), Functional Spanish

<u>Engineering and Product Management</u>
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.

<u>Filmmaking and Art</u>
Storytelling, Screenwriting, Workshopping, Script Doctor, Film Directing, Film Producing, Cinematography, 3D Animation, 2D Animation, Generative AI (Video, Audio, Images, Text)

<u>Cloud and AI Development</u>
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

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

PORTFOLIOS

My Engineering portfolio can be found at https://www.joshuamk.com/engineering/.
My filmmaking portfolio with samples of my art can be found at https://www.joshuamk.com/.