Sean Bayley

Software Engineer | Backend Systems, Data Platforms & Integration

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PROFESSIONAL SUMMARY

Software engineer designing and building data systems, from migrations and real-time integrations to reconciliation and change approval workflows. Works directly with customers from requirements through production, with reusable tooling for data preparation, reporting, and database deployment.

TECHNICAL SKILLS

Languages: C#, Python, SQL/T-SQL, Java, C/C++

Backend: .NET/ASP.NET, FastAPI, REST APIs, OAuth/OIDC, API orchestration

Databases: SQL Server, Snowflake, PostgreSQL, MongoDB, Solr, SQLite

Data: Data modeling, healthcare MDM, reconciliation, identity resolution, lineage

Automation: PowerShell, Playwright

Delivery: Azure DevOps, Git, CI/CD, DACPAC

PROFESSIONAL EXPERIENCE

Software Engineer, Solution Consultant

Sep 2019 - Present

Gaine Technology | San Luis Obispo, CA

Designs, builds, and supports healthcare and life-sciences integrations, data workflows, and reusable tooling. Works directly with customers from requirements through production, with ingestion spanning 30+ external systems and hundreds of source files and tables.

- Built the C# Gaine-symplr integration that migrated provider and credentialing data for 100,000 practitioners and approximately 4.5 million relationships across roughly 60 entity types. The integration supports ongoing production batch publishing.
- Implemented entity-level tracking and publishing controls so teams can inspect outcomes, recover from failures, and selectively process new records, updates, or full replays.
- Built a reconciliation workflow for roughly 80,000 members that identifies enrollment discrepancies, generates daily files of eligible demographic corrections, and surfaces coverage differences for manual resolution.
- Extended Gaine with a change-request workflow across three lifecycle plugin stages connecting Core Services, Orchestrator, and Veeva. The workflow preserves field-level decisions and revalidates targets before applying approved changes.
- Designed a layered SQL Server deployment framework and built its C# tooling, combining shared code, customer extensions, and managed data. Used across 10+ customers over six years, with each environment traced to its deployed Git commit through Azure DevOps.
- Created a reusable C# transformation framework used by multiple developers to deliver 5+ integrations with external systems, with destination-specific plugins sharing processing, error handling, and auditing.
- Developed SQL ingestion utilities reused across customer implementations for configuration-driven cleansing, lookup translation, field naming, and filtering. Source-specific views keep joins and business rules separate from destination mapping.
- Built a reusable SQL reporting layer used across customers, defining profile joins, lookups, and formatting once. When the required data is already available, developers can create reports in minutes rather than hours or days.
- Extended Gaine's data model with searchable audit findings alongside profiles. The integration framework adds new findings, marks cleared findings as resolved, and gates publishing by severity. Used in two production customer implementations.

PROFESSIONAL EXPERIENCE, CONTINUED

Software Engineer II / Software Engineer Intern
Jun 2015 - Aug 2016

BAE Systems

Promoted from Software Engineer Intern to Software Engineer II in June 2016; developed Java and C++ capabilities for geospatial visualization, data relationships, and streaming.

- Built a Java module that converted PowerPoint content into CZML for Cesium 3D visualization within an OSGi-based application.
- Designed a PostgreSQL-backed relationship service that connected data products in a Solr catalog for geospatial aggregation and analysis.
- Implemented real-time image streaming and large file transfers in C++, with HTTP communication, asynchronous polling, compression, and archive handling.
- Built C++/Qt interface features; analyzed logs with Python and MongoDB to identify bottlenecks and recommend catalog-query improvements.

TECHNICAL LEADERSHIP

- Leads investigations across applications, databases, and vendor integrations, tracing identity, lineage, and processing state to explain failures and determine corrective action.
- Mentors engineers in system design, implementation planning, code review, and debugging.
- Turns ambiguous customer issues into concrete engineering requirements and explains system behavior to developers, product teams, implementation teams, and customers.

EDUCATION & RESEARCH

B.S. and M.S., Computer Science
Jun 2017

California Polytechnic State University | San Luis Obispo, CA

- Distinguished Graduate Student; J.L. Moore Fellow
- Thesis: Optimizing Prediction Intervals by Tuning Random Forest via Meta-Validation
- Research: Radio-based vehicle tracking and the case for a more robust security protocol

Doctoral Studies, Computer Science
Concluded Jun 2018

University of Notre Dame | Notre Dame, IN

- Remick Fellow
- Focus: software engineering and safety-critical autonomous systems
- Research: Interlocking Safety Cases for Unmanned Autonomous Systems in Shared Airspaces