



thatDot Novelty

Easy real-time anomaly detection - Find a needle in a stack of needles.

PRODUCT OVERVIEW

Streaming Anomaly Detection Without Hassle

Use Novelty to find novel events or patterns when you don't know what to look for, and you have a mountain of data streaming in to monitor. The unique built-in graph AI will rank every event according to how anomalous it is within your dataset. Under the covers, open source graph stream processor Quine makes it respond in milliseconds.

USE CASES

Cybersecurity

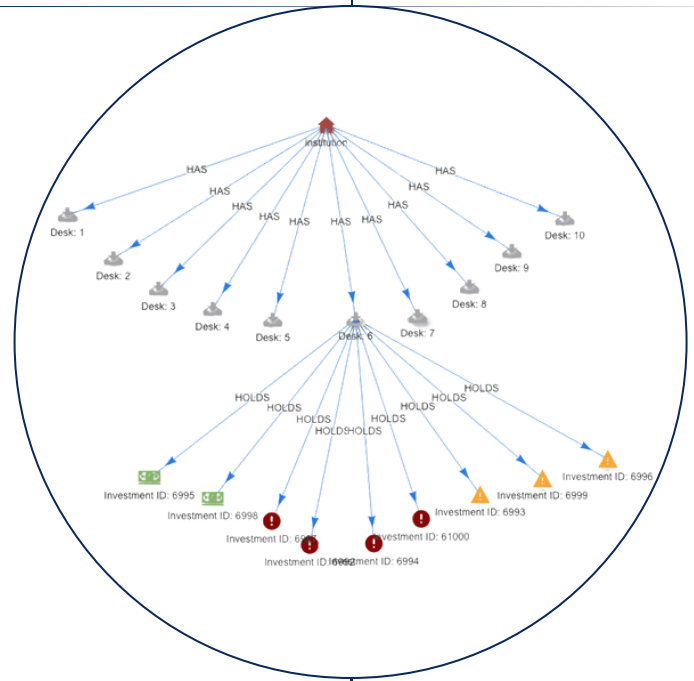
Monitor network, device, and application usage for unusual configuration changes, threat signatures, or access patterns.

Network Optimization

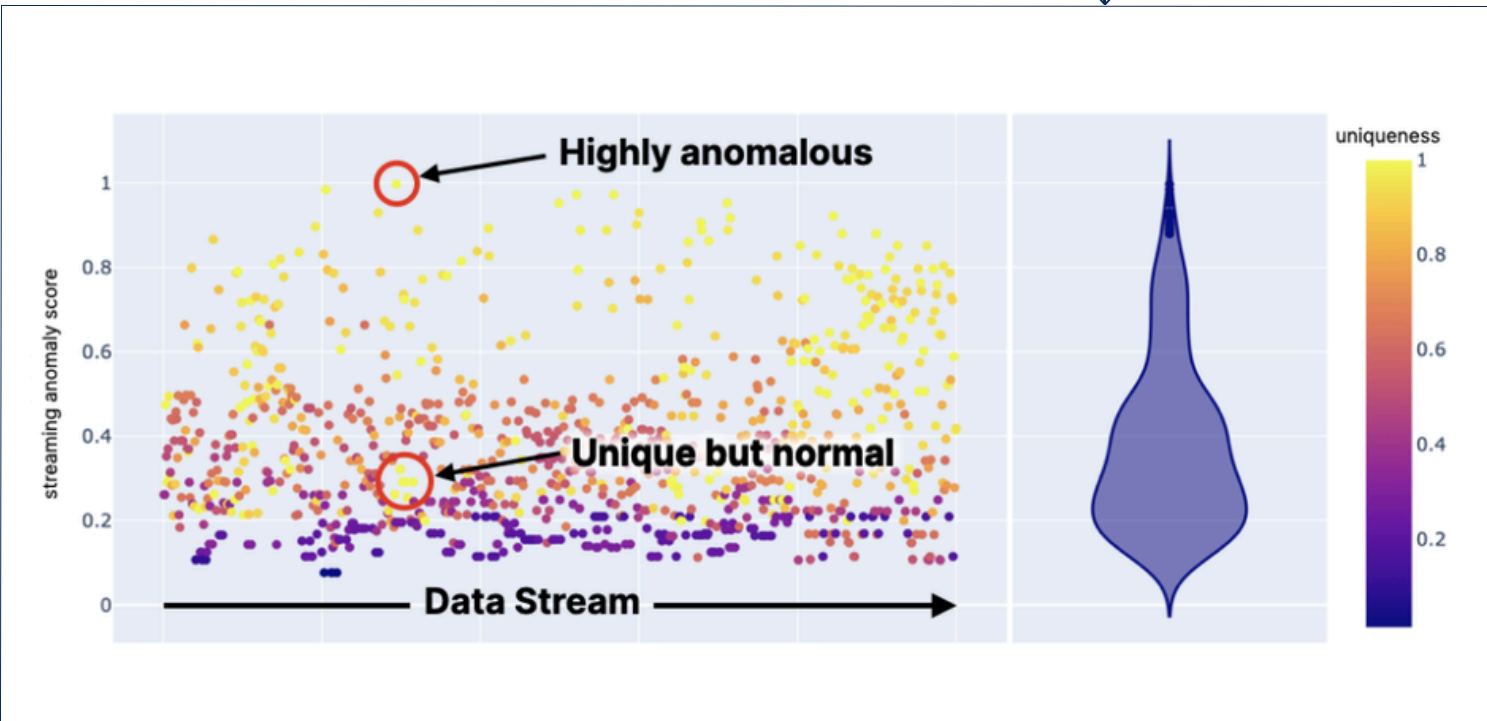
Identify network route inefficiencies, and eliminate redundant alerts through topology awareness.

Fraud Detection

Analyze usage for excess concurrent usage, and generate events to enforce entitlement compliance.



Self-learning AI built into an event stream processor lets you find the most important data fast, even if it's unknown.



Context Aware

Log Data Reduction

Intelligently filter machine, log, or human generated data to eliminate the huge bulk of uninformative chaff, and highlight what's genuinely important.

General Anomaly Detection

Black swan events and unknown unknowns can be extremely hard to detect since you don't know what to look for. Novelty finds them and increases your knowledge about your data.

Edge System Abnormalities

Filter away the bulk of irrelevant readings to spotlight potential problems for predictive maintenance, smart metering, asset, monitoring, process automation, and improving customer experiences.

KEY FEATURES

Streaming Anomaly Detection With Explanation

When you don't know what pattern to look for in a data stream, you just want to find the exceptions, the occurrences that don't fit the norm, Novelty is simple, fast, and accurate. No training or data labeling is required. It's completely unsupervised. It builds a detailed behavioral fingerprint for contextual understanding. Simply feed it data, and it will score every event according to how unusual it is in your data set, and will also explain WHY an event is novel.

Reduce False Positives

New is not always novel. Novelty uses context to accurately tell the difference. In the diagram to the right, for example, yellow dots are unique, but sometimes one-of-a-kind events are normal. Only the ones with highest novelty scores at the top are genuine anomalies.

Analyze Categorical Data

The built-in AI analyzes categorical data as is, even if it has high cardinality. There's no need to delay analysis to transform categorical data into sparse, bloated numeric data. It returns detailed scores for novelty, uniqueness, information content, and probability.

Get Answers 1000 Times Faster

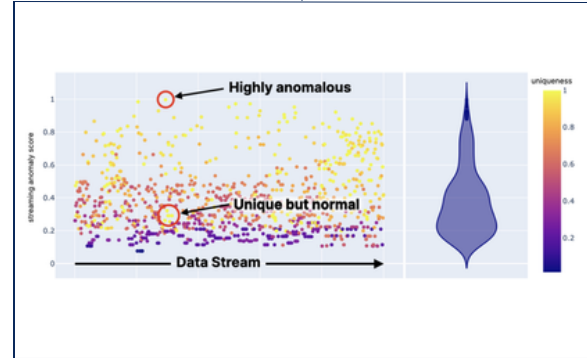
We benchmarked Novelty against a standard Isolation Forest algorithm on the same data on the same 8-CPU, 16 GB virtual machines. Isolation Forest managed as many as 500 events per second. With Novelty, you can score over 15,000 events per second.

Transform Data Right in the Stream

Several data transformation functions are included in Novelty so you won't need a separate transformation layer before you can use it. Stream raw data in directly.

Leverage Your Expert Knowledge

You can limit or remove the influence of highly novel observations you know are not important. Either 1. Remove individual or groups of observations; 2. Define a rolling window of observations; or 3. Delete entire contexts from the system.



Examples of Numeric and Categorical Data

Numeric	Categorical
Rates: 27 events/second	Names: Mary Shelley
Scores: 0.91237	IP Addresses: 192.168.1.100
Clicks (counts): 2,743	File paths: C:\Windows\System32\notepad.exe
Money: \$19.79	Sentiment: passive aggressive
Temperature: 72° F	Address: 1600 Pennsylvania Avenue
Age: 27 years old	Zip codes: 90210
Weight: 165 lbs.	Email: info@thatdot.com
Distance: 127 miles	Flavor: Umami
Color: #1f4c7c	Color: blue
Angle: 91°	Angle: obtuse
Weather: 60% chance of rain	Weather: Partly Cloudy
Time: 1617212687 (Unix time)	Time: Monday at 11:21 am

