STOCKVIEW

Increase on-shelf availability and improve customer experience with AI-powered detection at the Edge

StockView uses computer vision technology running at the edge, to automatically detect gaps on store shelves. It also provides retailers with powerful insights and analytics into stock-out activities at both single-store and multi-store levels.

Powered by Microsoft Azure Stack Edge, it offers a scalable, flexible and cost-effective solution that brings the power of the Azure cloud platform down to the individual store, eliminating the need for costly and unreliable data transfers while offering a predictable and consistent TCO.

REDUCE LOST SALES

Product stock-outs lead to lost sales and have a negative impact on customer satisfaction and loyalty, yet store employees often lack visibility into stock-out occurrences. StockView's computer vision AI provides an "always on" monitoring of store shelves to provide instant notifications to employees, letting them know when and where stock-outs are occurring.

POWERFUL ANALYTICS

Retailers are typically challenged to adapt inventory levels to dynamic and localized market demands while lacking the ability to aggregate data across multiple stores to identify patterns and opportunities for process improvements.
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StockView enables retailers to analyze store-level stock-out activities while also providing a variety of analytics capabilities to better understand stock-out patterns across multiple stores.

COST-EFFECTIVE SCALABILITY

The distributed nature of retail requires a more agile, reliable and cost-effective manner to enable AI at-scale.

StockView leverages Intelligent Edge hardware and AI capabilities to provide inferencing power where it's needed – in the store. Bandwidth and data transfer concerns are eliminated while costs are predictable and consistent, regardless of the scale to which StockView is deployed.
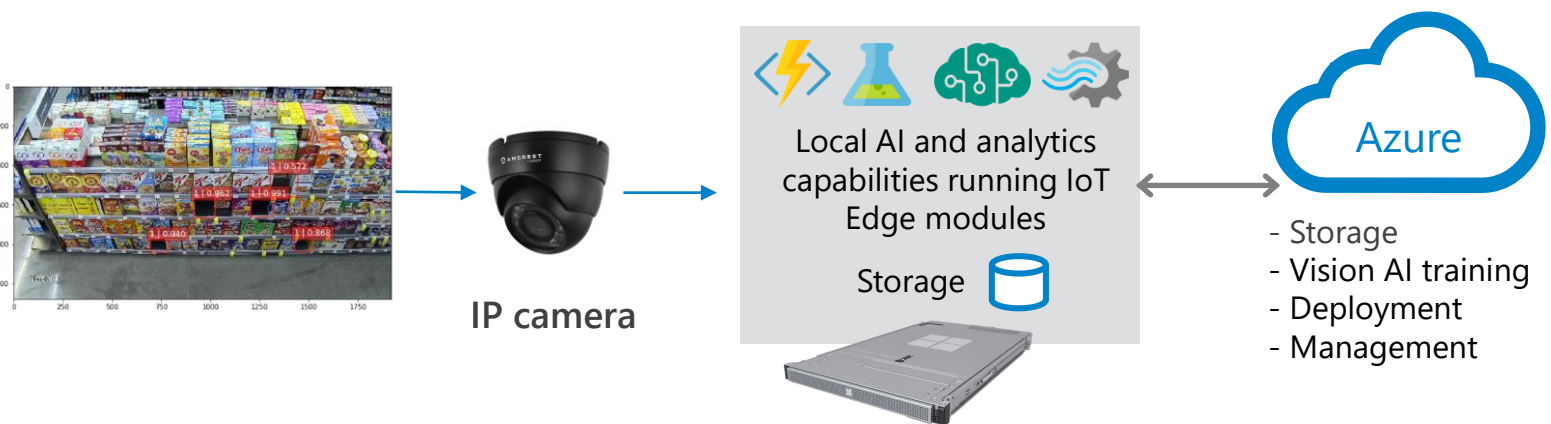
NEAL ANALYTICS

How does StockView work?

As depicted in the diagram below, StockView runs a customized vision AI model on an Azure Stack Edge device. The model is trained by Neal Analytics experts, starting from a baseline shelf gap detection model Neal developed. This baseline model is then augmented with labelled data unique to each retail location..

Once the model is trained, its service container is deployed from the Azure cloud onto the Azure Stack Edge devices located in each retail location. The devices and their service containers are then monitored, managed, and updated transparently from the standard Azure administration tools as if they were running in an Azure datacenter.

Once deployed locally, StockView AI models process in near real-time the high-definition video streams pointing at the shelves and coming from one or multiple cameras. It then automatically detects empty sections of the shelves. A sample app is provided to showcase where StockView detected the gaps.

IP camera

Local AI and analytics capabilities running IoT Edge modules

Storage

Azure

- Storage
- Vision AI training
- Deployment
- Management

In each aisle of store

In each location

In Azure datacenters

Activating StockView insights

Depending on the selected use case multiple insights activation are possible through Microsoft Power Platform. These activations can be real-time (e.g. to immediately notify the user of missing items) or done over time (e.g. to build predictive models based on historical data).

Because this detection happens locally, the applications and workflows will continue to function even in the event of lost or poor internet connectivity

What is Azure Stack Edge?

Azure Stack Edge brings the capabilities of the Azure cloud platform to an Intel-powered local and ruggedized server that can be deployed anywhere local AI and other advanced computing tasks are required. It can be used from real time processing of videos through vision AI models to running any type of advanced analytics.

It is an ideal solution for situation when it is not technically or economically viable to run AI models on the cloud at scale.