

# MATTHEW L BROWN

563-570-8240 ♦ matt@gosolucia.com ♦ [MatthewLBrown.com](https://matthewlbrown.com)

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## SUMMARY

Full-stack developer with 10+ years of experience designing data-intensive applications, analytics platforms, and cloud infrastructure. I follow a customer-focused approach to deliver solutions that produce measurable results.

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## FREELANCE

### Software Consultant / Solutions Architect

July 2019 - Present

#### *Selected Client Projects*

#### **Population Health Analytics Tool [R, SQL, JavaScript, Google Cloud]**

*Reduced analyst time spent on recurring ad-hoc data requests by enabling self-service analysis*

- Led development of a population health analytics platform used by thousands of users at the org
- Developed a data pipeline to process terabytes of data from 10+ sources into **BigQuery** analytics layer
- Enabled researchers and analysts to perform cohort analysis and real-world evidence studies

#### **Field Operations Analytics Platform [dbt, Python, React, Azure]**

*Enabled the client to classify field behavior and compute productivity statistics automatically*

- Built a geospatial data pipeline using dbt and Python to turn raw GPS telemetry into analytics tables
- Developed a classification model to measure field productivity from GPS and GIS data
- Designed a React app for reviewing work progress and cost forecasts

#### **Reinsurance Claims Analytics Tool [Python, SQL, MongoDB, React, Google Cloud]**

*Saved hours each week from the manual process of ingesting new client data*

- Designed and developed an analytics platform for insurance claims, weather, and geospatial data
- Built Python data pipelines to ingest claims data, weather data, and shapefiles from MongoDB into SQL
- Used GeoPandas and Shapely to integrate GIS datasets for catastrophe risk analysis
- Developed flexible dashboards and optimized SQL queries for real-time access to large datasets

#### **Digitizing Iowa Plastics Manufacturer [PowerApps, R, Fabric]**

*Reduced scrap by 10% and excess material usage by 60% through improved tracking and visibility*

- Built a QR-based traceability system linking production, quality, inventory, and shipping data
- Developed real-time inventory tracking and automated label printing for shop-floor operations
- Created operational dashboards for production, downtime, quality, and inventory performance

#### **Multi-Store E-Commerce Analytics Platform [Snowflake, dbt, Airbyte]**

*Built an end-to-end data pipeline consolidating data from multiple e-commerce shops into a unified analytics layer*

- Built a pipeline to ingest Shopify, GA4, Meta Ads, and Google Ads data with Airbyte
- Provisioned Snowflake infrastructure and RBAC with Terraform (warehouses, roles, grants, databases)
- Developed Lightdash dashboards for portfolio and individual store performance

#### **Healthcare Platform Cloud Migration [Terraform, GCP, Azure, Python]**

*Identified and remediated critical security risks, including publicly exposed SQL instances*

- Led migration of multi-service healthcare platform (App Engine, GKE, Cloud Run, Cloud SQL, Pub/Sub) to Azure
- Re-architected networking with Azure Front Door, VNet integration, private endpoints, and Managed Identity
- Implemented GitHub Actions CI/CD and modular Terraform IaC, enabling repeatable deployments

## Business Rule Engine for Clinical Interventions [R, SQL, JavaScript]

*Client commercialized the product and offered as a service to other healthcare clients*

- Developed a database-driven system to identify members for clinical interventions
- Designed an intuitive GUI interface so non-technical users could define member cohorts without code
- Built internal tooling that significantly reduced development time for new intervention cohorts
- Built the core logic supporting a ~50-person team; the architecture remained in production without significant modification for 6+ years.

## CRM Application Suite Optimization for a Health Insurer [R, SQL, JavaScript]

*Improved application load times by 10x through optimizing SQL queries*

- Centralized duplicate code across the applications into a repository
- Re-architected data model for simplicity and maintainability

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## FOUNDER

### Notifi: Back in Stock Alerts

Nov. 2020 - Oct. 2025

*Built and operated a Shopify SaaS application for back-in-stock notifications with **1000+ installs**, **600+ active users**, and **\$1000+ MRR***

### Echo - Speech-to-Text Engine

June 2024 - Dec 2024

*Built an AI-powered Chrome extension for real-time speech-to-text transcription*

### Avisos: PPC Management Copilot

Dec. 2025 - May 2026

*Avisos connects your Google Ads account and Shopify store to audit 50+ performance, targeting and tracking issues*

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## EMPLOYMENT

### RED OAK STRATEGIC

#### Senior Data Scientist

Washington, D.C.

April 2017- June 2019

*Developed analytics software for financial services startup*

- Led a team of three in developing 30+ custom analytical applications using **R Shiny**
- Implemented the best analytical dashboard into the production **.NET** application
- Developed predictive models on large datasets using machine learning techniques

### BOOZ ALLEN HAMILTON

#### Senior Consultant

Washington, D.C.

June 2015- April 2017

*Management consultant focused on implementing large-scale technology projects for Federal clients*

- Developed strategies to maximize adoption of **agile software development** best practices as a **project manager**
- Scrum master for an **agile software development** project to migrate [DOL.gov](https://www.dol.gov) to Drupal

### JOHN DEERE

#### Geometric Coordinator

Waterloo, IA

Nov. 2011-Aug. 2013

*Quality analyst for design engineering division*

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## TECHNICAL SKILLS

**Languages:** Python, R, SQL, TypeScript, JavaScript, C#

**Frameworks:** Django, React, FastAPI, R Shiny, .NET, React

**Databases:** PostgreSQL, BigQuery, SQL Server, MongoDB, dbt

**Cloud & DevOps:** Google Cloud, Azure, AWS, Terraform, Docker, GitHub Actions

**Coursework / Certifications:** *Introduction to R for Data Science, The Analytics Edge, Explore Data Science, Advanced Analytics, Statistical Methods of Process Improvement*

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## EDUCATION

**HENRY B. TIPPIE SCHOOL OF MANAGEMENT, UNIVERSITY OF IOWA**  
**Master of Business Administration, Supply Chain and Analytics**

Iowa City, IA  
May 2015

**UNIVERSITY OF IOWA**  
**BSE Biomedical Engineering**

Iowa City, IA  
May 2011