



NEXER

IMPROVING INDUSTRIAL SAFETY WITH COMPUTER VISION

Challenge

Factory and warehouse environments present significant risks to those who work in them, given the frequent interactions between people, machinery, and fixtures such as elevated shelving. To regulate these risks, best practices, including segregated walkways, speed limits, blind spot removals, and prohibiting unsafe loading and unloading, are imposed. However, even with the best training and intentions, human error and unexpected events can compound, eroding safety margins and leading to accidents.

To ensure safe and efficient operations across their factories and warehouses, the client wanted to apply the lessons learned from past incidents within an open technology platform by deploying a series of safety applications while respecting data privacy and security concerns.

Solution

Nexer Insight developed an intelligent factory surveillance system using Machine Learning-powered Computer Vision to automate the monitoring and protection of factory operations. This identified vehicles and people moving within forbidden or shared zones, identifying and alerting those at risk of collision.

By collecting examples of safe and unsafe behaviour and then running iterative ML model training, the solution could spot a broad array of potential safety violations and case-specific rule breaches and then generate automatic alerts to the company's safety system.

Result

To deliver, the client required a partner with deep Azure ML/Computer Vision expertise that could design and build a scalable implementation in a high-security environment. Nexer Insight was recommended as a partner by Microsoft based on its proven capability to implement large-scale Azure Computer Vision solutions for global leaders within the mining, shipping, and manufacturing industries, plus world-leading IoT and Edge Computing skills.

Nexer Insight deployed a team to work closely with the client's health and safety, IT, and security teams to deliver the solution to the client's Azure tenant and edge computing appliances, avoiding any movement of highly confidential data outside corporate data security.

The solution was piloted in one of the client's factories and deployed globally across other sites.

Benefit

With the power of Computer Vision and Machine Learning, together with employees' know-how, the client will significantly improve the safety of their factories and warehouses. Thanks to the solution's data collection and analytics capabilities, the company can target its safety awareness initiatives more effectively, using data-driven insights from actual operations. It's a significant step forward for AI-powered safety in the industrial workplace. More capabilities include:

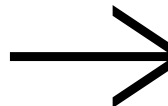
- Detection of potential safety violations with higher accuracy
- The potential to reduce the number of unsafe events within days
- Improve productivity by reducing the risk of injuries that force employees to take time off from work



We knew we would solve the challenge, but seeing the results from the edge software and algorithms we delivered on Azure Stack Edge is fantastic. Using the existing CCTV camera networks to have one camera to track and calculate the direction and velocity of identified objects and the distance between the objects is just a fantastic accomplishment!

– Mattias Zaunders, Business Manager, Nexer Insight

WANT TO KNOW MORE?



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