

## ABSTRACT

Blood is an important component found in the body, because blood has many benefits to support life for humans. If you do not have blood the body will experience various types of disorders of health and can most likely cause death. Because it is very important, blood has several functions, namely as a transporting agent, maintaining the immune system, and maintaining body balance. Blood in each individual is not the same, different blood groups are grouped in several types, namely A, B, O and AB. Each type of blood has different characteristics. The blood type that someone has is not just a self-identity, some people don't care about their blood type, some don't even know what their own blood type is. In 2016 deaths caused by lack of blood reached 28%, where the deaths were dominated by women who were in labor, this could be prevented if more and more voluntary blood donors routinely donated blood but the majority of people were still many who did not know the blood type he has. Therefore, the party handling the making of resident identification cards requires a technology to anticipate the occurrence of mistakes or ignorance of the public about their blood type and facilitate the community in checking their blood type.

Based on these problems, this final project designed an application that can detect blood type only with a cellphone. Blood image data are used as many as 160 images with details in each type of blood type, there are 40 image data used and then image processing is performed using image classifier to make it easier to detect blood that has clotted when given serum in each each blood type.

In testing this application produces different accuracy in each blood type, at the time of testing in getting the value to the best accuracy in blood type A and the worst in blood type B.

**Keywords:** Blood Type, image classifier, Image Processing