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# Medical Image Compression Based on Discrete Wavelet Transform

*A Project*

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## **Abstract**

Medical image compression is crucial for efficient storage and transmission of large volumes of medical imaging data. This project presents a novel approach for medical image compression based on the Discrete Wavelet Transform (DWT). The proposed method exploits the multiresolution analysis capability of DWT to decompose medical images into different frequency sub-bands.

The research investigates the performance of the DWT method on a variety of medical image modalities, including X-ray, MRI, and CT scans. An evaluation of compression efficiency and image quality preservation is presented. Experimental results demonstrate that the proposed DWT-based compression method achieves competitive compression ratios while maintaining diagnostic image quality.

Overall, the findings of this research contribute to the development of efficient medical image compression techniques, which are essential for enhancing telemedicine, remote diagnosis, and medical image archiving systems.