Clinical-Medical Image

Understanding Clinical Medical Image Analysis in Modern Healthcare: An Overview

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Figure 1: Analysis of clinical-medical image.

Clinical-Medical Image

Clinical medical image analysis refers to the process of extracting meaningful information from medical images, such as X-rays, CT scans, MRI scans and ultrasound images. The goal of clinical medical image analysis is to aid in the diagnosis, treatment and monitoring of medical conditions by providing quantitative measurements and visual representations of anatomical structures and physiological functions. Medical image analysis involves a range of techniques and methods, including image preprocessing, segmentation, registration, feature extraction and classification. Preprocessing involves techniques such as noise reduction, intensity normalization and image enhancement, to improve the quality of the images and facilitate subsequent analysis. Segmentation refers to the process of separating an image into meaningful regions, such as organs or tissues, while registration involves aligning multiple images taken at different times or from different imaging modalities. Feature extraction involves identifying and quantifying characteristics of the image, such as texture, shape and intensity, which can be used to distinguish between different tissues or identify specific anatomical structures. Classification involves using machine learning algorithms to assign a label or diagnosis based on the features extracted from the image. Clinical medical image analysis has a wide range of applications, including the detection and diagnosis of diseases such as cancer, cardiovascular disease and neurological disorders. It can also be used for treatment planning, monitoring disease progression and evaluating the effectiveness of interventions. Overall, clinical medical image analysis plays a critical role in modern healthcare by providing clinicians with quantitative measurements and visual representations of medical conditions, allowing for earlier and more accurate diagnoses and more effective treatments [1,2].

Keywords: Artificial intelligence; Colorectal cancer; Deep learning; Early diagnosis; Machine learning

Conflict of Interest

None of the authors has any conflicts of interests to disclose.

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