

Analyzing Robotics in Healthcare

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Abstracts

Robots have emerged as the latest tool of choice for the healthcare industry. From being used to perform minimally invasive surgeries to performing dental surgeries, robotics has become an integral part of the healthcare industry.

There are many applications of robotics in the healthcare industry, ranging from general surgery to cardiac surgery to even gastrointestinal surgeries. The uses of medical robots are many and wide, and these are being incorporated into daily usage in the healthcare industry by doctors and researchers alike.

There are many types of functions that medical robots are able to perform. From lending support to a surgeon's hands to actually performing the surgery, there is no limit to the range of functions that these medical robots are capable of.

Aruvians Rsearch analyzed the robotic surgery industry through its research report *Analyzing Robotics in Healthcare*. This research offering is a cutting edge compilation of the many uses of medical robots.

The report begins with an analysis of the basics of robotics and a brief profile of the global robots industry, and then moves on to an introduction to robotics in healthcare and medicine.

In this section we analyze how robotics are used in healthcare and medicine, we define robotics in healthcare, and then go on to analyze the various procedures that robots can carry out in healthcare. We also analyze the advantages and disadvantages of robotic surgery.

The report analyzes the major areas in healthcare where robotics is used, including general surgery, cardiothoracic surgery, cardiology, gastrointestinal surgery,

gynecology, and many others.

The report looks at the factors impacting healthcare robotics such as a rapidly growing global population, epidemiological factors, ethical challenges, social trends, and technological considerations for healthcare robotics amongst others. Why the healthcare sector needs robotics is also analyzed.

Applications of robotics in healthcare are analyzed in details in section H of the report. Here we analyze the major application areas, the role of robotics in assisted preventive therapies and diagnosis, the role of robotics in assistive technology, robotics in supporting professional care, robotics in rehabilitation treatment, and much more.

Many of the application areas of robotics are analyzed separately in the report including robotized surgery, intelligent prosthetics, robotized motor coordination analysis and therapy, robotics for cardiac surgery, robotics in computer integrated surgery, etc.

We also analyze how the robotics technology is used in surgery and therapy through augmenting devices and systems, cooperatively controlled tools, teleoperated tools, autonomous tool, and many others.

Enabling technologies and robotics in healthcare are also analyzed such as advanced sensory systems, advanced human machine interfacing, and others. The incorporation of haptic sensation to robotic systems for surgery and therapy are also looked at.

The report takes a look at the future of medical robotics and analyzes the major industry players such as Intuitive Surgical, Titan Medical, Toshiba, and others.

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S. APPENDIX

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