

Title (en)

METHOD AND SYSTEM FOR ROBUST AND FLEXIBLE EXTRACTION OF IMAGE INFORMATION USING COLOR FILTER ARRAYS

Title (de)

VERFAHREN UND SYSTEM FÜR ROBUSTE UND FLEXIBLE EXTRAKTION VON BILDDATEN MITHILFE VON FARBFILTERARRAYS

Title (fr)

PROCÉDÉ ET SYSTÈME DESTINÉS À UNE EXTRACTION ROBUSTE ET SOUPLE D'INFORMATIONS D'IMAGE À L'AIDE DE RÉSEAUX DE FILTRES DE COULEUR

Publication

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Application

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Abstract (en)

[origin: WO2011119893A2] Methods and systems for robust and flexible extraction of image information using color filter arrays. Methods are provided comprising receiving a sample set of data generated by transforming and sampling an optical property of an original color image in a spatial basis, wherein the transformation effected is substantially local in the spatial basis and has partially overlapping spectra. A generalized inverse of the transform augmented with regularization constraints is applied to the sample set of data to infer original image data. According to one approach the generalized inverse does not use variational minimization or assume constant color ratios. According to an alternative approach regularization can take the form of predetermined spectral constraints applied to the sample set of data to infer the original image data. According to another alternative approach regularization can promote spectral sparsity. Methods are also provided for creating an optical color filter array, for sampling an image, for reducing noise in an image, and for computing a sparse representation of an image signal. Systems for carrying out these and other methods are also provided.

IPC 8 full level

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