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Computer Aided Diagnosis Sensors

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Sensors used to diagnose, monitor or treat diseases in the medical domain are known as medical sensors. There are several types of medical sensors that can be utilized for various applications, such as temperature probes, force sensors, pressure sensors, oximeters, electrocardiogram sensors that measure the electrical activity of the heart, heart rate sensors, electroencephalogram sensors that measure the electrical activity of the brain, electromyogram sensors that record electrical activity produced by skeletal muscles, and respiration rate sensors that count how many times the chest rises in a minute. The output of these sensors used to be interpreted by humans, which was time consuming and tedious; however, such interpretations became easy with advances in artificial intelligence (AI) techniques and the integration of the sensor outputs into computer-aided diagnostic (CAD) systems. This reprint presents some of the state-of-the-art AI approaches that are used to diagnose different diseases and disorders based on the data collected from different medical sensors. The ultimate goal is to develop comprehensive and automated computer-aided diagnosis by focusing on the different machine learning algorithms that can be used for this purpose as well as novel applications in the medical field.

