MATHEW DOSTAL
Strategic CTO & Principal Architect | Edge AI, Fintech & Enterprise Scaling
Austin, TX | 903-343-9327 | mathew.dostal@gmail.com
Portfolio: mdostal.com | **LinkedIn:** linkedin.com/in/mdostal

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EXECUTIVE SUMMARY

Visionary Technology Executive with over 15 years of experience bridging the gap between hardware innovation (Edge AI/IoT), complex financial infrastructure (Fintech/Escrow), and enterprise-scale software. Proven track record of **providing technical leadership for engineering organizations of 100+ developers** and architecting systems that handle **billions in annual revenue** for global brands like Costco, Hertz, and Wayfair.

Currently serving as the technical architect behind a next-generation AgTech platform using computer vision on the edge, and the founder of a multi-platform EventTech ecosystem. Expert in "Hard Tech" implementation—translating physical world constraints (connectivity, hardware limits, regulatory compliance) into robust, high-performance digital solutions.

CORE COMPETENCIES:

Strategic Leadership	Technical Architecture	Specialized Domains
Fractional & Interim CTO	Cloud-Native (AWS/Azure/GCP)	**Edge AI:** Raspberry Pi, Nvidia Jetsons, Custom NVR,ClearBlade RTSP/Video Streaming
Tech Strategy & Governance	Event-Driven Microservices	**Fintech:** Stripe Connect, Escrow, Auctions, Fraud Prevention
Digital Transformation	Native Mobile (KMP/Swift)	**Data:** SQL/NoSQL Indexing, Cloudant/Mongo, Redis, PowerSync, Ditto, Polyglot Persistence
Budgeting & P&L Oversight	Full-Stack (Next.js/Node/Python)	**AgTech:** Offline-First, Store-and-Forward Sync, Hardware Integration

PROFESSIONAL EXPERIENCE

FRONTIERS MARKET | *Head of Engineering (Acting CTO)*
AgTech & Livestock Management Platform | Remote | Present
Leading the technical vision for an AI-driven platform digitizing the cattle industry. Orchestrating the convergence of Edge AI hardware, native mobile interfaces, and complex financial settlement systems.

- **Proprietary Edge AI Architecture:** Engineered a custom, local-first NVR solution using **Raspberry Pi** clusters and local **RTSP** streams. Bypassed off-the-shelf limitations to optimize video stream processing and storage, significantly reducing cloud ingress costs while maintaining real-time livestock monitoring.
- **Fintech & Escrow System ("Clear"):** Designed and shipped a secure auction payment rail using **Stripe Connect**. Implemented "separate charges and transfers" logic to hold funds in escrow until delivery verification, replacing legacy check-based workflows with a compliant digital ledger.
- **Offline-First Native Mobile:** Led the development of a native **Swift** application capable of estimating cattle weight via on-device computer vision, ensuring functionality in low-connectivity rural environments via **store-and-forward** data sync.
- **Marketplace Engineering:** Built the core registry and marketplace application, enabling disparate ranchers to manage records, track livestock lineage, and transact securely using **MongoDB** for flexible schema management.

FIREFLY EVENTS | *Founder & Chief Technology Officer*
EventTech Ecosystem & Venture Studio | Austin, TX | Sept 2023 – Present
Bootstrapped and launched a comprehensive event ecosystem comprising three distinct SaaS and consumer products processing 8,000+ daily events.

- **"Shindig" (Consumer Discovery):** Engineered a high-performance native mobile aggregator (iOS/Android) using **Kotlin Multiplatform (KMP)**. Aggregates data from Ticketmaster, Eventbrite, and Facebook to serve as the "Travelocity of Events," utilizing geo-spatial queries for real-time discovery.
- **"Reserved" (Venue SaaS):** Architected a **Next.js** venue management platform featuring a complex **dynamic rules engine**. Solved for intricate NYC "block laws" by allowing venues to configure conditional booking logic (e.g., "Food purchase required for alcohol service").
- **"Tabletop Archive" (P2P Marketplace):** Built a rental platform (**tta.games**) using **Convex DB** and **Next.js**. Implemented inventory state machines, Stripe financial logic, and fraud prevention using **Shippo** to manage asset depreciation and restrict shipping actions.

WAYFAIR | *Senior Software Engineer (Supply Chain Tech)*
Global E-Commerce Giant | Austin, TX | May 2022 – 2023
Led critical initiatives within the supply chain technology group, driving operational efficiency for a global e-commerce giant.

- **$5M+ Operational Savings:** Identified data flow inefficiencies in returns and inventory reconciliation. Architected an event-driven solution that saved the company over $5 million annually in lost inventory costs.
- **Cross-Functional Leadership:** Acted as a technical mentor for junior engineers and collaborated across Product and Data Science teams to standardize API documentation and microservice deployment protocols.

EY (ERNST & YOUNG) / ZILKER TECHNOLOGY | *Senior Solution Architect & Manager*
Enterprise Technology Consulting | Austin, TX | Feb 2015 – April 2022
Key architect for a boutique consultancy (Zilker) that grew from 13 to 500+ employees before acquisition by EY. Led multi-million dollar engagements for Fortune 50 clients.

- **$20M Digital Transformation (Chick-fil-A):** Directed a complete platform modernization for a major fast-food chain. Architected a resilient **"Offline-First"** POS ecosystem using **Ditto** to replicate data across tablets in low-connectivity drive-throughs and festivals, ensuring zero downtime and 100% operational continuity.
- **Hertz (Performance Overhaul):** Architected a Rate Engine transformation that improved system throughput by **6000%**, achieving >3,000 requests per second with sub-30ms latency. Leveraged **Cloudant (NoSQL)** for high-speed time-series data storage and **Redis** caching strategies to replace legacy monoliths.
- **High-Scale E-Commerce (Costco):** Served as WCS Architect for one of the world's largest retailers. Designed RESTful API layers and responsive UI frameworks to support an e-commerce platform processing **billions in annual revenue**.
- **Enterprise IoT Architecture:** Led IoT initiatives utilizing **ClearBlade** middleware to securely ingest and process sensor data at scale. Bridged the gap between industrial hardware protocols and modern cloud dashboards for enterprise clients.
- **Healthcare Scalability (DaVita):** Served as "Performance Czar," establishing SLA benchmarks and testing cultures for an ecosystem of 100+ microservices, ensuring 99.9% uptime for critical patient data systems.

BEST RING POS | *Chief Software Engineer (CTO Scope)*
Event Fintech Startup | Austin, TX | 2017

- **Offline-First Payments:** Architected a local-first data sync protocol allowing POS systems to process transactions during internet outages at large-scale festivals, ensuring zero downtime during peak transaction volume.
- **Fraud Prevention:** Maintained real-time fraud checks even in offline-first scenarios, bubbling out prevention metrics to disable compromised cards festival-wide.

EDUCATION
B.S. Computer Science, Neumont University (2009)