

Intel® Vision Products Use High Performance Deep Learning Inference to Optimize Vision Surveillance Capabilities

Intel's robust portfolio of vision products helps AnyVision* enhance AI capabilities at the edge, while reducing cloud processing and hosting costs

There is a growing demand on businesses to compute vast streams of visual data and obtain actionable insights in real-time

Across vertical sectors, organizations are looking to deploy cutting-edge smart vision solutions to **process daunting amounts of vision data on-premise and run vision analytics, using existing cameras and infrastructure, to gather actionable insights.** By doing so, organizations hope to address challenges in security, safety, and customer experience.

In the retail vertical, businesses can utilize in-store surveillance to prevent loss, and leverage vision-based insights to **provide the "real-world" experience that shoppers now expect outside of physical stores.** Users in other verticals, such as transportation and smart city, face challenges around **preserving the safety of transit commuters, while also trying to limit budgetary impacts.** To address these unique challenges, organizations require a vision solution that:

- **Enables responsive, real-time visual analytics** by driving compute at the edge
- **Enhances edge AI capabilities and on-premise monitoring** without requiring expensive hardware and infrastructure replacement
- **Complies with General Data Protection Regulation (GDPR) requirements,** while integrating and scaling with enterprise systems

Only Intel can deliver the most comprehensive array of intelligent vision capabilities to the wider market

The Intel® Vision Products portfolio is comprised of silicon, software tools, deep learning frameworks, and libraries that are uniquely positioned for the next generation of AI. Intel Vision Products are helping put your data to work, from the edge to the cloud, so you can act in real time, make decisions faster, and implement new operational strategies to drive immediate results.

At the hardware level, Intel boasts the most comprehensive selection of acceleration silicon in the industry. **Intel® CPUs, CPUs with integrated graphics, and Intel® Vision Accelerator Design Products based on Intel® Movidius™ VPUs and Intel® FPGAs** help deliver highly accurate vision analytics performance and compute efficiency.

Intel also offers an array of software tools, including the **Intel® Distribution of Open Visual Inference and Neural Network Optimization (OpenVINO™) toolkit,** for accelerating the development and integration of intelligent vision solutions and capabilities at scale. This end-to-end suite helps integrate vision capabilities across your entire end-to-end infrastructure.

AnyVision's state-of-the-art vision solutions are shaping the future of edge AI to create a smarter, safer, and better tomorrow



AnyVision is a world leader in the design and development of AI and computer vision technology. Founded on the principle of solving real-world problems, AnyVision uses their 20+ years of academic research and field experience to create software technology with continuous learning, customizable features, and the ability to run on multiple platforms.

It's no wonder AnyVision is responsible for empowering 100,000+ cameras since their launch, with a 0.1% false alarm rate.⁴

The Intel® Distribution of OpenVINO™ toolkit enables advanced vision capabilities and eases budgetary strains for AnyVision customers

Using the Intel® Distribution of OpenVINO™ toolkit, AnyVision can enhance the performance of AI capabilities at the edge. Without the need for infrastructure replacement or hardware overhaul, AnyVision customers can now leverage computer vision and deep learning capabilities on their existing cameras and edge devices. And by bringing deep learning to a variety of hardware platforms, AnyVision is increasing the accuracy and value of their insights.

Additionally, the Intel® Distribution of OpenVINO™ toolkit will help AnyVision reduce the cost of cloud processing and hosting for customers. This is because the toolkit improves the speed and scalability of processes that happen at the edge.

Thanks to the Intel® Distribution of OpenVINO™ toolkit, AnyVision can deliver vision solutions to customers that are built to operate in real-time and under a multitude of even the most unique conditions, including different camera angles or lighting conditions.

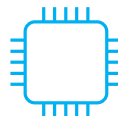
\$17B+
Computer vision overall market by 2023¹

79%
Retailers will invest in vision analytics by 2021²

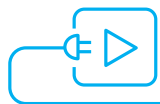
\$68.34B
Video Surveillance Market by 2023³



Agnostic to Camera



Runs On Existing Chip



Plug & Play Solutions



GDPR Compatible



Quick & Accurate



The Intel® Distribution of OpenVINO™ toolkit is the centerpiece of computer vision solutions

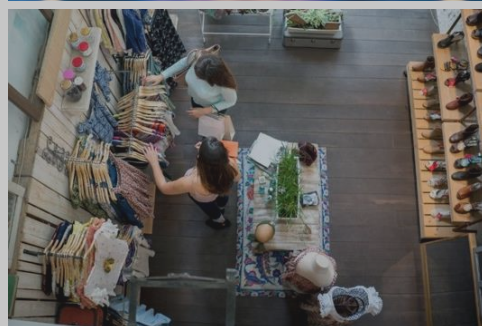
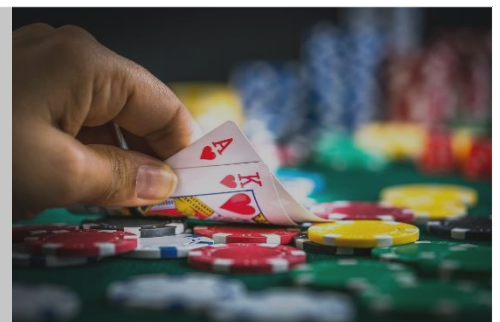
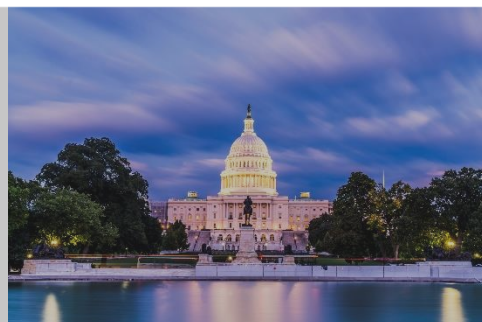
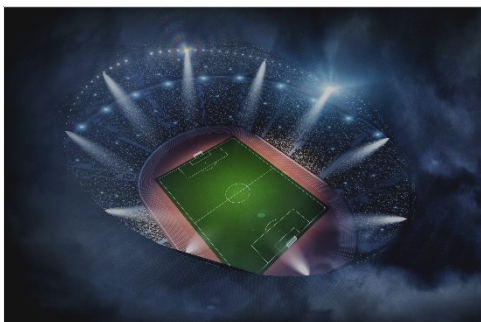
The Intel® Distribution of OpenVINO™ toolkit is a free, downloadable toolkit within the Intel® Vision Products portfolio that fast-tracks the development of high-performance computer vision and deep learning inference into vision applications. Optimized for multiple Intel® Architectures, the toolkit works with CPUs, CPUs with integrated graphics, Intel® FPGAs, and Intel® Movidius™ VPUs.

By leveraging the toolkit, users can accelerate computer vision performance, shorten vision solution development, and streamline deep learning inference and deployment.

The Intel® Distribution of OpenVINO™ toolkit is helping AnyVision fast-track development of high-performance computer vision and deep learning applications across several focus areas

AnyVision's edge mini-box appliance (i.e. Nuc) is intended to replace server-based hardware by quickly running and analyzing several, extensive streams of data simultaneously at the edge in real-time. By doing so, the mini-box appliance reduces the cost of hardware for the customer, while also providing an alternative option to processing in the cloud or on heavy on-premise servers. **The Intel® Distribution of OpenVINO™ toolkit** enabled AnyVision to significantly improve the inference runtime and increase vision data processing and performance at the edge. Customers can now run AnyVision's algorithms and neural networks on a light, cost-effective edge appliance without latency.

By connecting existing surveillance cameras to the edge mini-box appliance, customers can quickly process vision data and identify potential security risks through object identification and facial recognition capabilities. This is especially useful for safety and security applications across event spaces, government premises, casinos, transportation hubs and vehicles, retail stores, and smart cities.



While the edge mini-box appliance supports a range of use cases across several industries, retail is its primary focus. The mini-box appliance supplies retailers with information collected from in-store heat maps, gaze estimation, customer demography, VIP recognition, people counting, and employee monitoring. Retailers can use information generated from the mini-box edge appliance to analyze customer movement in-store, capturing customer preferences and developing a targeted approach to increase sales. They can also leverage in-store monitoring and facial recognition data to alert personnel to risks of theft, therefore preventing loss. The added functionality at the edge enables retailers to analyze and react to this store-generated data in almost real-time.

This plug-and-play solution is perfect for small and medium-sized businesses because it provides existing cameras and infrastructure the ability to recognize faces, persons, and objects with processing at the edge. Not only does this enable businesses to quickly derive insights and make informed decisions, but it also saves businesses from excess computing and maintenance expenses as it removes the need for heavy servers or cloud computing power.

Intel® Vision Products and the Intel® Distribution of OpenVINO™ toolkit can improve the speed, scalability, and performance of vision processing at the edge for solutions from providers like AnyVision. As a result, **end-users can improve vision analytics and uncover more valuable insights.**

For more information on the relevant Intel and AnyVision products and solutions, visit:

- [Intel® Smart Video Solutions for IoT Website](#)
- [AnyVision Homepage](#)

To learn about the Intel® Distribution of OpenVINO™ toolkit, visit:

- [Intel® Distribution of OpenVINO™ Toolkit Homepage](#) (an [open source](#) version is also available)
- [Intel® Distribution of OpenVINO™ Toolkit Customer Testimonials](#)



1. Marketsandmarkets, [Computer Vision Market](#), March 2017
2. Zebra, [Reinventing Retail Study](#), 2017
3. MarketsandMarkets, [Video Surveillance Market](#), May 2018
4. [AnyVision website](#)

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