AI in Precision Medicine Market by Application (Drug Discovery, Screening, Diagnosis, Stratification, Staging, Prognosis, Therapy Selection, Monitoring, Risk Management), Indication (Cancer, CNS, CVS), Tools (ML, NLP), & End User -Global Forecast to 2030

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Report description:

The AI in precision medicine market is projected to reach USD 3.92 billion by 2030 from USD 0.78 billion in 2024, at a CAGR of 30.7% from 2024 to 2030. The market for AI in precision medicine is propelled by the enhanced diagnostics as well as predictive analytics. Wearable devices monitor patient's imaging and other related parameters and search for signs of disease, long before it shows itself, or the outcomes of treatments. Additionally, the movement towards cheaper healthcare provision is also the other factor. AI increases the productivity of conventional diagnosis and treatment procedures; thus, it makes precision medicine cheap and widely applicable. On the contrary, factors such as costs associated with implementation, inadequate access to high-quality data and issues with data security and privacy present challenges. Furthermore, the intricate nature of incorporating AI into already existing healthcare processes including regulatory requirements may also slow down its uptake.

"Natural language processing (NLP) had the fastest growth rate in the AI in precision medicine market during the forecast period, by tools."

Natural Language Processing (NLP) is anticipated to register the highest growth rate within the AI in precision medicine market as a result of its efficiency in deriving meaning from adequate unstructured medical data which consist of clinical notes, research works, and patient records. NLP helps to integrate unstructured data with structured data helps to get a better view of patient's history and suggestions regarding customizing treatment are improved. For instance, Tempus utilizes NLP techniques in fresh oncology treatment plans to find trends in the use of electronic health records. Furthermore, NLP-based applications are used to provide concise reports and help in making decisions very fast by shifting through a lot of scientific data and literature which hastens the process of drug invention and the diagnosis of diseases. The growing implementation of EHR systems alongside the

rising need for precision medicine integrated solutions stimulates the market for NLP technology. Its applicability in dealing with different healthcare data and promise of better results makes it a game changer in the market.

"By end user, the healthcare providers to account for largest market share in 2023."

By end user, AI in precision medicine market is bifurcated into healthcare providers, pharmaceutical & biotechnology companies, medical device/equipment companies, research centers, academic institutes, & government organizations, and others. The healthcare providers accounted for the largest share of the market for AI in precision medicine owing to the fact that they are the foremost practitioners of the AI tools used to enhance diagnosis, treatment planning and patient outcome. Hospitals and clinics employ AI platforms for patient data analysis, therapeutic mapping, and improving the quality of decision making. The current rampant deployment of the AI technology in the fields of medical imaging, genomics and custom care provision has made it possible for providers to give customized therapies in a quick and effective manner. In addition, the rising expenditure on AI solutions and the increasing demand for efficient and high quality healthcare systems are two factors that facilitate penetration of the market by healthcare providers.

"Asia Pacific is estimated to register the highest CAGR over the forecast period."

The AI in precision medicine market is geographically segmented into North America, Europe, Asia Pacific, Latin America, and Middle East & Africa. The Asia Pacific's AI in precision medicine market is projected to register highest CAGR during the forecast period due to enhanced allocation of resources towards healthcare infrastructure facilities, promotion of adoption of AI technology, and growing initiatives in genomic research. Countries like China, Japan and India are turning towards advanced technologies like Artificial Intelligence to transform the health care systems in these nations, due to government and private organization efforts. At the same time, the aging population creates a high demand for precision therapeutics, especially for oncology and chronic illness management, which also promotes growth in this region. In addition, an influx of both global and local companies specializing in the technology in the region, stimulates speed of innovation and use of the technology.

Breakdown of supply-side primary interviews by company type, designation, and region:

- By Company Type: Tier 1 (40%), Tier 2 (35%), and Tier 3 (25%)
- By Designation: Managers (40%), Directors (35%), and Others (25%)
- By Region: North America (40%), Europe (30%), Asia Pacific (20%), Latin America (5%) and Middle East Africa (5%)

List of Companies Profiled in the Report:

o NVIDIA Corporation (US)
o Google, Inc. (US)
o Microsoft (US)
o IBM (US)
o Illumina, Inc. (US)
o Exscientia (UK)
o Insilico Medicine (US)
o GE Healthcare (US)
o Tempus AI, Inc. (US)
o Siemens Healthineers AG (Germany)
o BioXcel Therapeutics, Inc. (US)
o BenevolentAI (UK)
o PathAI, Inc. (US)
o Guardant Health (US)
o GRAIL, Inc. (US)
o FOUNDATION MEDICINE, INC. (US)
o FLATIRON HEALTH (US)
o Proscia Inc. (US)
o DEEP GENOMICS. (Canada)
o Verge Genomics (US)
o Predictive Oncology (US)

o Paige AI, Inc. (US)
o Densitas Inc. (Canada)
o Zephyr AI (US)
o Iktos (France)

Research Coverage:
This research report categorizes the AI in precision medicine market by application (drug discovery & development, diagnostics & screening, and therapeutics), therapeutic area (oncology, rare diseases, infectious diseases, neurology, cardiology, haematology, and others), component (hardware, software, and services), tools (machine learning, natural language processing (NLP), context-aware processing and computing, computer vision, image analysis (including optical character recognition), and others), deployment (cloud-based model, on-premise model, and hybrid model), end user (healthcare providers, pharmaceutical & biotechnology companies, medical device/equipment companies, research centers, academic institutes, & government organizations, and others) and region. The scope of the report covers detailed information regarding the major factors, such as drivers, restraints, challenges, and opportunities, influencing the growth of the AI in precision medicine market. A thorough analysis of the key industry players has been done to provide insights into their business overview, offerings, and key strategies such as acquisitions, collaborations, partnerships, mergers, product/service launches & enhancements, and approvals in the AI in precision medicine market. Competitive analysis of upcoming startups in the AI in precision medicine market ecosystem is covered in this report.

Reasons to Buy the Report
The report will help market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall AI in precision medicine market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to better position their businesses and plan suitable go-to-market strategies. The report also helps stakeholders understand the market pulse and provides information on key market drivers, restraints, challenges, and opportunities.
The report provides insights on the following pointers:
- Analysis of key drivers: (Rising Demand for Personalized Healthcare), restraints (Limited access to high-quality data), opportunities (Expanding genomic research), and challenges (Regulatory and ethical complexities) influencing the growth of the AI in precision medicine market.
- Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the AI in precision medicine market.
- Market Development: Comprehensive information about lucrative markets - the report analyses the AI in precision medicine market across varied regions.
- Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the AI in precision medicine market.
- Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players such as NVIDIA Corporation (US), Google, Inc. (US), Microsoft (US), IBM (US), Illumina, Inc. (US), Exscientia (UK), etc. among others in AI in precision medicine market.

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