# McWelling H Todman

contact@mcwelling.dev | LinkedIn | Github | mcwelling.dev

## Summary

Backend Software Development Engineer with a track record of leading critical system migrations, optimizing application performance, and building data-informed detection and decisioning systems. Proficient in the design, development, and optimization of scalable web applications, data pipelines, and agentic systems. Applies Distributed Systems expertise toward the creation of data-driven software solutions that impact business outcomes.

## Technical Skills

**Languages**: Scala | Java | Kotlin | SQL | Javascript/Typescript
**Frameworks**: Spring Boot | Thrift | Finagle/Finatra
**DevSecOps/Tooling**: Git | Docker | AWS | Airflow | Luigi | Kubernetes | Argo CD | Jenkins | Grafana
**Data**: Databricks | Spark | Kafka | MySQL | MongoDB | Redis | DynamoDB | S3

## Experience

**Foursquare** Sep 2025 – Present
*Software Developer, Places* *New York, NY*

- Designed and built a category mapping system, replacing a legacy rule-based extraction service with a two-stage ML pipeline (kNN vector search via Titan embedding cosine similarity + LLM classification) backed by a knowledge graph and admin UI (React) curation layer. Migration included service hydration (repl script), feedback loops (parquet import/export), Spark pipeline integration logic, observability (Grafana), and legacy system migration.
- Designed and implemented async queue workers to clean-up stale POI change requests after an updated source-field value is ingested by a web crawler. These workers resolve tens of thousands of change requests per week.
- Wrote a suite of classifiers to identify trivial Latin alphabet-based Address and URL mutations stemming from the ingestion of 3rd party POI data. These classifiers were used to retroactively resolve 1.6 million noisy change requests generated by our fleet of web crawlers.
- Participated in monthly on-call duties, managing and resolving critical incidents related to Places data infrastructure.

**Employbridge** July 2023 – Jan 2025
*Software Development Engineer II, Finance* *Remote*

- Led the successful migration of critical time card management application, breaking apart legacy monolith into stateless, horizontally scalable services. This included mapping data models and endpoints, identifying feature gaps, developing robust multi-phased-commit orchestration for writing between services, and coordinating releases to mitigate risk of service interruption.
- Migrated internal time-card management UI from AngularJS to a client-facing React.js solution. This transition to a transparent self-service model included several new features and eliminated the need for support users to manage timecards for 75% of all clients.
- Designed and implemented a write-through caching scheme, reducing latency on a bottleneck endpoint by 80%. This change eliminated gateway timeouts and reduced database load, resulting in fewer on-call incidents each week (Node.js, Redis).
- Served as domain expert for Time Management products. Regularly gave tech talks and demoed functionality for stakeholders across the organization.
- Authored technical documentation for Time-related products and services. Led onboarding for engineers working on time-related products.
- Participated in monthly on-call duties, managing and resolving critical incidents to ensure service reliability and minimal downtime.

**Bluecrew (acquired by Employbridge)** Jan 2022 – July 2023
*Software Development Engineer, Workplace* *Remote*

- Led development of Self-Service Worker Assignment Edit feature. Implemented suite of worker schedule modifications such as: add-a-shift, remove-a-shift, modify-end-date, and gracefully end-assignment. The delivery of this feature resulted in a reported multi-hour reduction for internal support team user effort each week. (Node-Express, Typescript, MySql, AngularJs)

- Developed a tracker for distinct views on job postings, allowing for near real-time visibility into job posting engagement for admin users. (AngularJs, Node-Express, Snowflake, and Segment.io)
- Participated in monthly on-call duties, managing and resolving incidents.

**Penn Medicine: The University of Pennsylvania Health System** May 2016 – Jan 2022
*Senior Data Analyst - Patient Experience* *Philadelphia, PA*

- Created "dissatisfaction risk" model to inform targeted patient rounding strategies using historical patient satisfaction scores, patient demographics, and hospital administrative data. Model was used to preemptively identify patients groups likely to report a substandard experience while hospitalized (Python, SQL).
- Integrated Patient Satisfaction measures and dimensions into numerous enterprise business intelligence products: Penn Data Store II, Dimensional Insights, NarrativeDx, MIDAS, Ambulatory Analytics, and PMX Feedback.
- Constructed datasets for IRB-approved studies and Quality Improvement projects run by Primary Investigators in Perelman School of Medicine and Wharton School of Business.
- Built dashboards to track enterprise and service line patient satisfaction goals using SQL and Tableau.

**Center For Applied Research** July 2014 – May 2016
*Analyst - Management Consulting Practice* *Philadelphia, PA*

- Managed cross-functional consulting engagements and facilitated strategic planning for nonprofit and public sector clients.

## Projects & Publications

**Sylphrena: Experimental Agent Harness** | github March 2026

- Syl is a lightweight AI agent harness written in Rust. The harness initializes a containerized Ubuntu environment via Podman, connects a model via the Anthropic API or AWS Bedrock with streaming responses, and provides an interactive terminal REPL where an AI assistant can read, write, and execute code safely inside an isolated container.

**Antibiotic Stewardship Intervention in Primary Care** | Open Forum Infectious Diseases December 2020

## Education

**Drexel University** Philadelphia, PA
*M.S., Computer Science* *2022*

**Swarthmore College** Swarthmore, PA
*B.A., Economics* *2014*