

Machine Learning Chip Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028

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Abstracts

The global machine learning chip market size reached US\$ 7.8 Billion in 2022. Looking forward, IMARC Group expects the market to reach US\$ 35.0 Billion by 2028, exhibiting a growth rate (CAGR) of 25.4% during 2023-2028. The rapid emergence of quantum computing, increasing demand for efficient systems to solve computational problems, and rising development of smart cities and smart homes represent some of the key factors driving the market.

Machine learning (ML) chip comprises artificial intelligence (AI) technology that is designed to support deep learning-based applications. It involves various technologies, such as system-on-chip (SoC), multi-chip module, and system-in-package, and its hardware infrastructure includes computing, storing, and networking. It is installed in a system to enhance intellectual property cores and improve design and tool flows. It is cost-effective and assists in preventing errors in a workflow, and efficiently saves a huge amount of data. It offers high speed, increases efficiency, and consumes less energy as compared to larger transistors. Besides this, it aids in improving performance, power, optimization, and analytics. As a result, the ML chip is widely employed in the automotive, healthcare, retail, media and advertising, information technology (IT) and telecommunication, and banking, financial services, and insurance (BFSI) industries across the globe.

Machine Learning Chip Market Trends:

At present, the rising trend of digitalization and expansion of the IT and telecommunication industry around the world represent one of the key factors supporting the growth of the market. In addition, the increasing number of cyber-attacks encourages businesses to utilize database management and fraud detection systems,

which is propelling the growth of the market. Apart from this, the rising demand for ML chips due to the development of smart cities and smart homes across the globe is offering lucrative growth opportunities to industry investors. Moreover, the increasing emergence of quantum computing, along with the implementation of ML chips in robotics to reduce human intervention and errors around the world, is positively influencing the market. Besides this, the growing adoption of ML chips on account of the escalating demand for efficient systems to solve mathematical and computational problems is offering a positive market outlook. Additionally, the rising integration of big data analytics and cloud computing to provide enhanced services among numerous industries across the globe is contributing to the growth of the market. This, coupled with the increasing utilization of ML chips for real-time consumer behavior insights, is impelling the growth of the market. Furthermore, the rising preference toward GPUs from CPUs to perform several complex tasks in the gaming industry is strengthening the market growth.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global machine learning chip market report, along with forecasts at the global, regional and country level from 2023-2028. Our report has categorized the market based on technology, chip type and industry vertical.

Technology Insights:

System-on-Chip (SoC)

System-in-Package

Multi-chip Module

Others

The report has provided a detailed breakup and analysis of the machine learning chip market based on the technology. This includes system-on-chip (SoC), system-in-package, multi-chip module, and others. According to the report, system-on-chip (SoC) represented the largest segment.

Chip Type Insights:

GPU

ASIC

FPGA

CPU

Others

A detailed breakup and analysis of the machine learning chip market based on the chip type has also been provided in the report. This includes GPU, ASIC, FPGA, CPU, and others. According to the report, GPU accounted for the largest market share.

Industry Vertical Insights:

BFSI

IT and Telecom

Media and Advertising

Retail

Healthcare

Automotive

Others

A detailed breakup and analysis of the machine learning chip market based on the industry vertical has also been provided in the report. This includes BFSI, IT and telecom, media and advertising, retail, healthcare, automotive, and others. According to the report, BFSI accounted for the largest market share.

Regional Insights:

North America

United States

Canada

Asia-Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

Europe

Germany

France

United Kingdom

Italy

Spain
Russia
Others
Latin America
Brazil
Mexico
Others
Middle East and Africa

The report has also provided a comprehensive analysis of all the major regional markets, which include North America (the United States and Canada); Asia Pacific (China, Japan, India, South Korea, Australia, Indonesia, and others); Europe (Germany, France, the United Kingdom, Italy, Spain, Russia, and others); Latin America (Brazil, Mexico, and others); and the Middle East and Africa. According to the report, North America (the United States and Canada) was the largest market for machine learning chip. Some of the factors driving the North America machine learning chip market included the growing concern about security of critical infrastructure, increasing demand for quantum computing, rising utilization in the IT industry, etc.

Competitive Landscape:

The report has also provided a comprehensive analysis of the competitive landscape in the global machine learning chip market. Competitive analysis such as market structure, market share by key players, player positioning, top winning strategies, competitive dashboard, and company evaluation quadrant has been covered in the report. Also, detailed profiles of all major companies have been provided. Some of the companies covered include Advanced Micro Devices Inc., Amazon Web Services Inc. (Amazon.com Inc.), Cerebras Inc., Google LLC, Graphcore, Intel Corporation, International Business Machines Corporation, NVIDIA Corporation, Qualcomm Incorporated, Samsung Electronics Co. Ltd., Taiwan Semiconductor Manufacturing Company Limited., etc. Kindly note that this only represents a partial list of companies, and the complete list has been provided in the report.

Key Questions Answered in This Report

1. What was the size of the global machine learning chip market in 2022?
2. What is the expected growth rate of the global machine learning chip market during 2023-2028?
3. What are the key factors driving the global machine learning chip market?
4. What has been the impact of COVID-19 on the global machine learning chip market?

5. What is the breakup of the global machine learning chip market based on the technology?
6. What is the breakup of the global machine learning chip market based on the chip type?
7. What is the breakup of the global machine learning chip market based on the industry vertical?
8. What are the key regions in the global machine learning chip market?
9. Who are the key players/companies in the global machine learning chip market?

Contents

1 PREFACE

2 SCOPE AND METHODOLOGY

- 2.1 Objectives of the Study
- 2.2 Stakeholders
- 2.3 Data Sources
 - 2.3.1 Primary Sources
 - 2.3.2 Secondary Sources
- 2.4 Market Estimation
 - 2.4.1 Bottom-Up Approach
 - 2.4.2 Top-Down Approach
- 2.5 Forecasting Methodology

3 EXECUTIVE SUMMARY

4 INTRODUCTION

- 4.1 Overview
- 4.2 Key Industry Trends

5 GLOBAL MACHINE LEARNING CHIP MARKET

- 5.1 Market Overview
- 5.2 Market Performance
- 5.3 Impact of COVID-19
- 5.4 Market Forecast

6 MARKET BREAKUP BY TECHNOLOGY

- 6.1 System-on-Chip (SoC)
 - 6.1.1 Market Trends
 - 6.1.2 Market Forecast
- 6.2 System-in-Package
 - 6.2.1 Market Trends
 - 6.2.2 Market Forecast
- 6.3 Multi-chip Module

- 6.3.1 Market Trends
- 6.3.2 Market Forecast
- 6.4 Others
 - 6.4.1 Market Trends
 - 6.4.2 Market Forecast

7 MARKET BREAKUP BY CHIP TYPE

- 7.1 GPU
 - 7.1.1 Market Trends
 - 7.1.2 Market Forecast
- 7.2 ASIC
 - 7.2.1 Market Trends
 - 7.2.2 Market Forecast
- 7.3 FPGA
 - 7.3.1 Market Trends
 - 7.3.2 Market Forecast
- 7.4 CPU
 - 7.4.1 Market Trends
 - 7.4.2 Market Forecast
- 7.5 Others
 - 7.5.1 Market Trends
 - 7.5.2 Market Forecast

8 MARKET BREAKUP BY INDUSTRY VERTICAL

- 8.1 BFSI
 - 8.1.1 Market Trends
 - 8.1.2 Market Forecast
- 8.2 IT and Telecom
 - 8.2.1 Market Trends
 - 8.2.2 Market Forecast
- 8.3 Media and Advertising
 - 8.3.1 Market Trends
 - 8.3.2 Market Forecast
- 8.4 Retail
 - 8.4.1 Market Trends
 - 8.4.2 Market Forecast
- 8.5 Healthcare

- 8.5.1 Market Trends
- 8.5.2 Market Forecast
- 8.6 Automotive
 - 8.6.1 Market Trends
 - 8.6.2 Market Forecast
- 8.7 Others
 - 8.7.1 Market Trends
 - 8.7.2 Market Forecast

9 MARKET BREAKUP BY REGION

- 9.1 North America
 - 9.1.1 United States
 - 9.1.1.1 Market Trends
 - 9.1.1.2 Market Forecast
 - 9.1.2 Canada
 - 9.1.2.1 Market Trends
 - 9.1.2.2 Market Forecast
- 9.2 Asia-Pacific
 - 9.2.1 China
 - 9.2.1.1 Market Trends
 - 9.2.1.2 Market Forecast
 - 9.2.2 Japan
 - 9.2.2.1 Market Trends
 - 9.2.2.2 Market Forecast
 - 9.2.3 India
 - 9.2.3.1 Market Trends
 - 9.2.3.2 Market Forecast
 - 9.2.4 South Korea
 - 9.2.4.1 Market Trends
 - 9.2.4.2 Market Forecast
 - 9.2.5 Australia
 - 9.2.5.1 Market Trends
 - 9.2.5.2 Market Forecast
 - 9.2.6 Indonesia
 - 9.2.6.1 Market Trends
 - 9.2.6.2 Market Forecast
 - 9.2.7 Others
 - 9.2.7.1 Market Trends

9.2.7.2 Market Forecast

9.3 Europe

9.3.1 Germany

9.3.1.1 Market Trends

9.3.1.2 Market Forecast

9.3.2 France

9.3.2.1 Market Trends

9.3.2.2 Market Forecast

9.3.3 United Kingdom

9.3.3.1 Market Trends

9.3.3.2 Market Forecast

9.3.4 Italy

9.3.4.1 Market Trends

9.3.4.2 Market Forecast

9.3.5 Spain

9.3.5.1 Market Trends

9.3.5.2 Market Forecast

9.3.6 Russia

9.3.6.1 Market Trends

9.3.6.2 Market Forecast

9.3.7 Others

9.3.7.1 Market Trends

9.3.7.2 Market Forecast

9.4 Latin America

9.4.1 Brazil

9.4.1.1 Market Trends

9.4.1.2 Market Forecast

9.4.2 Mexico

9.4.2.1 Market Trends

9.4.2.2 Market Forecast

9.4.3 Others

9.4.3.1 Market Trends

9.4.3.2 Market Forecast

9.5 Middle East and Africa

9.5.1 Market Trends

9.5.2 Market Breakup by Country

9.5.3 Market Forecast

10 SWOT ANALYSIS

- 10.1 Overview
- 10.2 Strengths
- 10.3 Weaknesses
- 10.4 Opportunities
- 10.5 Threats

11 VALUE CHAIN ANALYSIS

12 PORTERS FIVE FORCES ANALYSIS

- 12.1 Overview
- 12.2 Bargaining Power of Buyers
- 12.3 Bargaining Power of Suppliers
- 12.4 Degree of Competition
- 12.5 Threat of New Entrants
- 12.6 Threat of Substitutes

13 PRICE ANALYSIS

14 COMPETITIVE LANDSCAPE

- 14.1 Market Structure
- 14.2 Key Players
- 14.3 Profiles of Key Players
 - 14.3.1 Advanced Micro Devices Inc.
 - 14.3.1.1 Company Overview
 - 14.3.1.2 Product Portfolio
 - 14.3.2 Amazon Web Services Inc. (Amazon.com Inc.)
 - 14.3.2.1 Company Overview
 - 14.3.2.2 Product Portfolio
 - 14.3.2.3 SWOT Analysis
 - 14.3.3 Cerebras Inc.
 - 14.3.3.1 Company Overview
 - 14.3.3.2 Product Portfolio
 - 14.3.4 Google LLC
 - 14.3.4.1 Company Overview
 - 14.3.4.2 Product Portfolio
 - 14.3.4.3 SWOT Analysis

14.3.5 Graphcore

14.3.5.1 Company Overview

14.3.5.2 Product Portfolio

14.3.6 Intel Corporation

14.3.6.1 Company Overview

14.3.6.2 Product Portfolio

14.3.7 International Business Machines Corporation

14.3.7.1 Company Overview

14.3.7.2 Product Portfolio

14.3.8 NVIDIA Corporation

14.3.8.1 Company Overview

14.3.8.2 Product Portfolio

14.3.9 Qualcomm Incorporated

14.3.9.1 Company Overview

14.3.9.2 Product Portfolio

14.3.10 Samsung Electronics Co. Ltd.

14.3.10.1 Company Overview

14.3.10.2 Product Portfolio

14.3.11 Taiwan Semiconductor Manufacturing Company Limited

14.3.11.1 Company Overview

14.3.11.2 Product Portfolio

List Of Tables

LIST OF TABLES

Table 1: Global: Machine Learning Chip Market: Key Industry Highlights, 2022 and 2028

Table 2: Global: Machine Learning Chip Market Forecast: Breakup by Technology (in Million US\$), 2023-2028

Table 3: Global: Machine Learning Chip Market Forecast: Breakup by Chip Type (in Million US\$), 2023-2028

Table 4: Global: Machine Learning Chip Market Forecast: Breakup by Industry Vertical (in Million US\$), 2023-2028

Table 5: Global: Machine Learning Chip Market Forecast: Breakup by Region (in Million US\$), 2023-2028

Table 6: Global: Machine Learning Chip Market: Competitive Structure

Table 7: Global: Machine Learning Chip Market: Key Players

List Of Figures

LIST OF FIGURES

Figure 1: Global: Machine Learning Chip Market: Major Drivers and Challenges

Figure 2: Global: Machine Learning Chip Market: Sales Value (in Billion US\$), 2017-2022

Figure 3: Global: Machine Learning Chip Market Forecast: Sales Value (in Billion US\$), 2023-2028

Figure 4: Global: Machine Learning Chip Market: Breakup by Technology (in %), 2022

Figure 5: Global: Machine Learning Chip Market: Breakup by Chip Type (in %), 2022

Figure 6: Global: Machine Learning Chip Market: Breakup by Industry Vertical (in %), 2022

Figure 7: Global: Machine Learning Chip Market: Breakup by Region (in %), 2022

Figure 8: Global: Machine Learning Chip (System-on-Chip) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 9: Global: Machine Learning Chip (System-on-Chip) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 10: Global: Machine Learning Chip (System-in-Package) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 11: Global: Machine Learning Chip (System-in-Package) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 12: Global: Machine Learning Chip (Multi-chip Module) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 13: Global: Machine Learning Chip (Multi-chip Module) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 14: Global: Machine Learning Chip (Other Technologies) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 15: Global: Machine Learning Chip (Other Technologies) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 16: Global: Machine Learning Chip (GPU) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 17: Global: Machine Learning Chip (GPU) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 18: Global: Machine Learning Chip (ASIC) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 19: Global: Machine Learning Chip (ASIC) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 20: Global: Machine Learning Chip (FPGA) Market: Sales Value (in Million US\$), 2017 & 2022

2017 & 2022

Figure 21: Global: Machine Learning Chip (FPGA) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 22: Global: Machine Learning Chip (CPU) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 23: Global: Machine Learning Chip (CPU) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 24: Global: Machine Learning Chip (Other Chip Types) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 25: Global: Machine Learning Chip (Other Chip Types) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 26: Global: Machine Learning Chip (BFSI) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 27: Global: Machine Learning Chip (BFSI) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 28: Global: Machine Learning Chip (IT and Telecom) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 29: Global: Machine Learning Chip (IT and Telecom) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 30: Global: Machine Learning Chip (Media and Advertising) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 31: Global: Machine Learning Chip (Media and Advertising) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 32: Global: Machine Learning Chip (Retail) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 33: Global: Machine Learning Chip (Retail) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 34: Global: Machine Learning Chip (Healthcare) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 35: Global: Machine Learning Chip (Healthcare) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 36: Global: Machine Learning Chip (Automotive) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 37: Global: Machine Learning Chip (Automotive) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 38: Global: Machine Learning Chip (Other Industry Verticals) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 39: Global: Machine Learning Chip (Other Industry Verticals) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 40: North America: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 41: North America: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 42: United States: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 43: United States: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 44: Canada: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 45: Canada: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 46: Asia-Pacific: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 47: Asia-Pacific: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 48: China: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 49: China: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 50: Japan: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 51: Japan: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 52: India: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 53: India: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 54: South Korea: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 55: South Korea: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 56: Australia: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 57: Australia: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 58: Indonesia: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 59: Indonesia: Machine Learning Chip Market Forecast: Sales Value (in Million

US\$), 2023-2028

Figure 60: Others: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 61: Others: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 62: Europe: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 63: Europe: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 64: Germany: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 65: Germany: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 66: France: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 67: France: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 68: United Kingdom: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 69: United Kingdom: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 70: Italy: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 71: Italy: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 72: Spain: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 73: Spain: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 74: Russia: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 75: Russia: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 76: Others: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 77: Others: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 78: Latin America: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 79: Latin America: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 80: Brazil: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 81: Brazil: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 82: Mexico: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 83: Mexico: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 84: Others: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 85: Others: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 86: Middle East and Africa: Machine Learning Chip Market: Sales Value (in Million US\$), 2017 & 2022

Figure 87: Middle East and Africa: Machine Learning Chip Market: Breakup by Country (in %), 2022

Figure 88: Middle East and Africa: Machine Learning Chip Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 89: Global: Machine Learning Chip Industry: SWOT Analysis

Figure 90: Global: Machine Learning Chip Industry: Value Chain Analysis

Figure 91: Global: Machine Learning Chip Industry: Porter's Five Forces Analysis

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