

NVIDIA and Deep North Solution Stack

Industry

- > Retail

Platform Features

- > A modular, future-proof, scalable platform for shopper analytics
- > A proven edge-to-cloud solution tested with multiple applications on predefined server configurations
- > Fully tested and optimized on NVIDIA T4 Tensor Core GPUs, Deep North can be deployed and managed with one touch using NVIDIA EGX™
- > California Consumers Protection Act (CCPA) compliant

Products Used

- > Deep North Platform
- > NVIDIA T4 GPUs
- > NVIDIA® Jetson Nano™
- > NVIDIA Jetson AGX Xavier™
- > NVIDIA Jetson Xavier™ NX
- > Dell, Supermicro, or Connect Tech Systems
- > Any Internet Protocol (IP) camera

IMPROVE IN-STORE EXPERIENCES WITH AI INSIGHTS

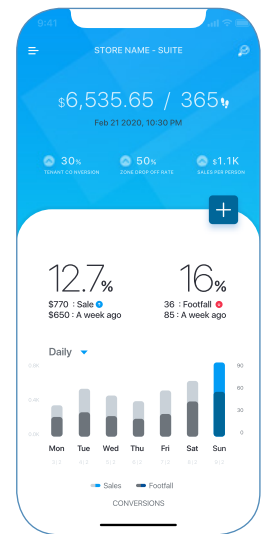
“Retailers and malls use Deep North’s AI platform to digitize their stores, analyze shopper behavior, and transform their operations.”

In-Store Data is an Untapped Resource

Retailers are not utilizing one of their greatest assets - the data and insights that can be generated from their physical store environments.

Deep North’s end-to-end software solution combines AI with computer vision to help retailers and businesses analyze customer behavior in the physical world and act upon those insights.

With the right data and tools, shopping malls, brick-and-mortar retail stores, and transportation hubs can reclaim shopper traffic from the online world with better customer experiences. Deep North has created an AI-based analytics platform that uses deep learning algorithms to conduct visual analytics, giving retailers the ability to assess, interpret, and predict consumer behavior in their commercial, physical spaces. The technology also preserves the anonymity of individual shoppers, ensuring the highest standards of privacy are maintained.



COVID-19 Solutions for Retail



Learn More: www.deepnorth.com/covid.html

NVIDIA and Deep North Deliver Real-Time, Actionable Store and Property Insights

Employee-Driven Sales Conversion

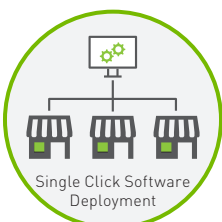
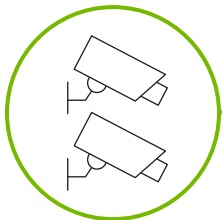
A leading retailer increased their sales by over 10 percent by adding more in-store associates to key departments. This generated a 10X return on investment (ROI) by providing a clearer picture of sales conversions per department.

Innovative retailers are working with NVIDIA to deploy solutions like Deep North, which leverages existing security video streams to gain actionable insights into customer behavior. Key features of Deep North include:

- > **Occupancy Management:** Know how many people are on a property, in a store, or at an event. Understand how customers move within the physical environment to staff appropriately and ensure a rewarding customer experience.
- > **Gesture Analysis:** Understand customers' purchase intention and product interest with dwell and interaction analysis.
- > **Zone Management:** Visualize important areas within shopping malls, retail stores, groceries, buildings, and events with hot-spot detection, path flows, and display effectiveness. Zone analytics helps store associates attend to customers faster and ensures products are available where they're in demand.
- > **Vehicle Analytics:** Access data on vehicles, including type, color, make, and model. Combined with footfall, this provides a 360-degree perspective on what's happening at a given property.
- > **Data Analytics and Reporting:** In an easy-to-use dashboard, get precise information on an hourly, daily, weekly, and monthly basis, with a range of reports such as trend and correlation analysis and executive-level reporting.

Deep North's applications are optimized on NVIDIA inference GPUs using the NVIDIA Metropolis application framework. As a result, they see orders-of-magnitude improvement in performance and cost, delivering a 10X return on total cost of ownership.

NVIDIA Metropolis makes intelligent video analytics (IVA) easy to deploy, manage, and scale. By enabling multiple IVA applications to co-reside on a single server in a containerized manner, retailers can get the most performance-per-square-foot as possible.



NVIDIA EGX Brings Real-Time AI to the Edge

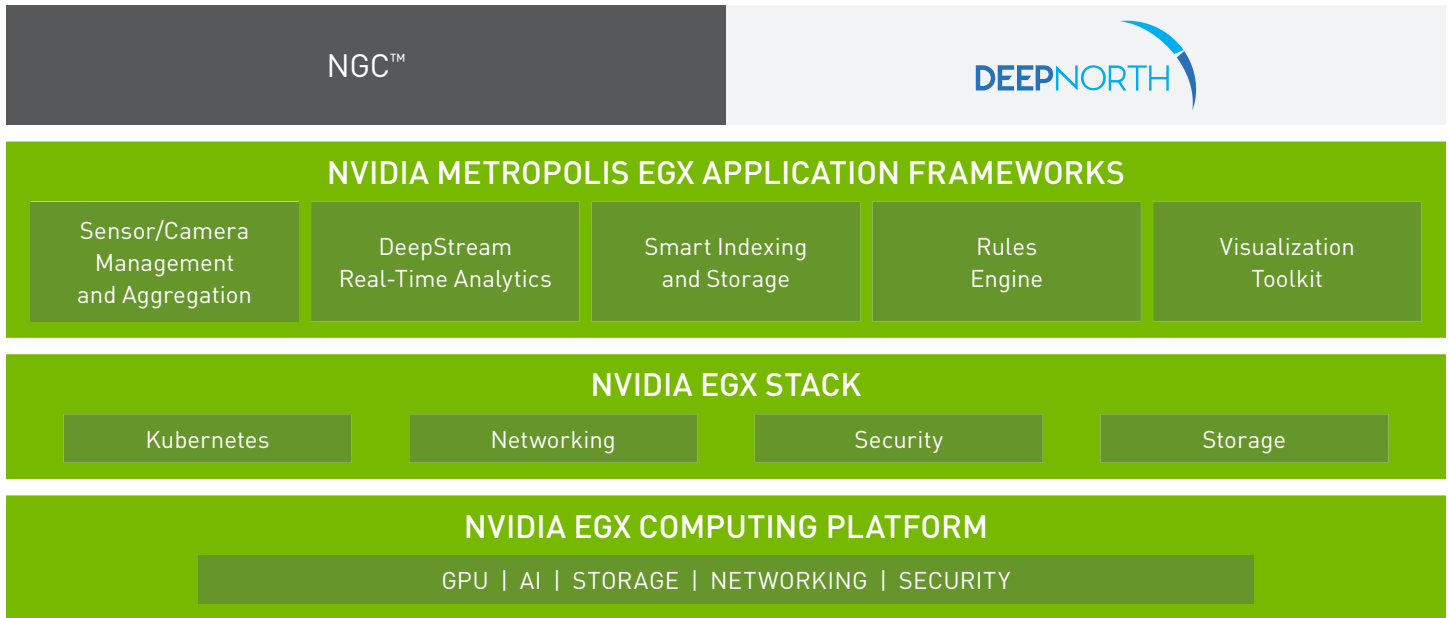
Deep North is easily deployed and managed with the NVIDIA EGX edge computing platform, which brings the power of accelerated AI to retail stores. With EGX, AI computations are performed entirely in the store, delivering real-time notifications to store associates on shrinkage and providing insights into customer demographics, shopping preferences, and more.

NVIDIA EGX enables device orchestration and software provisioning to thousands of distributed servers with a single click. This means that any updates to Deep North algorithms can be deployed easily and securely in all store-installed servers.

Because NVIDIA EGX is an easy-to-deploy, cloud-native software stack that runs on a range of validated servers and devices, customers can deploy critical applications like Deep North at the edge with confidence that the underlying infrastructure will be supported.

NVIDIA Retail Reference Architecture

NVIDIA has partnered with Deep North to maximize the compute performance of IVA applications at the edge. The Metropolis application framework and EGX platform provide confidence to retailers that Deep North's software solution is fully integrated and compliant with the NVIDIA EGX ecosystem.



Learn How NVIDIA and Deep North Can Help You Increase Store Visibility and Drive ROI

Reach out to your NVIDIA or Deep North representative to find out how you can get started today.

About Deep North www.deepnorth.com

Deep North is Analytics and AI for the physical world. Its end-to-end software solution combines artificial intelligence with computer vision to help retailers and businesses digitize and analyze behavioral metrics in the physical world, and gives them tools to act upon these insights. Deep North lets shopping malls, brick-and-mortar retail stores and transportation hubs reclaim consumer traffic from the digital world to create better customer experiences. They give retailers the ability to assess, interpret and predict consumer behavior in their commercial, physical space.

LEARN MORE

To learn more about NVIDIA's retail solutions, see: www.nvidia.com/retail

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