



New Artificial Intelligence Methods in Medicine

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Introduction

Nowadays, due to the spread of information and automation in different sciences, it is necessary to use more efficient methods to solve problems or advance goals. One of the sciences that still needs more attention in the field of proper information processing and automation is medical diagnosis and treatment. From time immemorial, medical diagnosis and treatment have always had a special place in the application of methods in all new initiatives.

Artificial intelligence has grown exponentially in all sciences in recent years. Artificial intelligence has a special look at medical sciences. So far, with the replacement of artificial intelligence with specialized human resources, the accuracy and speed of diagnosis and treatment have increased significantly. On the other hand, the problems caused by the lack of specialized human resources and the costs of diagnosis and treatment have been decreased in artificial intelligence applied fields. The two challenges facing AI are data gathering and using appropriate methods to achieve proper accuracy and speed.

Artificial intelligence can process and detect in many different fields using a variety of data. Machine vision and signal and data processing have the most applications among various applications.

In medical applications, both in diagnosis and treatment, machine vision using artificial intelligence is one of the most widely used processing methods. Although machine vision has diagnosed many diseases, such as cancerous tumors in various organs or infections, it still needs further research. On the other hand, the analysis of medical data, such as the classification of drug data or the information of different patients, greatly helps to use various medical data for automation.

Given the advances that artificial intelligence has made, especially in deep learning-based methods in the medical sciences, it continues to increase the accuracy of diagnostic and treatment methods and the use of artificial intelligence in more fields.

According to proper research in automatic diagnosis and treatment, one of the challenges is to apply and increase the reliability of the obtained methods.

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This challenge requires the practical application of techniques in future research. Real data and results in hospitals and laboratories can confirm these results. On the other hand, matching new data with the methods used is another challenge that needs more attention.

Another area that needs further research is the correlation between patients' clinical and background data with the results of diagnostic methods.

One of the main steps in research in these fields is collecting patient data. The importance of this step is in collecting data related to essential parameters in diagnosis. On the other hand, in addition to collecting relevant data that is used to learn the proposed methods, data collection is significant for the up-to-dateness and online learning of methods, which is an essential step in the direction of bioinformatics.

COVID-19 is one of the diseases that AI has played an important role in its diagnosis and treatment. According to appropriate research in this field, it still needs to be used in this field, both in data collection and improvement of the proper methods.

It is hoped that by expanding the practical application of artificial intelligence and improving it in various sciences, appropriate steps can be taken towards automation and optimal use.

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