

## ABSTRACT

*Red blood cells are a fundamental component of the human body that functions to bind oxygen to oxidize body tissues. Abnormal levels of red blood cells are a sign of anemia. The process of detecting this anemia can be done manually by examining blood samples using a microscope in the hospital. However, this method has a weakness that is dependent on the accuracy of doctors and laboratory staff who are affected by physical conditions and limitations of the equipment, making accuracy of the diagnostic results less than optimal.*

*In this research, a system has been created to help detect anemia through the image of red blood cells. Broadly speaking, anemia detection carried out by this system through four stages, namely image acquisition, pre-processing where manual cropping, image resize, and RGB to Greyscale conversion, then feature extraction process uses the Discrete Wavelet Transform (DWT) and Support Vector classification Machine (SVM). The results of the DWT feature extraction process will be input to the SVM classification process.*

*System detection anemia performance from red blood cell image analyse based accuracy parameter and time computation. By using DWT and SVM method result high accuracy in system, about 96,6667% with time computation 0,0113s.*

*Keywords: red blood cells, anemia, DWT, SVM*