

## **ABSTRACT**

In medical field, human blood is classified into blood type A, B, AB, O and Rhesus. This classification based on antigen type implied in Human's blood cell membrane so called agglutinin. To prevent the happening of transfusion reaction between donor bloods and recipient at blood transfusion, hence we should do blood type inspection. Agglutination process can be observed visually either through microscope or can be observed by medical expert. On medical of forensic and to handle hospital database, required an inspection of accurate blood type and quickly.

On this project made a software which can recognize clotting pattern image of blood type by using Independent Component Analysis (ICA) and Support Vector Machine (SVM). ICA makes an input signal independent toward other input signals so can make classification process easier. How SVM works is with looking for best hyperplane so can reduce empirical risk and get good generalization.

From the simulation, based on the total blood sample tested, obtained the 100% identification accuracy with using column mean method, in SVM OAO and SVM OAA. But with using median method, obtained 94,12% identification accuracy for SVM OAO and 87,64% identification accuracy for SVM OAA. It is also obtained 100% identification accuracy without using ICA as feature extraction method. With optimum accuracy obtained, SVM and ICA can be used for identifying blood type

Key words : blood type, ICA, SVM