Michael Beauchamp

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SUMMARY

Founder and systems architect building correctness-first financial infrastructure for regulated operational environments.

Background spans data architecture, quantitative risk modeling, and large-scale enterprise systems where statutory requirements, operational execution, and financial risk must remain aligned under real-world conditions.

Currently building LeanBuild™, a compliance correctness layer for construction payments that validates, explains, and documents payment-stage compliance before funds are released.

Selected roles prior to founding LeanBuild.

EXPERIENCE

Carrier Corporation   Indianapolis, IN
Senior Analyst, Supply Chain Intelligence   Dec 2011 – 2025

Built and operated analytics and data infrastructure inside a Fortune 500 supply chain environment, supporting real-time operational and financial decision-making under regulatory and performance constraints.

- Led the design, development, and implementation of 25+ SAP BOBJ Web Intelligence reports and interactive dashboards, providing real-time insights into supply chain KPIs and enabling data-driven decision-making.
- Built SQL stored procedures and ETL pipelines to integrate and prepare data for SAP and BOBJ platform implementations.
- Designed and deployed predictive and analytical models to support demand planning decisions in a high-volume supply chain, with emphasis on data integrity, explainability, and operational trust.
- Applied data mining and predictive modeling techniques to identify demand patterns, resulting in a 10% improvement in demand forecasting accuracy and optimized inventory management.
- Played a pivotal role in improving SAS data models and data warehouse administration, ensuring data integrity, and enabling 33% faster query performance.

UnitedHealth Group – Optum   Franklin, TN
Data Engineer, Healthcare Analytics   May 2011 - Dec 2011

- Engineered an automated ETL pipeline to integrate Medicaid member data into on-premises databases enhancing data quality and accessibility.
- Built data architecture and Python ETL processes for loading healthcare claims data into databases.
- Implemented data quality checks and validation processes to ensure accuracy and reliability.
- Provided data engineering support for machine learning initiatives related to claims analysis.
- Communicated data insights to cross-functional teams to drive enhancements.

MRC Global   Tulsa, OK
Data Engineer, Supply Chain Analytics   May 2008 - Sep 2009

- Developed dynamic web applications using HTML, JavaScript, ColdFusion using SQL against Oracle back-end database.
- Performed statistical analysis in R to monitor data quality, identify anomalies, and recommend process improvements, improving data accuracy by 20%.
- Built end-to-end machine learning models in Python to predict inventory needs, enabling superior demand planning.

The Rowland Group   Tulsa, OK
Data Engineer, Pricing Analytics   Nov 2007 - May 2008

- Built machine learning models in Python to forecast product demand, improving sales projections by 10%.
- Designed MySQL database schema to allow for scalable storage and faster querying of large pricing datasets.

DataCom, Inc.
Software Engineer

<div align="right">Broken Arrow, OK
Nov 2006 - Nov 2007</div>

- Built Microsoft SSRS reporting dashboard to uncover customer, product, and sales insights for executives.
- Designed contract and revenue web pages using ASP.NET and C#.

Northeastern State University
Data Analyst, Enrollment Analytics

<div align="right">Tahlequah, OK
May 2001 - Nov 2006</div>

- Built logistic regression models in Python to identify factors influencing student enrollment, improving admissions forecasting by 30%.
- Designed MySQL database schema and ETL pipelines to integrate student data from multiple systems into a single database.
- Performed cohort analysis in R to track graduation rates across student demographics and guide retention initiatives.
- Implemented statistical models to predict students at risk of dropping out.
- Developed Excel visualizations to provide enrollment insights and trends to university leadership.

TECHNICAL & SYSTEMS EXPERTISE

Correctness-First System Design
Designing systems that surface and validate statutory, financial, and operational constraints **without displacing existing workflows, judgment, or authority**.

Compliance-Aware Data Architecture
Audit-ready data models and validation pipelines that preserve evidence, context, and traceability across regulated operational workflows.

Deterministic Validation & Explainable Analytics
Rule-based validation and analytical logic (Python, R) designed for explainability, confidence bounds, and operator trust — not opaque automation.

API-First Integration Architecture
Designing modular, API-driven services that integrate with accounting systems, workflow platforms, and financial infrastructure **without embedding business logic inside partner systems**.

Operational & Payment-Stage Risk Visibility
Analytics that provide early visibility into execution-stage issues and degradation patterns, supporting monitoring and coordination rather than enforcement.

Applied Statistical Modeling in Production Systems
Regression, GLM, and forecasting models deployed in enterprise environments with emphasis on reliability, interpretability, and operational adoption.

Tools & Platforms: Python, SQL, R, PostgreSQL, MySQL, SAP BOBJ, SAS

EDUCATION

- **MIT Professional Education**
  Certificate: Applied Data Science

<div align="right">Boston, MA
July 2023</div>

- **Northwestern University**
  M.S. in Predictive Analytics

<div align="right">Evanston, IL
March 2016</div>

- **Northeastern State University**
  B.S. in Mathematics

<div align="right">Tahlequah, OK
December 2011</div>