



Query Anomaly Detection (QAD)

Discover Unknown Data Patterns with AI-Powered Anomaly Detection

About

Query Anomaly Detection (QAD) is an advanced feature within Saama's Smart Data Quality (SDQ) platform that leverages Generative AI to discover unknown data patterns and anomalies in clinical trial data. Unlike traditional rule-based systems, QAD uses AI to identify discrepancies that may otherwise be missed by pre-defined rules, discovering "unknown unknowns" – patterns not explicitly programmed.

As an extension of subcats with a fundamentally different approach, QAD eliminates the need for manual programming while ensuring all discrepancies are reviewed by human experts for validation and action.

Benefits

Enhanced Data Quality

Proven accuracy for out-of-the-box scenarios with clinical validation from trained physicians and data quality SMEs.

Cross-Domain Intelligence

Validates logical relationships spanning multiple domains (Demographics, Adverse Events, Exposure, Medical History, Lab Results) to ensure comprehensive data integrity.

Operational Efficiency

Eliminates the need for manual programming and significantly reduces manual effort by automating anomaly detection and query generation processes.

Scalability

Handles large, complex datasets while adapting to evolving patterns and study-specific requirements without requiring manual updates.

Key Features

Scenario Management

Global Scenarios

48+ pre-built scenarios across key clinical domains including Adverse Events, Lab Results, Treatment Consistency, and Data Entry Errors

Create Scenarios

Self-service scenario creation allowing sponsors to build custom scenarios tailored to their specific study needs *(Coming Soon)*

Capabilities



Logical Relationship Validation

Validates inter- and intra-domain relationships, detecting contextual anomalies



Automated Query Generation

Creates actionable queries and flags cascading anomalies across dependent domains



Domain-Level Anomaly Detection

AI-driven pattern analysis for lab results and adverse events with timeline validation



Customizable Data Validation

Integrates study-specific requirements with dynamically evolving rules



Cross-Domain Consistency

Validates relationships across domains and detects treatment/symptom contradictions



Instant Scenario Management

Near-instantaneous scenario activation/deactivation at study level (**<5 minutes**) through self-service dashboard for rapid deployment and customization

Future Enhancements

Data Review Plan (DRP) Management

Upload existing Data Review Plans and AI automatically understands requirements, creates scenarios, and programs the logic including deep links to EDC systems. QAD complements traditional DRPs by identifying nuanced issues that standard rule-based systems miss.

Recommend Scenarios

AI automatically discovers and suggests new scenarios based on emerging data patterns, providing full traceability into how each recommendation was generated. This enables proactive anomaly detection and fast adaptation to new study requirements.



The Saama Difference

Query Anomaly Detection represents the evolution from reactive, rule-based data checking to proactive, AI-driven anomaly discovery. By combining GenAI with deep clinical domain expertise, Saama delivers a solution that adapts to unforeseen patterns, handles complex multi-domain relationships, and continuously improves detection capabilities. Powered by fine-tuned LLMs with explainable AI reasoning that provides detailed context for every anomaly detected, unlike black-box legacy systems.

Unlike traditional subcats that rely on deep learning with predefined rules, QAD's approach ensures higher data quality with reduced manual effort, allowing clinical teams to focus on strategic decision-making while AI handles the discovery of critical data anomalies.

Contact us at info@saama.com to schedule a personalized demonstration.