

Abstract Details

Title: Investigation of the Relationship between Fingerprint Pattern, Gender and Blood Group

Authors: Yousra Osman Abdalla Mohamed and Dr. Elnazier Osman Hamza

Abstract: The aim of this paper is to determine an accurate blood typing method, because knowing blood type of an individual is vital, hence the need for an accurate yet fast method of blood typing has arisen. Fingerprints are a great source for identification plus they provide effective and reliable evidence in law [1]. Some of fingerprints unique characteristics are that ridges formed during the fetal period do not change their shapes neither alignment throughout the lifetime until the skin is decomposed and the other one is that two fingerprints of either the same individual or two different individuals are never alike, they differ in their patterns alignment and features. Present study is an attempt to study distribution of thumbprint pattern among the subjects having different ABO and Rh blood group and to find any relation between their characters and blood groups using MATLAB. Factors relating to obtaining high performance feature point's detection algorithm, such as image quality, segmentation, image enhancement and feature detection have been studied. The study found that Majority of subjects were of blood group O. Distribution of right hand thumbprint showed high frequency of right, the distribution of left hand thumbprint showed high frequency of left loops, different pattern of thumbprints in individual fingers also showed some distinctiveness in relation to blood group.

Keywords: Fingerprint, Thumbprint, MATLAB, Blood Type, ABO Systems.