

# AI In Computer Vision Market by Component (Hardware, Software), Function (Training, Inference), Application (Industrial, Non-industrial), End-use Industry (Automotive, Consumer Electronics) and Region - Global Forecast to 2028

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## Abstracts

The global AI in computer vision market is expected to be valued at USD 17.2 billion in 2023 and is projected to reach USD 45.7 billion by 2028 at a CAGR of 21.5% from 2023 to 2028. The advancement in 3D acquisition systems and the computing power of smart devices/laptops have helped solve identification tasks by fitting a deformable 3D model to 2D images. Facial recognition technology uses deep learning models to detect, normalize, validate, match, and identify faces. AI models are trained with millions of facial images, and depending on the use case, they are designed to generate mathematical representations of a human face (embeddings). These embeddings can be stored and referenced by other models to infer identity.

'AI Solution: The largest growing software segment for AI in computer vision market'

Recently, most developments have been witnessed in AI solutions and related software development kits. AI solutions are created using nonprocedural languages such as LISP and PROLOG. These languages allow systems to learn and modify responses according to the environment. Depending on the application, a fast CPU, high-capacity RAM, large storage capacity, a graphics card, and a few specialized input and output devices are required to install AI software. Companies are trying to provide AI solutions to reduce the volume and complexity of data in various verticals. Digitalizing healthcare and combining the power of artificial intelligence can help healthcare providers remain competitive despite the shortage of skilled staff and continuous increase in the volumes of imaging scans. For instance, AI solutions by Siemens Healthineers (Germany) are

helpful in clinical processes. During the scan preparation, AI assists in the form of an intelligent and automated workflow in CT scans to generate reliable and consistent images while reducing unwanted variations.

'Consumer Electronics: Largest end-use industry of AI in computer vision market'

The consumer electronics vertical includes cameras, gaming devices, wearables, and smartphones. The addition of AI capabilities to smartphones will help change two main aspects: user-machine interaction and context-personalized openness. User-machine interaction will improve the efficiency between the users and their phones across text, voice, image, video, and sensors. In contrast, context-personalized openness will actively provide services and aggregated information across apps, content, third-party, and native features. Amazon Web Services (US) has launched an AI-powered camera called DeepLens for developing and deploying machine learning algorithms and services for AI-powered transcription and translation. DeepLens includes applications such as optical character recognition and image and object recognition, which would help test and develop new vision-based AI functionalities efficiently and quickly.

'China: The largest consumer region in Asia Pacific for AI in computer vision'

The deployment of computer vision systems is rapidly increasing because of the growing need for automation in China. Moreover, there is a year-on-year increase in labor costs, so companies are increasingly adopting automation systems to reduce production costs. A rise in manufacturing operations mainly contributes to the country's economic development.

China has invested heavily in computer vision technologies for security and surveillance purposes. The country has implemented several large-scale surveillance systems that rely on computer vision algorithms to monitor and track individuals in public spaces. In January 2022, a new report from the Center for Security and Emerging Technology (CSET) found that the research sector of China is investing heavily in AI-based computer vision technology, especially in the security and surveillance sector. It has a massive lead in three key areas: person re-identification (REID), crowd counting, and spoofing detection.

The study contains insights from various industry experts, ranging from component suppliers to Tier 1 companies and OEMs. The break-up of the primaries is as follows:

By Company Type: Tier 1 – 45%, Tier 2 – 32%, and Tier 3 – 23%

By Designation: C-level Executives – 30%, Directors – 45%, and Others – 25%

By Region: North America – 26%, Europe – 40%, Asia Pacific – 22%, RoW – 12%

The key players operating in the AI in computer vision market are NVIDIA Corporation (US), Intel Corporation (US), Microsoft (US), IBM Corporation (US), Qualcomm Technologies Inc. (US), Advanced Micro Devices, Inc (US), Alphabet, Inc. (US), Amazon (US), Basler AG (Germany), Hailo (US), and Groq, Inc. (US). The other company profiles included in the scope are Sighthound, Inc. (US), Neurala, Inc. (US), Datagen (Israel), Graphcore (UK), Groopic (US), Ultraleap (US), Algolux (US), Athena Security (US), Snorkel AI (US), Vizseek (US), Robotic Vision Technologies (US), AMP Robotics (US), CureMetrix (US), and Creative Virtual (UK).

#### Research Coverage:

The report segments the AI in the computer vision market and forecasts its size, by value, based on component, function, application, end-use industry, and region.

The report also provides a comprehensive review of market drivers, restraints, opportunities, and challenges in the AI in computer vision market. The report also covers qualitative aspects in addition to the quantitative aspects of these markets.

#### Key Benefits of Buying the Report

The report will help the leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall market and the sub-segments. This report will help stakeholders and gain more insights to better position their businesses and plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the AI in computer vision market and provides them with information on key market drivers, restraints, challenges, and opportunities.

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5.9.4.2.2 20–39 MP

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