

Intelligence Marketplace

Overview

Zeblok's Intelligence Marketplace provides easy access to a growing library of proven, original third-party AI algorithms. Quality is ensured by our curation process, including closed loop validation, providing algorithm creators with a means of commercialization not previously available. We ensure that algorithms are easy to read, easy to use and easy to share. These include:

- Ai-Rover™ Notebook – Data Comprehension/Visualization Tool
- Ai-Rover™ Notebook for Time Series Data – Automated Predictive Model Builder
- Video Analytics as a Service – Near Real Time AI Video Analytics
- Quantum Entropy-as-a-Service – Truly Random Number Generator

Ai-Rover™

Ai-Rover™ combines the power of Zeblok's Ai-WorkStation and accelerated Ai-Data Lake, with Akai Kaeru's exclusive explainable AI algorithm's three linked modules, enabling advanced analytics and data visualization to provide both correlation and causation. The journey from data to insights requires a crucial data comprehension step to focus AI appropriately. Ai-Rover™ is a platform for data discovery and data comprehension as a first step in this journey, from different data sources and types and formats. Domain agnostic Ai-Rover™ is particularly useful for large, multi-variate, high dimensional data analysis.



Pattern Miner automatically decomposes the data into a manageable set of statistically robust data patterns, each of which can be concisely described with just a few attributes. Each pattern consists of data items that behave similarly in terms of a given target variable and are succinctly defined by just a small set of attributes, making them easy to understand. This analysis typically only takes a few minutes.

Visual Causal Analyst distills correlations that exist among these patterns into a terse set of causal relationships. This process eliminates all spurious correlations and makes it easy to discern true interactions within the data.

Data Context Map provides integrated and intuitive visualization of both patterns and relationships. Analysts can easily interact with this visual layout to explore new patterns and relationships, creating new subpopulations. Ai-Rover™ simplifies data analysis by combating information overload, while leading to better predictive insights.

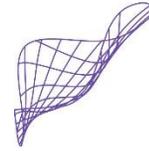


Ai Rover™ for Time Series Data

The Ai-Rover™ for Time Series Data is an automatic model-building solution designed specifically for time series data. Based on this data, Ai-Rover™ extracts relevant features and builds explainable forecasting and anomaly-detection models.

The Ai-Rover™ for Time Series Data engine is built on a field of mathematics called information geometry, an interdisciplinary field that uses differential geometry techniques to study probability theory and statistics.

The Ai-Rover™ for Time Series Data engine creates models in a single step — from feature engineering to model building and deployment. This highly automated approach to time-series modeling is called InstantML (OEM from Tangent Works). The high level of automation reduces the time needed for model building, as well as the engineering effort and mathematical expertise required.



Tangent Works

Use Cases:

Ai-Rover™ for Time Series Data



Sales Forecasting

Sales Forecasting

Forecasting sales of a product or service plays an important role in the life cycle of almost every retail company. Estimation of future sales can drive multiple management decisions, such as efficient inventory

Select Notebook [Learn more...](#)

Ai-Rover™ for Time Series Data



Predictive Maintenance

Predictive Maintenance

With each cycle of operation, machine components' original physical parameters deteriorate, requiring diagnostic inspection, maintenance and replacement. Optimizing maintenance time has financial impact. Provides

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Ai-Rover™ for Time Series Data



Energy Consumption Forecasting

Energy Consumption Forecasting

Accurate energy consumption forecasting is a crucial factor underlying utility company financial performance. They need accurate energy forecasts since extreme wholesale price volatility requires

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Ai-Rover™ for Time Series Data



Asset Failure Prediction

Asset Failure Prediction

Anomaly detection leading to explainable forecasts so engineers can do root cause analysis. Analyze impact of local operating conditions and/or specific configuration of the asset vis a vis normal wear and tear.

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Ai-Rover™ for Time Series Data



Hospital Admission Rate Forecasting

Hospital Admission Rate Forecast

Hospitals need to organize and optimize their supply chains and staffing based on admission rates of patients. They need to capture fluctuations based on factors like weather, calendar and time of day,

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Ai-Rover™ for Time Series Data



Marketing & Advertising Effectiveness

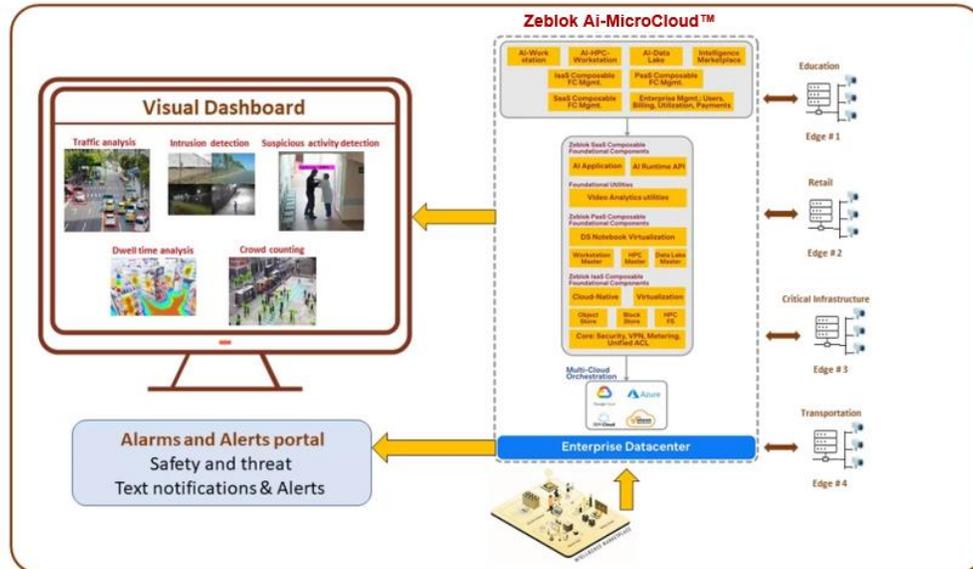
Marketing & Advertising Campaign Effectiveness

Creating more accurate forecasts of the returns from the multitude of marketing and advertising channels and other choices available can enable a retailer to fine tune its marketing mix. Explore various scenarios' impact on forecast

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AI Video-Analytics-as-a-Service

The foundational utilities of the Zeblok's Ai-MicroCloud™ acts as bridge between the video analytics platform and enterprise applications, such as:



Intrusion Detection: Perimeter protection, boundary monitoring, restricted zone monitoring

Suspicious Activity: Loitering, fighting, vandalism

Traffic & Parking Management: Illegal parking, one-way violation, speeding, no helmet, traffic congestion, vehicle counting

Smoke & Fire Detection: Early warning of smoke and fire in open areas and indoors

Crowd Counting: Crowd counting and flow analysis

Vehicle Identification: License plate detection and recognition

Non-Invasive Body Temperature Monitoring: Passive thermal imaging for temperature monitoring

Dwell Time: Amount of time customer spends in specific areas

Social Distancing and Usage of PPP: Workplace safety & hygiene compliance, managing occupancy, identifying protocol violators

Qosmos – Quantum Entropy-as-a-Service

Zeblok leverages QNu's Qosmos device, which uses a laser and an apparatus that incorporates single photon detection (SPD) technology to generate truly random numbers, wherein the randomness is guaranteed by the laws of quantum mechanics, delivered via container and easily incorporated into enterprise encryption key creation processes or an AI/ML model requiring random number generation.

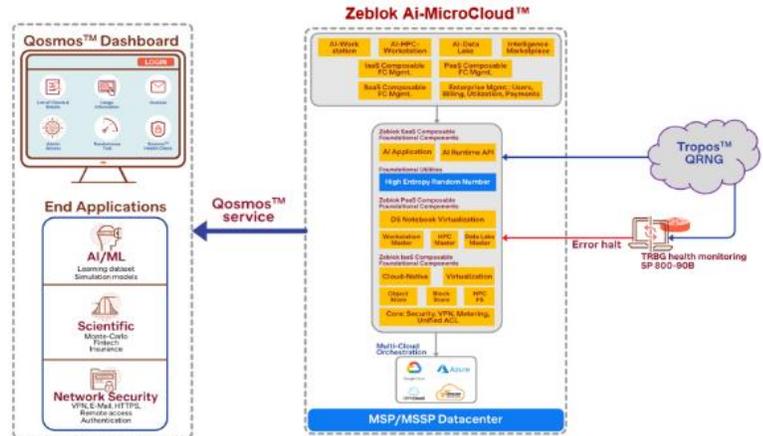
The foundational utilities of Zeblok's Ai-MicroCloud™ accesses random numbers from Qosmos™ and provides these to client applications. Zeblok's AI runtime environment provides APIs that can be easily integrated into various applications. The Qosmos™ server accesses the random number stream, which is signed, encrypted, timestamped and sent to the client application as a container. Cloud native architecture is scalable and can include multiple servers.

A dashboard helps manage clients, track the usage of client — thereby giving all kinds of usage statistics. The Dashboard also continuously monitors randomness of the numbers and health of the system.

Applications

The applications are transparent to random numbers required for security purposes. Any application that uses TLS will automatically get the random numbers via Qosmos™, through the TLS library. This way, no application needs to be changed to use random numbers.

- Web Browser Security
- Encrypted E-mail
- Secure Video Conferencing
- Firewall Security
- Data Backup & Recovery Security
- Remote Monitoring and Management Solution Security



NIST

SP 800-90B Compliant Architecture

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