Neural Network Software Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 120 pages | Mordor Intelligence

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Report description:

The Neural Network Software Market is expected to register a CAGR of 35.2% during the forecast period.

Key Highlights
The artificial neural network was completely neglected in the early stage of artificial intelligence development. Gradually recognized and became a large-scale algorithm leading the artificial intelligence (AI_ development trend.
The adoption of IoT and connected devices generate vast structure and unstructured data available to the companies, which is tedious to process. Still, the emerging analytical tools covered the gap and drove the demand for the neural network software market.
Moreover, in the analytics field, the trend towards predictive and prescriptive analytics passing over descriptive analytics is driving the growth of the neural network software market. The trend is booming as the neural network software offers complete customization according to the application.
The increasing industrial automation across the sectors globally is boosting the development of machine learning and its applications in almost all industries. However, due to the lack of global expertise, slow adaptation to operational challenges restricts the market growth.
However, the global market for neural network software is increasing. Many challenges are standing in the way of advancement. Explaining clever movement patterns, lesson synchronization, and delayed technology use are typical examples of these obstacles. Additionally, only some have access to smart devices that could force them to participate, learn, and adjust in real time.
The market for neural network software is increasing globally. The ability of the sector to grow further depends on numerous factors. These possibilities include expanding artificial intelligence and enhancing the brain's capacity to learn and recognize patterns and synchronize with intelligent behaviors. The newest technology, like smart devices, has many different uses. These

are the opportunities that encourage growth.
Due to the widespread use of lockdowns in numerous nations worldwide to stop the spread of the virus, the COVID-19 outbreak significantly impacted the neural network market growth during the initial stages of the pandemic. However, with the increase in demand for geographical data and analytical tools and various cloud-based & prediction solutions, the neural network sector is anticipated to recover post-pandemic.

Neural Network Software Market Trends

Healthcare Segment to Grow Significantly

Healthcare organizations are leveraging artificial neural networks (ANN) to improve care delivery at a reduced cost. Applications of ANN to diagnosis are well-known; however, it is increasingly used to inform healthcare management decisions.
Healthcare has a complex data environment. In lung segmentation, deep learning is used to segment a lung area from the rest of the anatomy so that it can be accurately refined. Whereas bone assessment is a challenging area for direct observation, deep learning is used to keep track of the maneuver, helping the physician actually to observe the bone and make decisions.
IBM suggested that with increasing capture and digitization of healthcare data such as electronic medical records and DNA sequences, healthcare organizations are taking advantage of analyzing large sets of routinely collected digital information to improve service and reduce costs.
Neural network software also helps improve the performance of the standard computer in dealing with such a vast amount of data. Intel teamed up with Philips to deliver high-performance, efficient deep-learning inference on x-rays and computed tomography (CT) scans without needing accelerators like GPU clusters. The global investment in AI is focused on the vertical industry (AI+), vision, big data, data service, and intelligent robotics.

North America to Hold the Largest Market Share

North America is the largest region for developing the Neural Networks market. Increasing infrastructure and Research and development have boosted the demand for Neural Networks software for problem recognition, forecasting, and formulation applications.
The United States is the most technologically advanced country in this region, with an increasing market for industries, like BFSI, Defense, Healthcare, and Logistics, among others. The neural network software has shown disruptive performance in the BFSI sector in evaluating loan applications and predicting the stock market index.
For instance, in the NASDAQ stock exchange rate prediction, it was discovered that a network with three hidden layers was the optimized network with an accuracy of 94.08% for the validation dataset.
Additionally, the region continues to uphold its reputation as an early user of cutting-edge technologies with a focus on process optimization.. ADLINK Technology Inc. adopted Intel's OpenVino for guidance, identification, gauging, and inspection of manufacturing processes by integrating machine learning tools.
Moreover, industries like Automotives and manufacturing in the region are heavily investing in adopting artificial intelligence for their process optimization, which increases the opportunity for the neural network software market.

Neural Network Software Market Competitor Analysis

A few players, like Intel and Nvidia, dominate the neural network software market. Still, the forecast period is expected to follow a

similar trend throughout the forecast period even though many players are emerging for offering software with customization capability according to the end-user.

In June 2022, Qualcomm Technologies combined its current best-in-class AI software offerings into a single package, the Qualcomm AI Stack, to further its leadership in AI and connected intelligent edge. This will enable Qualcomm Technologies' OEM clients and developers to fully utilize the performance of our Qualcomm AI Engine when creating, optimizing, and deploying their AI applications on Qualcomm Technologies' hardware.

In October 2022, with the release of three new libraries, IBM announced an increase to its embeddable AI software portfolio. These libraries are intended to make it simpler, quicker, and more affordable for IBM Ecosystem partners, clients, and developers to create and market their own AI-powered solutions.

Additional Benefits:

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

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