

Melissa Bolcar

Senior Solutions Architect | Enterprise & SaaS Platforms | AI Integration

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SUMMARY

Senior Solutions Architect with 18 years designing and delivering enterprise-scale supply chain and SaaS platforms, including a distinguished tenure at Texas Instruments — two-time Technical Excellence Award recipient and twice elected to the Group Technical Staff (MGTS), an honor held by a small percentage of TI's technical professionals. Deep expertise in enterprise Java, Spring Boot, microservices, event-driven architecture, and CI/CD modernization, with a track record of raising first-pass deployment success from 70% to 98% across global, multi-tenant systems. Now delivering AI-integrated applications through an independent consulting practice — combining battle-tested enterprise architecture judgment with hands-on LLM application development, from CRM platforms to AI-powered automation tooling.

TECHNICAL SKILLS

Languages & Frameworks: Java, Spring Boot, Python, JavaScript/TypeScript, PL/SQL, SQL, Node.js, React.js, Next.js, HTML5, CSS3

AI & Data: LLM integration (Anthropic & OpenAI APIs), prompt engineering, RAG pipelines, vector databases, pandas, NumPy

Architecture & Practices: System design, microservices, event-driven architecture (Apache Kafka), REST API design, multi-tenant SaaS, security architecture, IAM (OAuth/JWT, RBAC), Agile/Scrum

Cloud & Platforms: AWS, Microsoft Azure, Google Cloud Platform, Docker, Kubernetes, Supabase, Stripe integration

Databases: Oracle, PostgreSQL, MySQL — data modeling, schema design, performance tuning, indexing, query optimization

DevOps & Tooling: CI/CD pipelines, Git, GitHub Actions, Jenkins, SonarQube, Katalon, test automation, Jira, Confluence

EXPERIENCE

Founder | AI Solutions Architect & Consultant

January 2026 – Present

NextPhase Innovations AI LLC — Tampa Bay, FL

- Founded an independent consulting practice delivering AI integration, custom applications, and architecture services to small and mid-sized businesses.
- Designed and developed a full-stack CRM and booking platform for an early-stage concierge services company — customer management, scheduling workflows, and payment processing built on Next.js, Supabase (PostgreSQL), and Stripe, with secure authentication and role-based access.
- Architected a content management operating system supporting multi-brand content planning, drafting, approval, and scheduling workflows, integrating social platform APIs with a Python services layer and SQLite persistence.
- Built an AI-powered business automation audit tool that assesses client operations and generates structured, prioritized recommendations using LLM APIs with engineered prompts and JSON-schema outputs.
- Developed a market-demand intelligence platform aggregating and normalizing signals from multiple public APIs (Reddit, Hacker News, GitHub) to surface opportunity trends for service positioning.

Senior Enterprise Solutions Architect

2011 – March 2026

Texas Instruments — Dallas, TX (Remote)

- Defined architecture strategies and technology roadmaps for large-scale global supply chain transformation initiatives, leading system design and architecture reviews for distributed, enterprise-scale platforms.
- Spearheaded CI/CD, DevOps, and automated testing modernization across the organization, increasing first-pass deployment success from 70% to 98% and measurably raising release quality.
- Received the 2015 Technical Excellence Award for architecting and leading a global team of 12 developers to deliver an enterprise portal adopted by 3,500+ employees worldwide.
- Received the 2013 Technical Excellence Award for designing an automated Git-based version control framework for PL/SQL, achieving 100% code traceability and replacing ad-hoc release processes.
- Twice elected Member of Group Technical Staff (2012, 2018), a distinction reserved for a small percentage of TI's technical population.
- Provided technical leadership to large global development teams and directed end-to-end SDLC execution for enterprise software used by thousands of users internationally; mentored engineers and college interns.
- Partnered with product, engineering, and business stakeholders to translate complex technical strategy into secure, scalable solutions for non-technical audiences.

Application Developer

2008 – 2011

Texas Instruments — Dallas, TX

- Designed, developed, and maintained highly available supply chain planning applications and PL/SQL backend services, database schemas, and performance-optimized queries.
- Championed early CI/CD adoption, establishing standards and practices that modernized delivery workflows.
- Built application integrations connecting multiple systems for business-critical supply chain workflows, plus hundreds of data transformation programs preparing large datasets for enterprise planning processes.

EDUCATION

B.S., Computer Engineering — University of South Florida, Tampa, FL