

Determination of Blood group using Image Based Canny Edge Detection Technique

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Abstract: Blood group determination is done before a blood transfusion in emergency situations or while checking blood group of a person for donation. It is a fast and easy way to ensure that you receive the right kind of blood during surgery or after an injury. If you are given incompatible blood, it can be fatal resulting in agglutination. Hence, before the blood transfusion it becomes necessary to perform certain tests. Determining blood group is one of the tests before transfusing the blood during emergency situations. Microscopy has intermittently proved inefficient since it is time consuming and also the results are difficult to reproduce. Also, experts are needed. Due to these reasons, automation of evaluation process is of high importance. Based on the processing of digital images acquired during the slide test, a software is developed in image processing to determine the blood group during emergency situations without any error. The images obtained are then processed, occurrence of blood clumping is checked and accordingly the blood group is determined. Thus, using image processing techniques, this developed automated method will be useful in determining the blood group..

Keywords: ABO system, agglutination, Blood samples, Threshold, Segmentation, Binary image, Serum, Matlab

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