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ARTIFICIAL INTELLIGENCE IN E-HEALTH

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E-health can be defined as the use of information and communication technology for the improvement of health care. Rapid development of technology with the expansion of Internet access around the world and a wide use of smartphones makes E-health relevant for everyone. E-health has expanded from web-based services to health applications, online video services, and social media. Social networks are a very valuable source of real-time information to gain new knowledge related to the occurrence of a new disease or pandemic and the most effective ways to combat them.

Increase in the ageing population and the changing pattern of morbidity with a large number of chronic diseases put a serious strain on health care systems in both developed and developing countries. Existing knowledge-based systems in E-health services can improve access to quality health information, promote self-management, and thereby help alleviate the burden on health services. In addition, E-health evidence-based systems can improve the quality of health services by enhancing collaborative decision-making and by empowering patients. Monitoring, learning, training, knowledge validation, transparency and responsibility should be part of the E-health systems and must cope with the existing challenges.

One of the most important components of E-health is artificial intelligence. Artificial intelligence in medicine is the use of machine learning models to search medical data and obtain valuable information, which helps to improve health outcomes and patient experiences. Thanks to recent advances in computer science and informatics, artificial intelligence (AI) is rapidly becoming an integral part of modern health care. AI algorithms and other applications based on AI are used to support medical professionals in clinical settings and in ongoing research.

Currently, the most common functions of AI in medical institutions are clinical decision support and imaging analysis. Clinical decision support tools help doctors make decisions about treatments, medications, mental health and other patient needs by providing them with quick access to information or research that is relevant to their patient. In medical imaging, AI tools are used to analyze computer tomography, X-rays, magnetic resonance imaging and other images for damage or other findings that a radiologist may miss. Doctors can also continue their learning and improve their professional abilities with the help of educational modules based on artificial intelligence, which further demonstrates the information management capabilities of AI in health care.

Furthermore, AI in health care is an excellent addition to the information management for both physician and patient. Due to the fact that patients get to doctors faster when telemedicine is employed, valuable time and money are saved, relieving the strain of health care professionals and increasing comfort of patients.

Nowadays AI technologies in E-health are one of the most promising areas in medicine and science in general. Therefore, medicine becomes more accessible to various sectors of society, especially for people who live in remote regions. The following tasks in the healthcare are believed to be automated with the help of using AI in the nearest future: automated diagnostic methods, speech recognition and natural language understanding systems, data analysis and event prediction systems, automatic classification and information verification systems, automatic chat bots for patient support. It must be recognized that in the 21st century AI will have the most transformative impact on technologies that are applied in medicine.