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## **A Study of Adoption Levels of AI Technologies Across Various Aspects of Healthcare Services**

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### **ABSTRACT**

Artificial Intelligence (AI) is increasingly being adopted in healthcare services to improve the quality, efficiency, and accessibility of medical care. AI technologies such as machine learning, deep learning, natural language processing, and data analytics are being applied in various areas of healthcare. One of the most prominent areas of AI adoption is medical diagnosis, where AI systems assist doctors in detecting diseases such as cancer, heart disease, and neurological disorders through advanced analysis of medical images and patient data. AI is also widely used in radiology and pathology to enhance the accuracy and speed of diagnostic procedures. In addition, AI technologies are increasingly used in patient monitoring, personalized treatment planning, drug discovery, and hospital management. AI-powered systems help healthcare professionals analyze large amounts of medical data, predict disease risks, and provide better treatment recommendations. Telemedicine and remote healthcare services also benefit from AI through automated chatbots, virtual health assistants, and smart monitoring devices. However, the adoption levels of AI technologies vary across healthcare institutions depending on factors such as technological infrastructure, availability of skilled professionals, financial resources, and regulatory frameworks. While developed healthcare systems are rapidly integrating AI into clinical practices, many developing regions are still in the early stages of adoption.