

Method and Apparatus for Cancelling Lighting Variations in Object Recognition

Abstract

A lighting normalisation method, apparatus and computer program product are disclosed. First, lighting parameters are estimated (110) optimally based on a shading model. After applying segmentation (120), each generated region is assigned a reliability based on the stochastic model of that object. This reliability is used to distinguish (130) shadow from object detail. Regions are then further split and merged (140) according to these reliabilities. Finally, the lighting parameters of these regions are calculated and the object is reconstructed (150) to a normalised lighting condition. This technique can be used for an object recognition system, i.e., face recognition applications, as well as for image enhancement, image retrieval, machine vision and related regions.

Fig. 1