

# Data Anomaly Detection In Live Data Feeds

Fulcrum's ML-driven Data Anomaly Detector, better known as "DAD", applies cutting edge machine learning applications and data visualization to information technology systems historically run by SQL logic. It requires minimal user input or oversight, and becomes more effective as the user interacts with it. DAD leverages a blend of user context knowledge and machine learning methodology to automatically hone in on outliers and less obvious long-term trends or patterns in data.



## Graphical User Interface

A Graphical User Interface (GUI) guides the user through a series of simple prompts and the user-provided knowledge then gets incorporated into the underlying models.



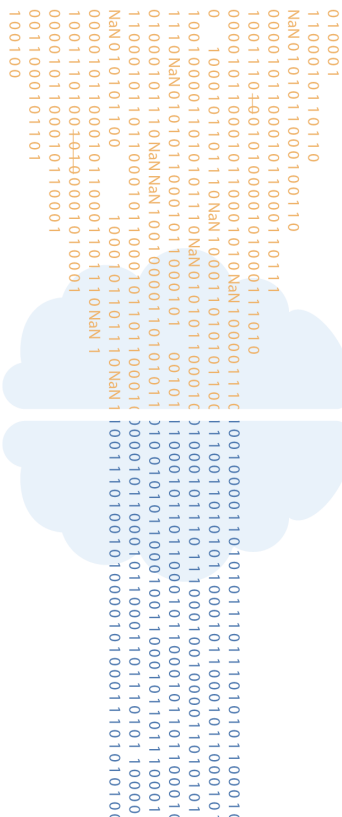
## Predictive Checking

With each facet of each new record, the tool conducts backend predictive checks to quantify the extent to which the observed data deviates from model expectations.



## Anomaly Tracking

Deviations deemed statistically significant are noted as anomalies and recorded along with the level of significance.



## Machine Learning to Fit Your Business

### Incrementally Updates

DAD streams new data record-by-record to incrementally update Bayesian machine learning models for various facets of each new record.

### User Context and ML

DAD leverages a blend of user context knowledge with the ML models to become increasingly effective in spotting anomalies as the user interacts with it.

### Customizable

DAD is customizable in both its anomaly detection tuning and dashboard reporting, and is designed to work with minimal user input

### Hosting Options

DAD can be hosted within a client's own technical environment or within one of Fulcrum's cloud-based environments

# A Modern Data Science Consulting Partner

Fulcrum is known for our 26 year history as a boutique data science consulting firm, but our success is built on a broader approach and vision. We collaborate with clients to accelerate their use of data and advanced analytics, build their organizational capacity for data-driven decision making, and push the frontiers of what's possible within their organization.

## Easy & Fast

Get started ASAP. Just sign up for a team and we are sitting next to you, rolling up our sleeves, and making progress.

## Customizable

We know that your needs can change — specialists swap in and out as needed for different aspects of the solution.

## Low Risk

Did we mention that you can try for 3 months at a discounted rate? No obligation and you can choose to terminate at anytime.

## Domain Expertise

25+ years of experience in industries such as banking, insurance, and retail — giving us the skill and knowledge to tackle even the toughest problems.

## Our Approach Consists of Three Pillars



### Full Stream Analytics

**Upstream:** We give attention to data collection, cleanliness, timeliness, and augmentation.

**Midstream:** We factor in maintainability, explainability, and credibility.

**Downstream:** We consider how insights are visualized, explained, measured, and integrated with operational systems to drive intelligent actions.



### Fluid Roadmaps

We help develop tactical plans that align with, and inform, an organization's strategic goals, identify and quantify the gaps between these goals and their capabilities and then prioritize and sequence opportunities based on these factors while maintaining the flexibility to pivot and adapt to changing needs over time.



### Augmented Analytics Capabilities

We expand organizational capacity by supplementing internal resources, skills and experience to provide rapid augmentation as needed while fostering internal growth of an organizations data capabilities, knowledge, infrastructure, processes, and human capital through training and recruitment.



Tony Ojeda

*VP, Data Science*

[tojeda@fulcrumanalytics.com](mailto:tojeda@fulcrumanalytics.com)

[www.fulcrumanalytics.com](http://www.fulcrumanalytics.com)

