Ai-MicroCloud™ for Retail

Sales Forecasting, Demand Planning, Marketing & Advertising,

New Product Introduction Forecasting, Supply Chain Optimization

The retail and consumer packaged goods (CPG) industry is characterized by relatively low margins, high seasonality, demand variability, inventory risk, and influence of consumer sentiment. These characteristics amplify the importance of predictive analytics for key activities such as sales forecasting, demand planning, supply chain management, and inventory optimization. The bottom line is ensuring the right product is available at the right price at the right time, thus meeting customers' needs.

Zeblok's Ai-MicroCloud™

Zeblok's Ai-MicroCloud™ is the most straightforward way to efficiently pipeline data, including the critical data comprehension step, and then quickly & affordably to develop, train and deploy pragmatic AI into mission-critical enterprise processes. Data scientists can start an AI/ML model in minutes, leverage open-source frameworks, a growing library of curated algorithms and accelerated data handling technology, scale seamlessly to high-performance computing (HPC) and deploy completed APIs in production.

Zeblok's Ai-MicroCloud™ provides a uniquely comprehensive AI/ML development environment:

- Portability – Deployed to data centers, public clouds and Edge locations
- Instant Usability – Start in minutes via a simple UI, with familiar frameworks
- Seamless Scalability – One click to scale to HPC
- The Right Third Party Algorithms – Proven, curated, easy to consume and share

> AI has the potential to create $2.2 trillion worth of value in retail and wholesale by 2035 by boosting growth and profitability.
>
> Accenture Report

Build Domain-Specific Retail Applications

Ai-MicroCloud™ enables you to develop, deploy and manage bespoke real-time domain-specific AI applications in demand forecasting, logistics, floorplan optimization and in-store promotion placement, loss prevention, automated checkout and other intelligent stores components, e-commerce, and online personalized recommenders.

Ai-MicroCloud™ enables integrating multiple independent data streams and the application of multiple algorithms, as appropriate, to create a single suite of retail analytics.

Ai-MicroCloud™ is a turnkey platform built on cloud native architecture for developers, data scientists, and researchers to create real-time, secure and scalable solutions. A simple user interface provides Jupyter notebooks, with access to all familiar open-source frameworks and popular data science language bindings such as R, Scala and Python.

Use Cases

Tangent Works

Time Series Data Analytics

- **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 management, prevention or early detection of potential issues, price setting, and marketing.

- **Demand Planning:** Future demand forecasting is similarly crucial for retailers. For example, without a qualitative forecast, setting available stock levels can be particularly challenging. Retail forecast accuracy is negatively affected by rapidly changing market conditions and forecast errors can reach 30% or more. Demand planning is a challenging use case, but one with a large potential return.

- **Marketing & Advertising:** 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 sales.

- **Supply Chain Optimization:** Use real time tactical and strategic changes to identify gaps and discover market opportunities. Provides an additional layer of intelligence by collecting and combining data from new information sources like IoT, GPS and electronic logging devices to adjust supply chain components, stock levels, shipments and order tracking.

intel PARTNER ALLIANCE

Retail Video Analytics

Store Aisle Monitoring: Captures video, generating a heat map, recording the number of patrons, then integrates the results – Drawing a box around each detected person

Store Traffic Monitoring: Monitors the activity of people inside and outside a defined storefront footprint and keeps track of product inventory

Shopper Gaze Monitoring: Analyzes facial expressions and reactions to product advertising positioned on retail shelves

Restricted Zone Notification: Detects number of people entering into a restricted zone and sends a warning message

Platform Features Overview

AI Platform-as-a-Service delivered as Ai-MicroCloud™, including **Turnkey HPC Orchestration** and an **Intelligence Marketplace** for curated algorithms

- **Ai-WorkStation:** Customized and virtualized Jupyter notebook, with access to all familiar open-source frameworks, accelerated data lake and AI algorithms via a simple web interface

- **Ai-HPC-WorkStation:** Turnkey workload distribution to hundreds of GPUs for AI/ML model development, training and simulations

- **Accelerated Data Lake:** Enables a 10-15x reduction in search time

- **Intelligence Marketplace:** Growing library of carefully curated original AI algorithms, including exclusively in-licensed patent-pending software

  Easy to read, easy to use and easy to share

  Fast-track adoption of the best AI algorithms from academia and AI startups

- **Cloud Native:** Scalable architecture running in modern, dynamic environments using containers and declarative APIs

- **Ai-Rover™:** Analytics and data visualization notebook – domain-agnostic data discovery tool for large, multi-variate, high dimensional data analysis, using patent-pending explainable AI algorithm, exclusive to Zeblok

  Provides crucial data comprehension step as starting point for AI model development – patterns, correlations and causation

- **Ai-Rover™ for Time Series Data:** Automated predictive model-building that creates human-readable explainable forecasts and anomaly detection models from historical time-series data.

- **Runtime Environment:** Finished model pipeline easily promoted to a runtime API, including inferences running at the Edge

- **Multi-Cloud from Core to Edge:** Deploy Ai-MicroCloud™ anywhere, including enterprise data centers, public clouds and Edge locations

Partner Programs

- **Frontier:** CSPs and MSPs upsell Ai-MicroCloud™ to remain competitive; Specialized hardware manufacturers use Zeblok's orchestration to enable AI workloads on their hardware

- **Ingenuity:** Algorithm originators are able to develop their software more easily on our Ai-MicroCloud™ and we facilitate commercialization by including their algorithms in our Intelligence Marketplace

- **Insight:** Data providers benefit from our accelerated search capabilities

- **Build Intelligence Services:** Broad network of AI solutions firms help integrate AI into enterprises' mission-critical process

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