



James Dornan

Senior Applications Engineer, IT Services

Bio

BIO

I am a Senior Applications Engineer and systems architect with more than three decades of experience designing, integrating, and optimizing complex technology systems. I have worked at Stanford University since 2009, where I develop enterprise applications and integrations supporting campus identity, access control, housing, scheduling, and institutional data.

My work has consistently focused on solving difficult operational problems through thoughtful architecture, automation, and performance engineering. At Stanford, I have built systems for access management, ID photo submission and review, data synchronization, event-driven access control, and integrations among major campus platforms. I also designed Databolt, a high-performance data-processing service that reduced processing of 10,000 records from hours to minutes.

Before Stanford, I held senior engineering, architecture, consulting, and technical leadership roles across a range of organizations, including United Rentals, Pressflex, Teradata, WIRED, and several technology and financial-services companies. My background spans application development, enterprise integration, databases, Linux and Unix systems, networking, infrastructure, and large-scale performance optimization.

Throughout my career, I have been most interested in understanding how complex systems work, identifying where they can be improved, and building practical solutions that are reliable, efficient, and maintainable.

CURRENT ROLE AT STANFORD

As a Senior Applications Engineer at Stanford University, I design, develop, integrate, and optimize enterprise applications supporting campus identity, physical access, housing, scheduling, and institutional data systems.

My work frequently involves connecting complex systems that were not originally designed to work together. I have developed integrations between Stanford's building access control systems and StarRez for automated student access management; synchronized data between CS Gold and Lenel OnGuard; connected ID card systems with the campus data warehouse for student, staff, and alumni information; and integrated 25Live scheduling data with access control to automate room access based on scheduled events.

I have also developed applications for bulk access assignment and revocation, building alarm notifications, and ID photo submission and review.

A major focus of my work is performance and scalability. I designed and developed Databolt, a Docker-based data-processing service that uses parallel processing, hashing, and pre-emptive caching to minimize unnecessary work and dramatically improve throughput. Databolt reduced processing of 10,000 records from approximately 7–13 hours to 10–20 minutes. In one area, pre-emptive caching reduced transaction processing from approximately 7 seconds to 0.0003 seconds.

My role combines application development, systems architecture, enterprise integration, database engineering, troubleshooting, and performance optimization. I typically work across the full problem—from understanding operational requirements and existing systems through architecture, implementation, testing, deployment, and ongoing improvement.

Technologies used in my Stanford work include JavaScript, Java, SQL, PHP, Docker, Nginx, Oracle, WebLogic, Microsoft SQL Server, MySQL, Linux, Windows, and COM.

HONORS AND AWARDS

- Spotlight Award, Business Affairs (12/11/2020)
- Spotlight Award, Business Affairs (12/15/2016)

Professional

SKILLS AND EXPERTISE

Administrative Operations

- Change Management
- Leadership
- Outlook
- Process Improvement
- Strategic Planning
- Team Building

Information Technology

- Application Development
- Application Programming Interface (API)
- Artificial Intelligence (AI)
- Collaboration
- Communication
- Content Management
- Data Management
- Emerging Technologies
- Extract, Transform, Load (ETL)
- Identity and Access Management (IAM)
- Information Architecture
- Leadership
- Linux
- Middleware

- Monitoring
- Network
- Process Improvement
- Project Management
- Scheduling
- Software-as-a-Service (SaaS)
- Storage
- User Experience (UX)
- Virtualization
- Websites