

JOSHUA FRATTAROLA

VP of Engineering · Senior Director of Engineering · Software & AI

Builds what doesn't exist, then the organizations that run it: 0-to-1 AI & platform leadership at hyperscale

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EXECUTIVE SUMMARY

Engineering executive with 20+ years building software and AI systems, and the organizations that run them, from 0-to-1 through hyperscale. Most recently **conceived, architected, and built a first-party, cloud-native security-analytics platform at Amazon** (an end-to-end solution spanning software and proprietary hardware) that grew from a self-built prototype into a **1,000+-person organization** protecting 1,700 buildings and 100,000+ employees worldwide, with **\$500M+ in projected savings**. Earlier, led the AI/ML team behind Cisco's Spark/Webex Assistant, the world's first AI-powered meeting assistant, and founded a startup that **drew an acquisition offer from Google** before exiting. Pairs founder-level technical depth (still hands-on with architecture and applied AI) with executive-scale organizational leadership.

CAREER HIGHLIGHTS

- **Conceived, architected, and built a first-party, cloud-native security platform at Amazon**, designing the full end-to-end solution, including a proprietary hardware component. Built the initial product on independent initiative after the proposal was first passed over; a working demo won full executive funding (three 25-person engineering teams) and scaled to **1,000+** staff and contractors over 8 years.
- **Drove \$500M+ in projected Opex/Capex savings**: the platform became the system of record for **1,700 buildings, 100,000+ employees, 55,000+ security guards, and 300,000+ cameras** (3M+ person-crossings per year).
- **Led the team that shipped the world's first AI-powered voice assistant for meetings** (Cisco Spark/Webex Assistant), still powering Webex conferencing hardware today.
- **Founded and architected a social-location mobile platform** as sole technical founder; built the entire backend (proprietary C/C++ in-memory DB, <2ms median); **drew a Google acquisition offer** and exited via acquisition (2016).
- **Re-platformed Last.fm (43M+ users) onto a self-designed graph-database architecture**, modernizing a music & recommendation service CBS Interactive acquired for **\$280M**.

CORE COMPETENCIES

Engineering Leadership at Scale (1,000+) · 0-to-1 Product & Platform Build · Applied AI/ML & GenAI · Cloud-Native Architecture (AWS) · Distributed Systems · Organizational Design & Scaling · Platform & Security Engineering · Search, Relevance & Recommendation Systems · Executive Stakeholder Management · Opex/Capex Impact

PROFESSIONAL EXPERIENCE

Amazon Web Services (AWS) Reston / Herndon, VA · Apr 2018 - Jun 2026

Senior Software Development Manager, Security

- **Merged AWS Security Operations Center (SOC) and Amazon Corporate Security into a single 17-team, 1,000+-person physical-security-technology organization** under unified technical and product leadership, consolidating roadmaps, eliminating duplicate effort, and lowering cost.
- **Built and scaled the combined organization across software, hardware, and operations**, hiring and developing the management bench and the team structure to run a platform at hyperscale.
- **Architected the convergence of three siloed security domains** (access control, intrusion/perimeter detection, video surveillance) into one cloud-native platform on AWS, replacing costly third-party appliances, layering **AI analytics** across aggregated telemetry, and underpinning \$500M+ in projected savings.

- **Ran the platform as the global 24/7 system of record for physical security** across Amazon's worldwide footprint.
- **Aligned executive stakeholders across Amazon** (corporate security, corporate real estate, finance, legal/PR) on multi-year platform strategy and funding.

Cisco Systems San Francisco, CA · 2016 - 2018

Sr. Manager, Emerging AI Technologies (2017-2018) · Sr. Software Engineer, Emerging Technologies (2016-2017)

- **Led the team that built Cisco's enterprise AI meeting assistant** (internally "Monica"), showcased by CEO Chuck Robbins at Code Conference 2016 (interviewed by Kara Swisher), launched as **"the world's first AI-powered voice assistant for meetings"** (Cisco Spark Assistant, 2017), now Webex Assistant and still powering Webex conferencing hardware worldwide today.
- **Delivered a portfolio of enterprise AI and collaboration products later absorbed into Webex**, including Team TV, a proactive always-on AI meeting agent, and Cisco Spark in VR, immersive 3D collaboration launched on the Oculus Store.
- **Built and trained the models for a self-driving "mobile office"**, an autonomous van that doubled as a moving workspace, and developed a VR version of the office environment.
- **Promoted from Senior Software Engineer to Senior Manager**, turning research prototypes into shipped products adopted across Cisco's Webex collaboration portfolio.

Ivy (Spot Industries, Inc.) San Francisco, CA · 2014 - 2016

Founder & Chief Architect · drew a Google acquisition offer; exited via acquisition (2016)

- **Architected and built the entire backend 0-to-1 as sole technical founder**, including a proprietary in-memory database / social-graph engine in C/C++ achieving <2ms median response times.
- **Engineered the full distributed-systems foundation single-handedly**: custom web server, load balancer, reverse-proxy, service-discovery broker, and distributed commit log / message bus, deployed across AWS.
- **Delivered real-time, location-aware discovery**: geo-driven clustering/classification ingesting third-party sources (Twitter, Instagram) to surface local venues, events, and trends, with check-in matching that connected people in the same place in real time.
- **Shipped the full consumer app (iOS, Android, web)** with WebSocket chat and push infrastructure, growing an engaged user base concentrated in major metros (notably Chicago).

CBS Interactive San Francisco Bay Area · 2011 - 2014

Sr. Manager, Engineering (2013-2014) · Sr. Technology Manager (2012-2013) · Sr. Software Engineer (2011-2012)

- **Led engineering across a portfolio reaching 60M+ monthly unique users**: TVGuide.com, TV.com, Metacritic, CHOW, Last.fm, and Metrolyrics.
- **Rebuilt TV.com end-to-end**: re-architected the entire backend and social-networking platform.
- **Re-platformed Last.fm (43M+ user accounts) onto a new proprietary graph-database architecture**, modernizing the music & recommendation service CBS acquired for \$280M.
- **Built the entire backend powering Viewdini, Verizon Wireless's flagship mobile video-discovery app**, unifying search and recommendations across major providers (Comcast Xfinity, Netflix, Hulu Plus, mSpot) for Verizon's 4G LTE subscriber base.
- **Sustained 10K+ requests/second** on the real-time voting/commenting engine behind TV.com's relaunched community platform.

Clicker Media San Francisco, CA · 2009 - 2011 (acquired by CBS Interactive)

Senior Software Engineer

- **Personalized TV & video discovery: co-built Clicker Predict**, a real-time recommendation and prediction engine drawing on 50+ signals, including the Facebook social graph (selected by Facebook as a launch partner for Instant Personalization, alongside Pandora).
- **Powered the platform's core search and social experience** by engineering its search, personalized search, check-in, and social systems on a proprietary high-performance database.

Ask.com 2004 - 2009

Software Engineer III, Search Relevance & R&D

- **Helped take search "beyond 10 blue links": built Smart Answers**, surfacing structured, direct answers atop results; an approach the industry credited Ask with popularizing and later adopted across Google, Yahoo, and Bing.
- **Raised result quality on a top-tier U.S. search engine** by contributing relevance and clustering within Ask's ExpertRank ranking system, tuned against large-scale user-behavior signals.

LEADERSHIP BRAND

*"What you built was something I always pointed to as done right." **Engineering Manager, Google***

*"The best leader I've had in my civilian career, by far; improving the lives and livelihoods of everyone who got to work for you." **Senior Leader, AWS (ex-McKinsey; U.S. Special Forces)***

*"There aren't many people who can say they fundamentally changed the way Amazon did things; you are definitely one of them." **Sr. Applied Science Manager (PhD), AWS Security***

CliftonStrengths (2026): Strategic · Achiever · Activator · Restorative · Belief. A strategic visionary and relentless builder-operator.

PATENTS, CERTIFICATIONS & EDUCATION

- **Named inventor, U.S. patent** (shared media experience, CBS Interactive).
- **Machine Learning Certification**, Stanford University.
- **Advanced Prompt Engineering**; hands-on with agentic AI development tooling (Claude Code, Kiro).
- **Citrus College, A.A.**, Music.

BOARD & COMMUNITY

- **Martinsburg Union Rescue Mission**, Assistant Secretary, Board of Directors (2011-2013).