

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2019/088800

A. CLASSIFICATION OF SUBJECT MATTER

G06F 21/32(2013.01)i; G06K 9/00(2006.01)i

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)

G06F21; G09K9; G10L15; G10L17

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)

CNABS; CNTXT; VEN: 区分, 验证信息, 验证码, 验证内容, 验证符, 识别, 真人, 活体, 验证, 混淆, 相似, 类似, 唇语, 唇形, 口型, 唇, 难度, 降低, 识别率, 相邻, verify, difference, lip, mouth, shape, living body, captcha

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PX	CN 109461437 A (PING AN TECHNOLOGY (SHENZHEN) CO., LTD.) 12 March 2019 (2019-03-12) entire document	1-20
A	CN 106529379 A (ALIBABA GROUP HOLDING LIMITED) 22 March 2017 (2017-03-22) description, paragraphs 79-109, and figure 1	1-20
A	CN 104992095 A (BAIDU ONLINE NETWORK TECHNOLOGY (BEIJING) CO., LTD.) 21 October 2015 (2015-10-21) description, paragraphs 30 and 46	1-20
A	CN 101101752 A (HUAZHONG UNIVERSITY OF SCIENCE AND TECHNOLOGY) 09 January 2008 (2008-01-09) entire document	1-20
A	CN 104598796 A (IFLYTEK CO., LTD.) 06 May 2015 (2015-05-06) entire document	1-20
A	CN 105930713 A (GIONEE COMMUNICATION EQUIPMENT CO., LTD.) 07 September 2016 (2016-09-07) entire document	1-20

 Further documents are listed in the continuation of Box C.
 See patent family annex.

* 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

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"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

03 August 2019

Date of mailing of the international search report

16 August 2019

Name and mailing address of the ISA/CN

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C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN 104361276 A (NEWCAPEC ELECTRONICS CO., LTD.) 18 February 2015 (2015-02-18) entire document	1-20
A	US 2017024608 A1 (IBM) 26 January 2017 (2017-01-26) entire document	1-20

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/CN2019/088800

Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)			Publication date (day/month/year)
CN	109461437	A	12 March 2019	None			
CN	106529379	A	22 March 2017	None			
CN	104992095	A	21 October 2015	CN	104992095	B	10 July 2018
CN	101101752	A	09 January 2008	CN	101101752	B	01 December 2010
CN	104598796	A	06 May 2015	CN	104598796	B	25 August 2017
CN	105930713	A	07 September 2016	None			
CN	104361276	A	18 February 2015	CN	104361276	B	18 July 2017
US	2017024608	A1	26 January 2017	US	9996732	B2	12 June 2018