Application of Artificial Intelligence in Medical Industry

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With the rapid development of artificial intelligence, robots based on artificial intelligence are more and more used in the medical industry for medical diagnosis and auxiliary detection. Zhou et al.(2019) mentioned in the article that its advantages, including deep learning algorithm, can be applied to the medical industry to a large extent. According to Impedovo and Pirlo(2019), due to the availability of a large number of data sets and computing resources, artificial intelligence has changed the medical industry from the perspective of diagnosis, treatment and follow-up.

For example, Impedovo and Pirlo (2019) believe that artificial intelligence can help clinicians care through clinical decision support function, while Zhou et al. (2019) mentioned in the article that artificial intelligence can also help doctors make more accurate diagnosis, regeneration and efficient diagnosis through automatic recognition and analysis of image information. Therefore, the intelligent automatic diagnosis method is welcomed by the majority of researchers. Robot surgery based on artificial intelligence is also of great significance to improve operation efficiency and save operation time. According to the research of Habuza et al. (2021), for surgery requiring expert flexibility, such as breast biopsy and prostate biopsy, it is recommended to use robot system, which can increase the accuracy of suspicious tissue identification. In addition, a robot called stable hand micromanipulation system is widely used to help doctors perform comprehensive tasks requiring hand eye coordination (Parsley et al., 2018). For postoperative recovery, in the rehabilitation process of some specific diseases, robot assisted system can help patients move better, such as stroke and other neurological diseases. (Forrester et al., 2016)

However, it is worth noting that artificial intelligence not only has full application in the medical field, but also faces a lot of challenges. According to the research of Yokoi et al. (2020), people prefer human doctors to artificial intelligence doctors, even if they have the same level in the medical field. He et al. (2019) also proposed that the data security and privacy protection of medical artificial intelligence is still a problem to be solved. In addition, Huang (2020) also raised medical problems. For example, due to misdiagnosis and operational errors, it is difficult to define the responsibility caused by artificial intelligence at the legal level. Therefore, there are still some risks in diagnosing diseases by observing two-dimensional medical images. According to Jia et al. (2021), medical image analysis technology is used to divide two-dimensional images into three-dimensional models after image segmentation, image recognition and three-dimensional imaging, and then combined with expert system to save and accumulate the experience and knowledge of famous doctors for corresponding operation and analysis, which can better assist doctors in diagnosing diseases and greatly reduce the risk of diagnostic safety.

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