

ABSTRACT

Lack of red blood cells or anemia Examination of anemia can be done by examination of hematology or blood tests aimed at diagnosing medical diseases. Anemia detection by the laboratory can be done in various ways, such as counting the number of red blood cells, counting cells hematocrit, and calculating hemoglobin levels. However, the weakness of the method is scientific research and laboratory tests which can be caused by physical conditions and knowledge. Spend, spend a little accuracy on search results. In addition, the manual workmanship takes a long time to identify an illness.

In this research, an accurate anemia detection system was made based on the accuracy of the test data system and training data by looking at the color paleness of the blood. The identification used is the Discrete Wavelet Transform (DWT) method and the classification method with the Self-Organizing Maps (SOM) method. Anemia research system performance was analyzed based on accuracy parameters obtained through several stages, namely testing the DWT method parameters and SOM parameters to obtain the best value.

The test results in this study obtained a system that can detect blood cell images diagnosed with anemia and not anemia with the best accuracy obtained by this method that is equal to 90 % with computation time for 0.0217 seconds.

Keywords: Anemia, hemoglobin, mikroskopik, Discrete Wavelet Transform, Self Organizing Map