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## Content-Based Image Retrieval for Medical Applications with Flip-Invariant Consideration Using Low-Level Image Descriptors

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**Abstract:** Content-Based Image Retrieval (CBIR) has recently become one of the most attractive things in medical image research. Most existing research on CBIR focused on low-level image descriptors in image retrieval, which sometimes weaken the retrieval accuracy since many relevant images are not retrieved. Limited number of researches consider flipping the image on different sides. In order to fill the knowledge gap, this research focuses on considering the flipped images in retrieval based on previously implemented system that uses low-level image descriptors. Some improvements are made on the system considering the flipped images by extracting the features of the main and flipped images. The final results showed that the proposed system outperforms the existing system. The system has proven as a powerful method in helping medical staff, physician decision makers, and students to get better results by giving wide range of needed images, and helps in reasoning and building better decisions.