

Title (en)

METHOD AND DEVICE FOR THE AUTOMATED COMPARISON OF TWO SETS OF MEASUREMENT VALUES

Title (de)

VERFAHREN UND VORRICHTUNG ZUM AUTOMATISIERTEN VERGLEICHEN ZWEIER SÄTZE VON MESSWERTEN

Title (fr)

PROCÉDÉ ET DISPOSITIF POUR LA COMPARAISON AUTOMATIQUE DE DEUX JEUX DE VALEURS DE MESURE

Publication

EP 2215559 A2 20100811 (DE)

Application

EP 08841593 A 20081024

Priority

- EP 2008009188 W 20081024
- DE 102007051612 A 20071024

Abstract (en)

[origin: WO2009053110A2] The invention relates to a method for the automated comparison of two sets of measuring values, wherein the measuring values of the two sets are each associated to a class of a finite number of classes defined by indices such that one frequency distribution is defined for each of the two sets, which indicates for each class a frequency of the measurement values falling within said class, whereupon a distance measurement between said frequency distributions is calculated as a function of the final value of a first auxiliary value, which is denoted, for example, as a match, wherein the first auxiliary value match is calculated by means of an algorithm using two sets of variables, in that, at a given maximum distance $d_{\max} = 1$, an actual value of a further auxiliary value is defined as $m = \min(q_i', v_j')$ for all integer distances d at $0 = d = d_{\max}$, beginning with $d = 0$ and progressing at greater distances d , for all indices i and j separated from each other by the distance d , wherein m stands for the further auxiliary value, q_i' stands for the variables of a first of the two variable sets, and v_j' stands for the variables of the second set of variables, wherein the variables of the two sets of variables are defined at the beginning of the algorithm as $q_i' = q_i$, $v_j' = v_j$, wherein q_i stands for the frequency from one of the first of the two frequency distributions, and v_j stands for the frequencies of the second frequency distribution, - whereupon the variables q_i' and v_j' are redefined by subtracting the actual value of the further auxiliary value m , and the actual value of the further auxiliary value m that is multiplied by a matrix element $a_{i,j}$ is added to an actual value of the first auxiliary value match originally defined as match = 0, wherein the matrix elements $a_{i,j}$ form a similarity matrix. The invention further relates to a corresponding device for the automated comparison of two sets of measuring values.

IPC 8 full level

G06F 17/18 (2006.01); **G06K 9/64** (2006.01)

CPC (source: EP US)

G01D 1/00 (2013.01 - EP US); **G06V 10/758** (2022.01 - EP US)

Citation (search report)

See references of WO 2009053110A2

Citation (examination)

- SRINIVASAN S H: "Local earth mover's distance and face warping", 2004 IEEE INTERNATIONAL CONFERENCE ON MULTIMEDIA AND EXPO (ICME): JUNE 27 - 30, 2004, TAIPEI, TAIWAN, PISCATAWAY, NJ : IEEE OPERATIONS CENTER, US, vol. 2, 27 June 2004 (2004-06-27), pages 1227 - 1230, XP010771047, ISBN: 978-0-7803-8603-7, DOI: 10.1109/ICME.2004.1394443
- ALI RAHIMI: "Ali Rahimi's web page (Home and Research with links to papers directory)", 27 May 2007 (2007-05-27), pages 1 - 18, XP055048710, Retrieved from the Internet <URL:http://web.archive.org/web/20070527104801/http://people.csail.mit.edu/rahimi/> [retrieved on 20130107]
- FRANCESC SERRATOSA ET AL: "An Efficient Distance Between Multi-dimensional Histograms for Comparing Images", 1 January 2006, STRUCTURAL, SYNTACTIC, AND STATISTICAL PATTERN RECOGNITION LECTURE NOTES IN COMPUTER SCIENCE;;LNCS, SPRINGER, BERLIN, DE, PAGE(S) 412 - 421, ISBN: 978-3-540-37236-3, XP019038289
- MICHAEL WERMAN ET AL: "A distance metric for multidimensional histograms", COMPUTER VISION, GRAPHICS, AND IMAGE PROCESSING, vol. 32, no. 3, 1 December 1985 (1985-12-01), pages 328 - 336, XP055055910, ISSN: 0734-189X, DOI: 10.1016/0734-189X(85)90055-6

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

DOCDB simple family (publication)

WO 2009053110 A2 20090430; WO 2009053110 A3 20100225; CA 2703268 A1 20090430; CN 101836203 A 20100915; CN 101836203 B 20141217; DE 102007051612 A1 20090507; DE 102007051612 B4 20090625; EP 2215559 A2 20100811; US 2010260425 A1 20101014; US 8249360 B2 20120821

DOCDB simple family (application)

EP 2008009188 W 20081024; CA 2703268 A 20081024; CN 200880113025 A 20081024; DE 102007051612 A 20071024; EP 08841593 A 20081024; US 73814408 A 20081024