A fractional-order total variation-based model for image color transfer

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Research

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Abstract

The color transfer problem aims at generating an image by changing the colors of a target image with new colors of a given reference image. In this manuscript, we introduce a novel fractional-order total variation-based model for the color transfer problem. The proposed model extends the total generalized variation-based model, by adding a new data fidelity term and changing the regularization term. These terms enable the reduction of color artifacts and keep the structures of a target image well. To solve our model, we adopt the forward–backward splitting algorithm, and the alternating direction method of multipliers is used for solving subproblems. Numerical experiments validate the effectiveness of the proposed model compared to the existing methods.

Full Text

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