Shadow detection using color and edge information.

Abstract

Shadows appear in many scenes. Human can easily distinguish shadows from objects, but it is one of the challenges for shadow detection intelligent automated systems. Accurate shadow detection can be difficult due to the illumination variations of the background and similarity between appearance of the objects and the background. Color and edge information are two popular features that have been used to distinguish cast shadows from objects. However, this become a problem when the difference of color information between object, shadow and background is poor, the edge of the shadow area is not clear and the shadow detection method is supposed to use only color or edge information method. In this article a shadow detection method using both color and edge information is presented. In order to improve the accuracy of shadow detection using color information, a new formula is used in the denominator of original c1 c2 c3. In addition using the hue difference of foreground and background is proposed. Furthermore, edge information is applied separately and the results are combined using a Boolean operator.

Keyword: Image processing; Shadow detection; Colour information; Edge information.