

Title (en)  
ITEM PUT AND TAKE DETECTION USING IMAGE RECOGNITION

Title (de)  
ERKENNUNG DER EINSTELLUNG UND ENTHAHME VON ARTIKELN MITTELS BILDERKENNUNG

Title (fr)  
DETECTION DE MISE EN PLACE ET ENLEVEMENT D'ARTICLE À L'AIDE D'UNE RECONNAISSANCE D'IMAGE

Publication  
**EP 3665648 A4 20201230 (EN)**

Application  
**EP 18844384 A 20180726**

Priority  

- US 201762542077 P 20170807
- US 201715847796 A 20171219
- US 201815907112 A 20180227
- US 201815945466 A 20180404
- US 201815945473 A 20180404
- US 2018043934 W 20180726

Abstract (en)  
[origin: WO2019032307A1] Systems and techniques are provided for tracking puts and takes of inventory items by subjects in an area of real space. A plurality of cameras with overlapping fields of view produce respective sequences of images of corresponding fields of view in the real space. In one embodiment, the system includes first image processors, including subject image recognition engines, receiving corresponding sequences of images from the plurality of cameras. The first image processors process images to identify subjects represented in the images in the corresponding sequences of images. The system includes second image processors, including background image recognition engines, receiving corresponding sequences of images from the plurality of cameras. The second image processors mask the identified subjects to generate masked images. Following this, the second image processors process the masked images to identify and classify background changes represented in the images in the corresponding sequences of images.

IPC 8 full level  
**G06K 9/00** (2006.01); **G06K 9/40** (2006.01); **G06K 9/62** (2006.01); **G06N 3/08** (2006.01); **G06Q 20/20** (2012.01); **G06Q 30/06** (2012.01)

CPC (source: EP US)  
**G06F 18/24143** (2023.01 - EP); **G06N 3/045** (2023.01 - EP); **G06N 3/084** (2013.01 - EP); **G06Q 10/087** (2013.01 - EP); **G06Q 20/20** (2013.01 - EP); **G06Q 20/203** (2013.01 - EP US); **G06Q 20/208** (2013.01 - EP); **G06Q 30/02** (2013.01 - EP); **G06Q 30/06** (2013.01 - EP); **G06V 10/454** (2022.01 - EP US); **G06V 10/82** (2022.01 - EP US); **G06V 20/52** (2022.01 - EP US); **G07G 1/0054** (2013.01 - EP); **H04N 17/002** (2013.01 - EP); **H04N 23/90** (2023.01 - EP)

Citation (search report)  

- [X] US 2013182114 A1 20130718 - ZHANG ZHONG [US], et al
- [I] WO 2016136144 A1 20160901 - PANASONIC IP MAN CO LTD [JP]
- [A] EP 2555162 A1 20130206 - SONY CORP [JP]
- [I] US 9262681 B1 20160216 - MISHRA PRAGYANA K [US]
- See references of WO 2019032305A2

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**WO 2019032307 A1 20190214**; CA 3072056 A1 20190214; CA 3072058 A1 20190214; CA 3072062 A1 20190214; CA 3072063 A1 20190214; EP 3665615 A1 20200617; EP 3665615 A4 20201230; EP 3665647 A1 20200617; EP 3665647 A4 20210106; EP 3665648 A2 20200617; EP 3665648 A4 20201230; EP 3665649 A1 20200617; EP 3665649 A4 20210106; JP 2020530167 A 20201015; JP 2020530168 A 20201015; JP 2020530170 A 20201015; JP 2021503636 A 20210212; JP 7181922 B2 20221201; JP 7191088 B2 20221216; JP 7208974 B2 20230119; JP 7228569 B2 20230224; TW 201911119 A 20190316; TW I773797 B 20220811; WO 2019032304 A1 20190214; WO 2019032305 A2 20190214; WO 2019032305 A3 20190321; WO 2019032306 A1 20190214; WO 2019032306 A9 20200319

DOCDB simple family (application)  
**US 2018043939 W 20180726**; CA 3072056 A 20180726; CA 3072058 A 20180726; CA 3072062 A 20180726; CA 3072063 A 20180726; EP 18843163 A 20180726; EP 18843486 A 20180726; EP 18844384 A 20180726; EP 18844509 A 20180726; JP 2020507520 A 20180726; JP 2020507521 A 20180726; JP 2020507550 A 20180726; JP 2020507669 A 20180726; TW 107126341 A 20180730; US 2018043933 W 20180726; US 2018043934 W 20180726; US 2018043937 W 20180726