

United States AI in Medical Diagnostics Market Assessment, By Component Type [Software, Hardware, Services], By Diagnosis Type [In-Vitro Diagnostics, Diagnostic Imaging, Others], By Application [Oncology, Neurology, Cardiology, Radiology, Pulmonology, Obstetrics/Gynecology, Others], By Technology [Natural Language Processing, Machine Learning, Context-Aware Computing, Computer Vision], By End-user [Hospitals, Diagnostic Imaging Centers, Diagnostic Laboratories, Others], By Region, Opportunities and Forecast, 2016-2030F

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Report description:

United States AI in medical diagnostics market size was valued at USD 0.7 billion in 2022, which is expected to reach USD 3.8 billion in 2030, with a CAGR of 23.6% for the forecast period between 2023 and 2030F. The United States AI in medical diagnostics market has witnessed significant growth and evolution in recent years owing to the developed infrastructure of IT (Information Technology) and presence of large technology companies.

Artificial Intelligence is being employed in various aspects of caregiving, and diagnostics is not an exception. Managing a big influx of diagnostic data, automating the diagnostic workflow, reducing the workload on healthcare professionals, etc. are the key areas of AI application in medical diagnostics. Healthcare professional's burnout is a major issue in the United States due to an overburdened healthcare system. With the increasing prevalence of chronic diseases as well as patients, there is a huge demand

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for AI-powered workflow to smoothen the diagnostic system and work efficiently.

Moreover, recent developments in the United States AI in the Medical Diagnostics market have focused on enhancing productivity and improving the workflow and precision. Additionally, the availability of large funding for AI-powered startups, and the introduction of new market players will drive the market.

For instance, in April 2021, Mayo Clinic launched two new companies, Anumana and Lucem Health, to leverage patient data and artificial intelligence (AI) for early disease detection. The aim of this initiative was to collect and analyze patient data from remote monitoring devices and diagnostic tools, utilizing AI to expedite diagnoses and disease prediction, ultimately enhancing the accuracy and timeliness of patient care.

Overburdened Healthcare System

The overburdened healthcare system is facing increasing patient volumes, leading to challenges in managing and processing large amounts of data. Artificial intelligence is poised to play a crucial role in addressing these challenges by improving operational efficiencies, reducing clinician burnout, and enhancing patient outcomes. AI-enabled technologies can analyze patient data from remote monitoring devices and diagnostic tools, providing real-time insights and recommendations to healthcare providers. By streamlining administrative tasks, identifying clinical workflow flaws, and facilitating early disease detection, AI has the potential to alleviate the strain on the healthcare system and improve the delivery of care to patients.

For instance, according to Medscape's latest survey data, in February 2023, states that tied with pulmonary medicine, radiology ranks seventh for burnout rates among 29 physician specialties. According to the report, 54% of radiologists surveyed acknowledged feeling the repercussions of burnout in 2022. The increasing prevalence of chronic diseases is leading to increasing demand for precise and rapid diagnostics to help with better treatments, which AI can fulfil with higher proficiency. Medical diagnostics with AI can help in the reducing workload of healthcare professionals and the formulation of better treatment strategies and boost the market in the future.

Increasing Investment For AI-based Startups

United States AI in medical diagnostics market is witnessing inflow of huge investment in AI-based startups. Leading market players as well as small startups are working on developing AI-based diagnostic tools, startups however are flourishing at higher rates due to single point focus which is not the case for leading market players due to their diversified portfolio. Several market players are emerging with innovative AI-powered diagnostic solutions owing to the large scope for funding and initiatives taken by the government to enhance healthcare efficiency.

For instance, the United States government launched the National AI Initiative program in January 2021, to facilitate the integration of AI systems across all sectors of the economy and society. Owing to this government initiative, more than 3,000 AI-powered startups are currently active in the United States.

Government Initiatives

The United States government has taken significant initiatives to leverage artificial intelligence in the medical diagnosis market, aiming to enhance patient care and outcomes. The Government Accountability Office (GAO) and the National Academy of Medicine (NAM) have collaborated to explore the implications of AI and machine learning (ML) in healthcare, identifying key options for optimizing their use. Additionally, the Centers for Medicare & Medicaid Services (CMS) has launched the AI Health Outcomes Challenge, encouraging innovators to demonstrate how AI tools, such as deep learning and neural networks, can be used to predict patient health outcomes for Medicare beneficiaries, potentially informing CMS Innovation Center payment and service delivery models. These initiatives underscore the government's commitment to promoting the use of AI in healthcare, leading advances in medical diagnostics, and improving patient care and public health outcomes.

Natural Language Processing Segment is Expected to Grow Significantly

The increasing demand for efficient and accurate healthcare data analysis, the growing adoption of AI in healthcare, the need for early disease detection and diagnosis, the development of innovative natural language processing applications, and the focus on patient-centered care are some of the key drivers propelling the growth of the natural language processing. The healthcare industry in the United States understands the significance of gathering data from EHRs and other sources. Huge volumes of unstructured patient data is inputted into EHRs on a daily basis, but it's hard for a computer to help physicians aggregate that critical data. Natural language processing can help to leverage unstructured data to derive insights.

Impact of COVID-19

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The pandemic had a profound positive impact on the United States AI in the medical diagnostics market. The pandemic exposed the shortcomings of the healthcare industry and enforced the adoption of AI and automation in diagnostics to reduce the burden on the healthcare system. In lieu of the pandemic, early diagnosis using AI solutions became a boon for the healthcare system and accelerated the market for future growth. Rapid screening of infection was a major challenge during COVID-19 and with the help of various diagnostic AI tools, the task was accomplished effectively. During the pandemic, several market players emerged and evolved with different diagnostic solutions powered by AI enabling remote consultations and diagnosis of diseases. Even post-pandemic, AI-based diagnostic solutions are being welcomed by users as well as stakeholders, further boosting the market.

Key Players Landscape and Outlook
The United States AI in medical diagnostics market is highly competitive, with a few major players dominating the market. These players are Siemens Healthineers and GE Healthcare. These companies have a strong brand presence, a vast distribution network, and a focus on innovation. They are constantly investing in research and development to develop new technologies and products that meet the needs of their customers. The market is expected to grow, driven by the overburdened healthcare system, available funding, and government initiatives for AI-based startups, and demand for automation in medical diagnostics.

In March 2022, Roche, and Bristol Myers partnered to develop digital pathology AI to analyze clinical trial assays. Using artificial intelligence algorithms developed by Roche to generate biomarker data from clinical trial samples, Bristol Myers Squibb will be able to develop new cancer treatments that can be personalized to a patient's individual biology. The collaboration will be promising for early detection of cancer, further driving the market.

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