AI In Genomics Market is anticipated to generate US$ 4.5 Million by 2032, registering a CAGR of 10.3% from 2023 to 2032

PORTLAND, OREGON, UNITED STATES, September 18, 2023 / EINPresswire.com/ -- The AI in genomics market size was valued at $346.3 million in 2021 and is projected to reach $9,859.7 million by 2031, registering a CAGR of 40.6% from 2022 to 2031. The study analyzes the important strategies, drivers, competition, market dynamics, size, and important investment regions.

AI IN GENOMICS MARKET
OPPORTUNITIES AND FORECAST, 2021 - 2031

Ai in genomics market is expected to reach **$9.9 Billion** in 2031

Growing at a **CAGR of 40.6%** (2022-2031)

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AI In Genomics Market 2032

Key Takeaways:

North America dominates the global AI in Genomics market.

The machine learning segment to maintain its leadership status throughout the forecast period

The software segment to maintain its leadership status throughout the forecast period

The pharmaceutical and biotech companies segment to maintain its lead position during the forecast period

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Covid-19 Scenario

The outbreak of the Covid-19 pandemic had a negative impact on the global AI in genomics market, as it disrupted workflows in the healthcare sector around the world during the lockdown.

The disease had forced several industries to shut down temporarily, including several sub-

domains of the healthcare sector. The pandemic reduced accessibility to the research centers and offices which delayed the development in AI programs.

However, AI-driven diagnostics emerged as great solution for quick diagnosis of the disease

Market Segmentation:

Allied Market Research Reports has analyzed global AI in Genomics market from six perspectives: Component, Technology, Functionality, Application, End User, and Region.

Type of AI Application:

Genome Sequencing and Analysis: This segment includes AI applications for DNA and RNA sequencing, variant calling, structural variant analysis, and functional genomics.
Drug Discovery and Development: AI is used to identify potential drug targets, predict drug interactions, and optimize drug design.
Clinical Genomics: AI aids in clinical diagnostics, patient stratification, and personalized medicine by analyzing genomic data in a clinical context.
Genomic Data Storage and Management: Solutions for storing and managing vast amounts of genomic data efficiently.

End-Users:

Academic and Research Institutions: This includes universities, research centers, and academic laboratories conducting genomics research.
Pharmaceutical and Biotechnology Companies: Companies in the life sciences industry using AI for drug discovery, development, and clinical trials.
Hospitals and Clinical Laboratories: Healthcare facilities employing AI for genomic diagnostics and personalized medicine.
Government and Regulatory Agencies: Organizations responsible for overseeing genomics research and healthcare policies.

Technology:

Machine Learning (ML): ML techniques are used for data analysis, pattern recognition, and predictive modeling in genomics.
Deep Learning: Deep neural networks are employed for tasks like image analysis, protein folding prediction, and genomic sequence analysis.
Natural Language Processing (NLP): NLP is used for text mining and extracting insights from scientific literature related to genomics.
AI Hardware: Specialized hardware, such as GPUs and TPUs, optimized for AI workloads in genomics.

Geography:

North America (U.S., Canada, Mexico)
Europe (Germany, France, UK, Italy, Spain, Rest of Europe)
Asia-Pacific (Japan, China, Australia, India, South Korea, Rest of Asia-Pacific)
LAMEA (Brazil, Saudi Arabia, South Africa, Rest of LAMEA)

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Regional Growth Dynamics:

North America held the highest market share in terms of revenue in 2021, accounting for nearly half of the global AI in genomics market, and is likely to dominate the market during the forecast period. This is attributed to a large number of universities and research institutions that are at the forefront of AI research, including Stanford, MIT, Carnegie Mellon University, and the University of California, Berkeley. These institutions attract top talent from around the world and conduct cutting-edge research.

Top Impacting Factors

Increase in public and private investments in AI in genomics, rise in adoption rate of AI solutions in precision medicine, and necessity to control drug development and time and discovery costs drive the growth of artificial intelligence in the genomics market.
In addition, increase in healthcare expenditure; availability of skilled professionals; rise in R&D activities, and technological advancements, are some factors, which boost the market growth for artificial intelligence in genomics.
However, lack of a skilled AI workforce and strict regulatory guidelines for medical software, and lack of curated genomics data hinder the market growth.
Contrarily, concentrating on developing human-aware AI systems is expected to present new pathways in the industry.

Competitive Landscape:

IBM Corporation,
Deep Genomics,
Thermo Fisher Scientific Inc.,
Illumina, Inc.,
Data4Cure, Inc,
BenevolentAI,
Microsoft Corporation,
NVIDIA Corporation (Mellanox Technologies),
Sophia Genetics,

Freenome Holdings, Inc

Recent developments:

In February 2022, IBM Watson Health signed an agreement with Broad Institute of MIT and Harvard (US). An extended partnership will enable the Broad Institute to examine and explore genomics data to comprehend intrinsic susceptibility.

In October 2022, NVIDIA declared collaboration with global healthcare company GSK and its AI group. GSK's new hub in London is anticipated to help its UK-based team and scientists from NVIDIA to improve drug and vaccine discovery using NVIDIA platforms.

CHAPTER 1: INTRODUCTION
1.1. Report description
1.2. Key market segments
1.3. Key benefits to the stakeholders
1.4. Research Methodology
1.4.1. Primary research
1.4.2. Secondary research
1.4.3. Analyst tools and models

CHAPTER 2: EXECUTIVE SUMMARY
2.1. CXO Perspective

CHAPTER 3: MARKET OVERVIEW
3.1. Market definition and scope
3.2. Key findings
3.2.1. Top impacting factors
3.2.2. Top investment pockets
3.3. Porter's five forces analysis
3.3.1. Bargaining power of suppliers
3.3.2. Bargaining power of buyers
3.3.3. Threat of substitutes
3.3.4. Threat of new entrants
3.3.5. Intensity of rivalry...........

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