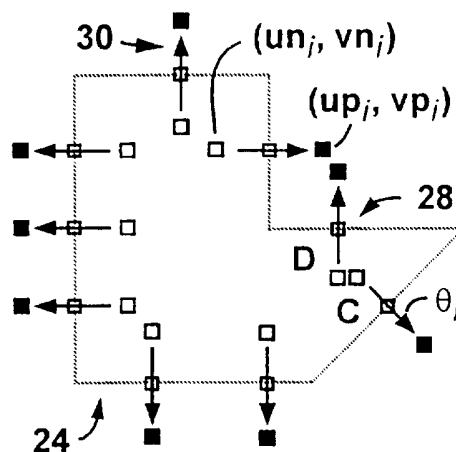




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<p>(21) International Application Number: PCT/US96/17590 (22) International Filing Date: 5 November 1996 (05.11.96) (30) Priority Data: 08/556,367 13 November 1995 (13.11.95) US (71) Applicant: APPLIED INTELLIGENT SYSTEMS, INC. [US/US]; 110 Parkland Plaza, Ann Arbor, MI 48103 (US). (72) Inventor: WILSON, Stephen, S.; 366 Hilldale, Ann Arbor, MI 48105 (US). (74) Agent: COPPOLA, Joseph, V., Sr.; Rader, Fishman & Grauer P.L.L.C., Suite 140, 1533 North Woodward Avenue, Bloomfield Hills, MI 48304 (US).</p>		<p>(81) Designated States: JP, KR, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 19 June 1997 (19.06.97)</p>

(54) Title: VECTOR CORRELATION SYSTEM FOR AUTOMATICALLY LOCATING PATTERNS IN AN IMAGE



(57) Abstract

The present invention relates to a combined approach of image and template correlation, and vector correlation wherein edge detection and pattern searching are joined in a single operation to provide great flexibility without requiring extensive computational facilities. A template is devised from a sparse set of coordinate points that model only the important edges of an object to be located within an image. Different templates are dynamically reconstructed as an estimation of the object location within the image becomes more precise.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US96/17590

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : G06K 9/00
US CL : 382/181

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 382/181, 190, 195, 199, 205, 209, 216, 217, 218, 221

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

APS search terms: IMAGE, VECTOR, CORRELATION

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US, A, 5,373,567 (TAKAHASHI ET AL) 13 DECEMBER 1994, ENTIRE DOCUMENT	1-19
Y	US, A, 5,054,095 (BERNSEN ET AL) 01 OCTOBER 1991, ENTIRE DOCUMENT	1-19
Y	US, A, 5,050,224 (MORI) 17 SEPTEMBER 1991, ENTIRE DOCUMENT	1-19
Y	US, A, 5,014,330 (KOBAYASHI ET AL) 07 MAY 1991, ENTIRE DOCUMENT	1-19
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PCT/US96/17590

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US, A, 4,736,437 (SACKS ET AL) 05 APRIL 1988, ENTIRE DOCUMENT	1-19
Y	US, A, 4,648,119 (WINGFIELD ET AL) 03 MARCH 1987, ENTIRE DOCUMENT	1-19