

## ABSTRACT

Happy hypoxia is a disease that is becoming a new phenomenon in the case of covid-19 in 2020. Happy hypoxia is a condition where the patient experiences a decrease in oxygen saturation in the brain or there is only about <90% saturation in the brain. Several studies have been conducted to detect happy hypoxia. with many types of implementations. Existing research projects generally use Discrete Fourier Transform (DFT) signals. However, the results show that the accuracy of detecting hypoxia is still low. This study provides a solution to the problems above, by proposing a happy hypoxia detection system based on the entropy feature and the Discrete Wavelet Transform (DWT) feature combined with a classifier based on K Nearest Neighbor (KNN). The method used in this study is the Hybrid Wavelet and Entropy Features method, by utilizing the data obtained to convert template data into template data with photoplethysmography signals, then the data will be collaborated with Python-based data processing to obtain accuracy values. by applying this method. Discrete Wavelet Transform and Entropy Features. The experimental results show that the proposed system has 98% accuracy for Discrete Wavelet Transform and 98% accuracy for Entropy

**Keyword:** Hypoxia, Entropy, photoplethysmogram.