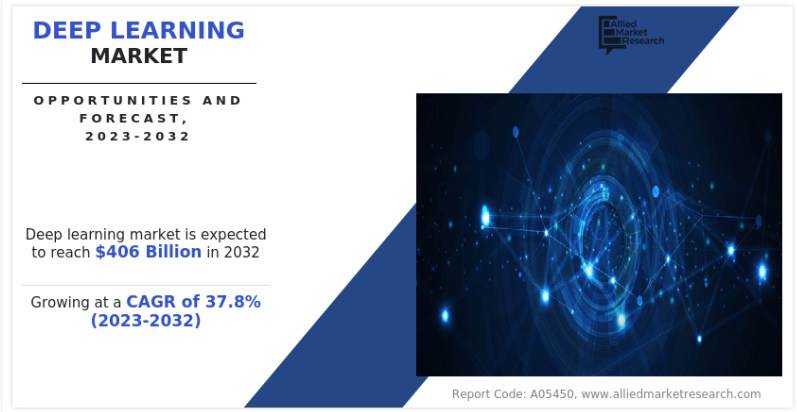
Deep Learning Market Growing with 37.8% CAGR | Reach $ 406 Billion By 2032 Globally

Rising computing power, falling hardware costs, cloud tech, and big data use fuel global deep learning market growth.



Deep Learning Market Growth

WILMINGTON, DE, UNITED STATES, July 11, 2025 /EINPresswire.com/ -- According to the report, the global deep learning market generated $6.85 billion in 2020, and is expected to reach $179.96 billion by 2030, witnessing a CAGR of 39.2% from 2021 to 2030.

Increase in computing power, decline in hardware costs, adoption of cloud-based technology, and usage in big data analytics drive the growth of the global deep learning market. However, surge in complexity in hardware due to complex algorithm, lack of technical expertise, and absence of standards and protocols hinders the market growth. On the other hand, cumulative spending in the healthcare, travel, tourism, and hospitality industries present new opportunities in the coming years.

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Deep learning is a technology that directs computers to process data according to the human perspective. The models of deep learning can analyze complex patterns, texts, sounds, and other data to produce accurate insights and predictions. In addition, it is a subset of machine learning and artificial intelligence, that focuses on modeling and stimulating the behavior of human brain neural networks. In deep learning, large datasets are used to train artificial neural networks to carry out tasks without explicit programming. Furthermore, the technology is used in computer vision, speech recognition, natural language processing (NLP), and others.

Moreover, various trends are associated with deep learning technology such as transfer learning (pre-trained models), generative adversarial networks (GANs), self-supervised learning and others. Using pre-trained models that have been optimized for tasks performed on the base of

huge datasets is called transfer learning.

With a smaller dataset, this strategy enhances performance while accelerating training. In addition, the self-supervised model of deep learning helps in generating own information and codes from existing data without the requirement of large datasets. Furthermore, generative adversarial networks of deep learning technology are used for image generation, data augmentation, and realistic synthetic data creation for training. Therefore, these trends are driving the growth of the deep learning market.

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Covid-19 Scenario

1. During the Covid-19 pandemic, the demand for deep learning witnessed a significant rise for implementation of digital voice assistance by businesses to help their customers. In addition, rise in focus on virtual reality and augmented technologies by various key market players of different countries led to increased adoption of deep learning algorithms.

2. The deep learning market experienced the growth during the pandemic, due to rise in demand for anti-money laundering (AML), fraud detection solutions, and other solutions to prevent frauds related to money.

3. Deep learning methods have been used to track the spread of coronavirus and take preventive measures and implement regulations to tackle the spread.

Based on component, the software segment contributed to the highest share in 2020, accounting for nearly half of the global deep learning market, and is expected to continue its lead position during the forecast period. This is due to increase in demand for deep learning software across various organizations such as healthcare and BFSI and surge in need of software among organizations for production planning and predictive maintenance. However, the service segment is estimated to manifest the highest CAGR of 40.7% from 2021 to 2030, owing to rise in demand for software-as-a-service (SaaS) with its numerous benefits such as scalability and one-time customer acquisition cost.

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Based on industry vertical, the security segment accounted for the highest share in 2020, contributing to nearly one-fifth of the global deep learning market, and is expected to continue its leadership status during the forecast period. This is due to identification of more advanced malware & threats and detection of unusual activities that may signal existence of rogue actors. However, the healthcare segment is estimated to witness the largest CAGR of 42.0% from 2021 to 2030. This is attributed to empowerment of the sector with its advanced & vast library of

specialized algorithms and lightening computational power.

Based on region, North America held the highest market share in 2020, contributing to nearly two-fifths of the global deep learning industry, and is expected to maintain its dominant share in terms of revenue by 2030. This is due to increase in investments in deep learning start-ups and surge in popularity of deep learning technology among end users. However, Asia-Pacific is projected to portray the highest CAGR of 40.9% during the forecast period. This is due to increased utilization of deep learning algorithms with rise in digitalization in healthcare, telecommunication, automotive, and banking, financial services and insurance (BFSI) sectors.

Leading Market Players

Advanced Micro Devices, Inc.
Amazon Web Services, Inc.
Google LLC
IBM Corporation
Intel Corporation
Microsoft Corporation
NVIDIA Corporation
Qualcomm Technologies, Inc.
Samsung
Xilinx

The report analyzes the profiles of key players operating in the deep learning market such as Advanced Micro Devices Inc., Amazon Web Services Inc., Google LLC, IBM Corporation, Intel Corporation, Microsoft Corporation, NVIDIA Corporation, Qualcomm Technologies, Inc., Samsung, and Xilinx. These players have adopted various strategies to increase their market penetration and strengthen their position in the deep learning industry.

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