

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

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Application

EP 14701171 A 20140121

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- EP 2014051117 W 20140121
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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 (ci,1,ci,2,ci,3) at corresponding positions in the LR input image, locally optimizing (S4) the blocks by linear approximation to obtain locally optimized patches (zk a), downsampling (S5) the locally optimized patches (zk a) by the first factor to obtain a downsampled locally optimized patch (zk a,d), comparing the downsampled locally optimized patch (zk a,d) with the input block (xi 0) and optimizing the number and/or weights (wi,1,wi,2,wi,3) of the determined blocks (ci,1,ci,2,ci,3), wherein a locally optimized patch (xi i) is obtained, and repeating the above steps with different sampling factors, wherein for each repetition the locally optimized patch (xi i, x2 i, x3 i) of the previous iteration is used as input block. The locally optimized patch (x3 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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