

Computer Vision Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The computer vision market is expected to grow at a CAGR of 7.1% over the forecast period. With the help of digital cameras or videos and applying deep machine learning algorithms, computer vision accurately identifies any defect in the system, thus, making it one of the critical components in predictive maintenance.

Key Highlights

AI in computer vision technology is becoming increasingly popular in various use cases, including computer vision solutions in consumer drones and autonomous & semi-autonomous cars. Due to recent advancements in image sensors, sophisticated cameras, and deep learning techniques, the application of computer vision systems has increased in many sectors, including education, healthcare, robotics, consumer electronics, retail, manufacturing, and security & surveillance.

Computer vision systems use facial recognition and biometric scanning to increase the protection of valuable assets. Due to computer vision systems' ability to distinguish various patterns in human retinas and irises, smartphone security is the most common application for facial recognition technology.

Additionally, more sophisticated applications of facial recognition include commercial or home security systems that confirm identity using the physiological characteristics of the subject. High-security locations like bank vaults and research labs are also subject to fingerprint analysis for access control.

For instance, in August 2022, TachyHealth, Inc., a Dubai-based developer of artificial intelligence solutions for hospitals and medical facilities, partnered with Medical Refill, a company that offers patients remote medical consultations. The alliance intends to give the clinical team access to technological solutions, including computer vision and artificial intelligence.

Additionally, according to the WHO, 1.25 million individuals pass away each year as a result of traffic accidents. Furthermore, according to the WHO, by 2030, this trend will overtake heart disease as the seventh biggest cause of death. The majority of traffic collisions can be linked to Vulnerable Road Users (VRUs), such as cyclists and pedestrians. Thus, it may be inferred that

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human mistake is to blame for the majority of traffic accidents. Consequently, a new technology that is pushing the market for computer vision is driverless vehicles.

However, the complexity of integrating computer vision systems and the growing security issues surrounding cloud-based image processing are some of the key challenges that are limiting the market's expansion. Additionally, the market's growth is primarily being constrained by the high demand for highly qualified and experienced professionals, as well as worries about the privacy and security of user data.

Computer Vision Market Trends

Manufacturing Sector is Expected to Register a Significant Growth

Robotics and automation are being used most heavily in the manufacturing sector. There is an increasing need for more intelligent systems to monitor industrial processes and outcomes as manufacturing facilities move toward completely automated manufacturing. Machine vision, a branch of computer vision, is further assisting in improving industrial operations as the IoT is transforming the manufacturing sector and making them more autonomous.

Additionally, manufacturers can use computer vision to provide predictive maintenance for remote site inspections of rigs, pipelines, facilities, and fields. With the aid of computer vision, packaging and product quality are closely monitored, and the number of defective products is also decreased.

For instance, cloud computing platform company Amazon Web Services, Inc. recently introduced Amazon Lookout, a vision service for checking products while they are being manufactured. Amazon Lookout aims to make computer vision models more accessible to many manufacturing facilities by removing barriers to building, optimizing computer vision models, training, monitoring, and deploying. It would also support its customers' deployment of computer vision into its operating systems inside of their facilities. Additionally, every product in the production line can have its inspection automated thanks to computer vision and deep learning algorithms. For instance, in January 2022, Drishti Technologies, Inc., an AI-driven video traceability and video analytics provider, will automate the analysis of floor video recordings from production units using computer vision and deep learning. In essence, the company has installed cameras on manufacturing lines to record videos, which are afterwards analysed using action recognition, anomaly detection, and object detection.

Over the projected period, it is anticipated that the predictive maintenance segment will expand. To monitor the data of the machinery and associated components, predictive maintenance blends machine learning algorithms with IoT (Internet of Things) devices. Thus, it is anticipated that the region's market would also be driven by the increased adoption of digital technology and the preference for predictive maintenance that is more relevant to their industry.

Asia-Pacific to Witness the Significant Growth

One of the economies with the fastest growth rates in the world, including China and India, is found in the Asia-Pacific area. China is the global leader in manufacturing items like consumer goods or other electronic goods. Since computer vision has numerous applications in the manufacturing sector, the "Made in China 2025" aim is one of the key factors promoting market growth in the area.

Chinese experts developed an ML-driven system to interpret CT scans and patient clinical data. The researchers made an unexpected finding when they compared the system's performance to that of a Chinese expert. The combined model successfully identified COVID-19 infection in over 70% of patients with CT scans judged to be normal by medical professionals. The survey above also discovered that deep learning and computer vision technologies help recognize complex patterns that are invisible to the human eye.

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Additionally, India's healthcare industry is expanding rapidly due to increased government initiatives. To promote India's emergence as a center of medical tourism, the government has put in place a number of measures. As a result, it increases the potential for substantial capital investments in cutting-edge diagnostic facilities, boosting the uptake and demand for computer vision technologies.

Additionally, by providing a variety of networking architectures, high-performance hardware components have simplified the installation of vision systems and serve a wide range of diverse applications. For instance, in August 2022, the provider of computer vision technology VisualCortex Pty Ltd, joined forces with the supplier of security surveillance for public safety, i-PRO, to make it easier to install enterprise-wide video analytics systems from beginning to finish in the Asia-Pacific area.

Computer Vision Market Competitor Analysis

In the computer vision technology market, the competition among the players is moderately increasing. Recent advancements in technologies such as facial recognition, gesture analysis, and enhanced security are revolutionizing different industries such as manufacturing, healthcare, etc. Therefore, different companies are entering the market. Some key players are Intel Corporation, National Instruments Corporation, Keyence Corporation, Texas Instruments Incorporated, and SAS Institute. Some of the developments are:

In August 2022, Vedanta Limited teamed with Detect Technologies, an organization based on industrial artificial intelligence that creates cutting-edge technology. The alliance aims to roll out T-pulse, Detect Technologies' AI-based office software. The COVID-19 compliance module of the T-pulse software will assist Vedanta Limited in ensuring that its workspaces meet all necessary requirements and uphold the highest sanitization standards. T-computer Pulse's vision technology would also improve the digital safety monitoring system.

In March 2022, the AI computer vision platform Cogniac and the American technology company Cisco Systems Inc. (Cisco Meraki) recently established a cooperation. The cooperation would enable the integration of Cogniac's computer vision capabilities with MV smart cameras from Cisco Systems Inc. and cloud-based platforms. Both organizations would create machine learning models that make use of picture and video data to track the actions without the requirement for new infrastructure or AI expertise.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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