Title (en)
METHOD AND APPARATUS FOR PERFORMING SUPER-RESOLUTION OF SINGLE IMAGES

Title (de)
VERFAHREN UND VORRICHTUNG ZUR DURCHFÜHRUNG EINER SUPERAUFLÖSUNG VON EINZELBILDERN

Title (fr)
PROCÉDÉ ET APPAREIL DE MISE EN UVRE D'UNE SUPER-RÉSOLUTION D'IMAGES UNIQUES

Publication
EP 2948922 A1 20151202 (EN)

Application
EP 14701171 A 20140121

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• EP 13305084 A 20130124
• EP 13305956 A 20130705
• EP 2014051117 W 20140121
• EP 14701171 A 20140121

Abstract (en)
[origin: WO2014114635A1] A method for performing super-resolution of a single image comprises steps of downsampling (S1) a LR input image by a first factor, separating the LR input image into overlapping blocks (xi), and for each of the blocks (xi) searching similar blocks in the downsampled LR images, determining blocks ($c_{i,1}, c_{i,2}, c_{i,3}$) at corresponding positions in the LR input image, locally optimizing (S4) the blocks by linear approximation to obtain locally optimized patches ($z_k a$), downsampling (S5) the locally optimized patches ($z_k a$) by the first factor to obtain a downsampled locally optimized patch ($z_k a,d$), comparing the downsampled locally optimized patch ($z_k a,d$) with the input block ($x_i 0$) and optimizing the number and/or weights ($w_{i,1}, w_{i,2}, w_{i,3}$) of the determined blocks ($c_{i,1}, c_{i,2}, c_{i,3}$), wherein a locally optimized patch ($x_{1 i}$) is obtained, and repeating the above steps with different sampling factors, wherein for each repetition the locally optimized patch ($x_{1 i}$, $x_{2 i}$, $x_{3 i}$) of the previous iteration is used as input block. The locally optimized patch ($x_{3 i}$) of the last iteration are accumulated and averaged (S8), and IBP (S9) is performed to obtain a HR output image (S10).

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Citation (search report)
See references of WO 2014114635A1

Cited by
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