Retinex decomposition for low-light image enhancement

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Abstract

Images captured in inadequate lighting conditions often suffer from uneven illumination, low contrast, and poor visibility. Such degraded images not only lead to unpleasing images for human vision but can also degrade the performance of algorithms in many computer vision applications. In this talk, we will introduce a Retinex-based variational model for low-light image enhancement. The proposed model can effectively improve the visibility of low-light images while achieving noise suppression. A number of numerical experiments and comparisons with other popular enhancement methods are conducted to demonstrate the high performance of our method.

Keywords Retinex model, image enhancement, adaptive variational model