

ABSTRACT

Lately the development of technology allow us to do human work easily. For example in medical area, lots of doctor has already use technology as their tools in order to cure or to diagnose disease. Biomedical engineering is the application of engineering principles and design concepts to medicine and biology for healthcare purposes.

Pulpitis as one of the disease that can't be detected with normal eyes, in order to make decision of this disease doctor need a lots of information including Periapical Radiograph Image and Historical review from patient. After getting those information doctor try to diagnose whether this patient get pulpitis or healthy, but it's not easy to made decision just based on those two things.

Based on the problem above, the author makes "Simulation and Analysis of Pulpitis Via Periapical Radiograph Using DCT, Wavelet, And Curvelet Transform and LVQ Classification", which is an application that can allow doctors to detect pulpitis from a periapical radiograph.

This research achieve the best result of accuracy on wavelet with 73% accuracy, and 7 seconds computation time, followed by curvelet with 66% accuracy in 10 seconds computation time, and DCT with 60% accuracy and 12 seconds computation time.

Keyword: Periapical Radiograph, DCT, Wavelet, Curvelet , LVQ , Pulpitis