



GRAYMATICS

Asset Protection and Store Analytics for Retail

Graymatics' Vistamart Uses Computer Vision and AI-powered Analytics to Reduce Inventory Loss and Improve In-store Shopping Experiences.



“Since implementing AI video analytics, we’ve reduced inventory loss and secured our site completely. Graymatics helps us reduce losses by putting a stop to situations as they unfold with smart alerts to our security team.”

Supermarket manager

Conventional security and shrinkage management solutions depend on round-the-clock monitoring of camera feeds by trained professionals. But this isn't scalable or foolproof. Nor does it let retail stores extract value from the vast amount of data that their Internet Protocol (IP) camera systems capture.

Today, advances in camera capabilities coupled with AI image recognition technologies make it possible to automatically detect store traffic, item stockouts, customer attributes, shopping behavior, and more.

By leveraging AI-powered video analytics, retailers can gain store insights, uncover opportunities to grow profits, and improve the customer experience while decreasing shrinkage.

Graymatics' VistaMart is used across retail sectors, including shopping centers, supermarkets, pharmacies, and restaurants, along with convenience stores, gas stations, and even airport duty free shops.

Graymatics, an **NVIDIA Metropolis** partner, is a leading cognitive multimedia processing company that leverages AI to extract deep insights and enable compelling solutions around an installed IP cameras base.

Challenges

- > Lack of data to inform store operational decisions
- > Losses from product expiration and theft
- > Shopper frustration with long wait times

Benefits

- > Highly scalable and personalized to serve each store
- > Rich business insight extraction
- > Cost savings with greater operational efficiency and loss prevention



GPU-Accelerated Video Analytics

VistaMart is a GPU-accelerated, AI-enabled video analytics solution for smarter, more profitable, and effective retail operations. Built with the NVIDIA AI Enterprise software suite, VistaMart monitors store inventory, customer foot traffic, and more with a collection of core features.

Loss and Theft Detection

VistaMart reduces shrinkage with automatic triggers before products expire and shoplifting-detection alerts that enable staff to take preventative action.

Planogram Management

This feature helps managers improve product placement and inventory operations by analyzing product availability, brand popularity, and shelf displays.

Staff Flow

VistaMart uses heatmaps to detect customer and staff placement in stores to boost engagement with customers, control queues, and reduce customer wait times.

Predictive Analytics

By monitoring store traffic, conversion rates, dwell time, and other operational data points, the machine learning program can make predictions that help managers drive business.

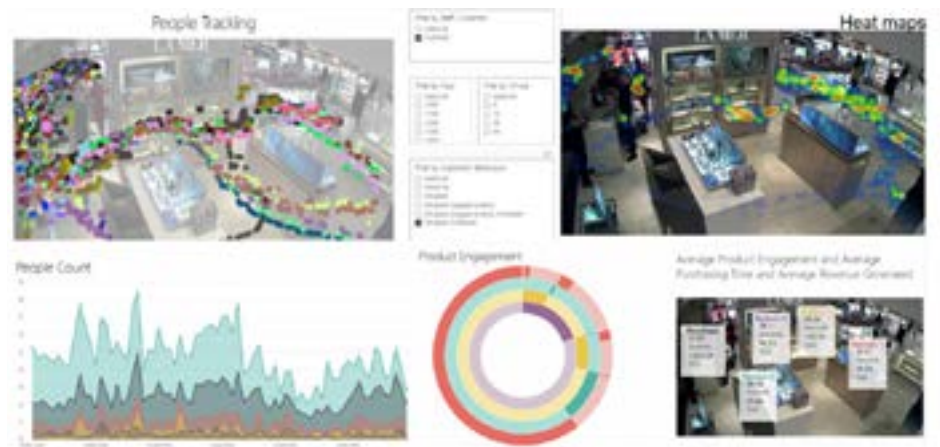


Figure 1. VistaMart's retail analytics dashboard provides store managers with real-time insights to improve operations.

Customization

VistaMart features can be customized as needed. For example, to help reduce wait times in a fast food chain, Graymatics designed a specific function that monitors tables with trays to alert staff when customers have been served and flag when tables need to be cleared.

Results

- > 18 percent reduction in shoplifting
- > 22 percent reduction in inventory loss
- > 28 percent reduction in customer wait times
- > 22 percent improvement in inventory availability

Certified on NVIDIA Hardware

- > NVIDIA A30 Tensor Core GPU
- > NVIDIA A2 Tensor Core GPU
- > NVIDIA® Jetson Xavier™

NVIDIA Software

- > NVIDIA AI Enterprise
- > NVIDIA Triton™ Inference
- > NVIDIA TensorRT™

More Efficient Retail, Happier Customers

With VistaMart analytics, Graymatics is committed to helping retailers improve operational efficiency and the customer experience.

Reduction in Shoplifting: 18 Percent

VistaMart's AI recognizes suspicious behavior and missing items in real time, triggering alerts for staff to take immediate action to prevent losses. The solution also helps businesses avoid losses by proactively identifying products due to expire. These loss and theft detection features help VistaMart customers reduce shoplifting by up to 18 percent and inventory loss by up to 22 percent.

Decrease in Queue Times: 28 Percent

With store-traffic and staff-flow monitoring, managers gain visibility into the most and least trafficked areas of the store. Using tracking analytics, VistaMart automatically alerts staff to attend areas where shoppers need assistance. By leveraging these features, one VistaMart client reported a 28 percent decrease in queue times.

Improvement in Inventory Availability: 22 Percent

VistaMart's planogram management and predictive analytics help store managers better understand shopper habits, preferences, and inventory turnover. With this data, VistaMart users can optimize inventory management and product placement. After implementing VistaMart's planogram management feature, one client improved inventory availability by 22 percent.



“VistaMart has given us access to information we previously had no opportunity to gather. Heatmaps now allow us to plan our product stands and placement according to proven shopper habits and traffic flows. This has helped us create a smoother experience for our customers.”

Manager, department store

Superior Business Results Powered By NVIDIA

Graymatics' VistaMart software uses the NVIDIA AI Enterprise platform to analyze IP camera streams and return valuable business insights. VistaMart runs on NVIDIA A2 and A30 Tensor Core GPUs, as well as NVIDIA Jetson Xavier for smaller retail chains with fewer than 10 cameras. The NVIDIA AI Enterprise platform plus GPUs accelerate VistaMart's computer vision workloads and offer the highest possible performance for AI-powered retail analytics.

VistaMart utilizes NVIDIA TensorRT, integrated with PyTorch and TensorFlow, a powerful, open-source machine learning library that provides a comprehensive environment for building computer vision models. NVIDIA CUDA® accelerates TensorFlow model inference in edge environments like VistaMart by enabling the massive computing elements of NVIDIA GPUs.

Thanks to a cloud architecture that supports fast memory bandwidth and low power consumption for an elastic data center, VistaMart is highly scalable across store locations.

With Graymatics' advanced retail analytics software running on the NVIDIA AI Enterprise accelerated computing platform, VistaMart is bringing superior business results to store owners and more seamless shopping experiences to consumers.

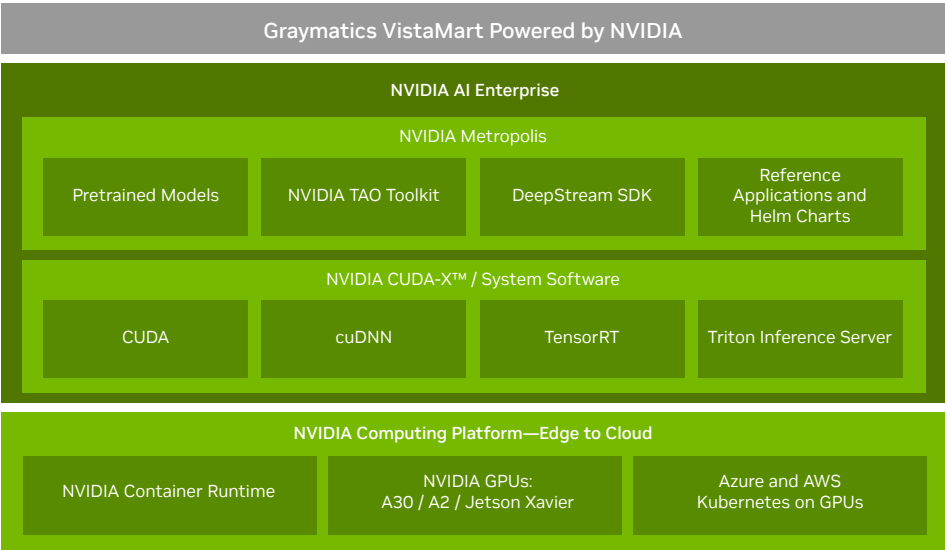


Figure 2. Graymatics' AI-accelerated retail monitoring solution is comprised of the VistaMart product suite running on NVIDIA hardware and software.

Ready to Get Started?

To learn more about NVIDIA solutions for smarter retail, visit:
nvidia.com/retail

