

New newborn jaundice monitoring scheme based on combination of pre-processing and color detection method

Abstract

Newborn jaundice is an apparent yellowing of the sclera or yellowish skin in newborn infants. This symptom is caused by a yellow pigment known as bilirubin. A high level of bilirubin in the infant is referred to as hyperbilirubinemia. Significant complications can occur if significantly increased bilirubin levels are not treated promptly. Severe hyperbilirubinemia can be caused by dehydration, lack of adequate nutritional intake, extravasation of blood, cephalohematoma, contusions and asphyxia, and may potentially cause kernicterus. Because many of these problems affect newborns, they may require critical care from specialty medical disciplines. Thus, in this paper we proudly proposed a Combination of pre-processing and the skin color detection method to detect jaundiced infants. Few statistical features are derived from the texture images and used as features to quantify infant image textures. Finally, a k-NN is employed as classifier for discriminating infant image textures. The experimental results reveal that the proposed method can act as a supplement to support earlier detection and more effective treatment due to improved jaundice recognition.

Keywords — Jaundice infant, image pre-processing, color detection.