



- (51) International Patent Classification:
G06K 9/00 (2006.01)
- (21) International Application Number:
PCT/US2012/032268
- (22) International Filing Date:
5 April 2012 (05.04.2012)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
61/473,377 8 April 2011 (08.04.2011) US
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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

- (88) Date of publication of the international search report:
1 May 2014

(54) Title: KALMAN FILTER APPROACH TO AUGMENT OBJECT TRACKING

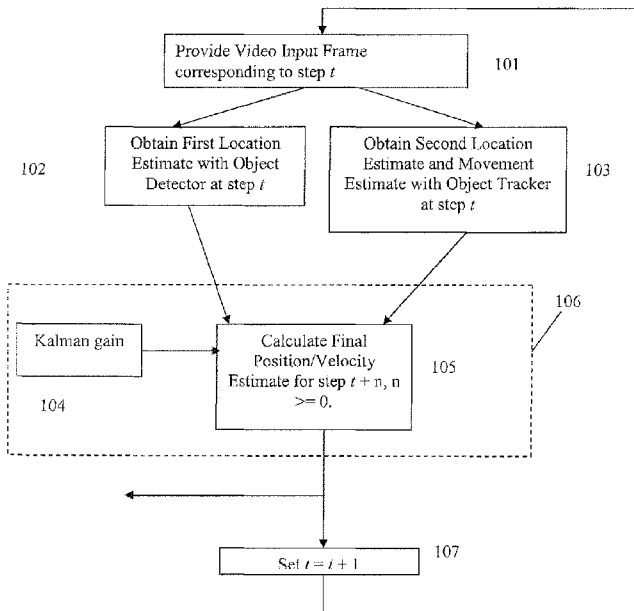


FIG. 1

(57) Abstract: Techniques for tracking one or more objects at each position in an interval in a video input with the use of a Kalman filter, including obtaining a first location estimate of an object with an object detector, obtaining a second location estimate and a movement estimate of the object with an object tracker, determining a final estimate of a position and/or a velocity of the object with the Kalman filter.



INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 12/32268

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G06K 9/00 (2012.01)

USPC - 382/103

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)

USPC: 382/103

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
IPC: G06K9/00; USPC: 382/100, 103, 168, 171; 708/200, 300 (keyword limited; terms below)

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

PubWEST (USPT, PGPB, EPAB, JPAB); Google Scholar; Google Patents

Keywords: Video; Kalman filter; noise estimation; predictor; location; velocity; coordinates

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X — Y	US 2003/0185434 A1 (LEE et al.) 02 October 2003 (02.10.2003), entire document, especially; para [0002], [0007], [0036]-[0039], [0041]-[0081], [0120]	1 - 8, 10 - 18 ----- 9
Y	US 6,404,900 B1 (QIAN et al.) 11 June 2002 (11.06.2002), entire document, especially; col. 4, ln 18-29	9
A	US 2003/0053661 A1 (MAGAREY) 20 March 2003 (20.03.2003), entire document	1 - 18
A	US 7,423,553 B2 (YOKOKOHI et al.) 09 September 2008 (09.09.2008), entire document	1 - 18
A	KARLSSON et al. 'Human Motion Tracking Using 3D Camera' Lingkopng 2010, Retrieved online 10 June 2010 at < http://liu.diva-portal.org/smash/get/diva2:303909/FULLTEXT01 >	1 - 18

 Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

10 June 2012 (10.06.2012)

Date of mailing of the international search report

02 JUL 2012

Name and mailing address of the ISA/US

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