

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT6511657

| | |
|---|---|
| SUBMISSION TYPE: | NEW ASSIGNMENT |
| NATURE OF CONVEYANCE: | ASSIGNMENT |
| CONVEYING PARTY DATA | |
| Name | Execution Date |
| ALIBABA GROUP HOLDING LIMITED | 08/26/2020 |
| RECEIVING PARTY DATA | |
| Name: | ADVANTAGEOUS NEW TECHNOLOGIES CO., LTD. |
| Street Address: | CAYMAN CORPORATE CENTRE, 27 HOSPITAL ROAD |
| City: | GEORGE TOWN, GRAND CAYMAN |
| State/Country: | CAYMAN ISLANDS |
| Postal Code: | KY1-9008 |
| PROPERTY NUMBERS Total: 1 | |
| Property Type | Number |
| Application Number: | 17156412 |
| CORRESPONDENCE DATA | |
| Fax Number: | |
| <i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i> | |
| Phone: | 650-815-2692 |
| Email: | wchen@sheppardmullin.com, svpatents@sheppardmullin.com, monda@sheppardmullin.com |
| Correspondent Name: | SHEPPARD MULLIN RICHTER & HAMPTON LLP WEIGUO CHEN |
| Address Line 1: | 379 LYTTON AVE. |
| Address Line 4: | PALO ALTO, CALIFORNIA 94301 |
| ATTORNEY DOCKET NUMBER: | 50GL-326215 |
| NAME OF SUBMITTER: | MASAKO ONDA |
| SIGNATURE: | /Masako Onda/ |
| DATE SIGNED: | 01/22/2021 |
| Total Attachments: 14 | |
| source=50GL-326215_Assignment-2#page1.tif | |
| source=50GL-326215_Assignment-2#page2.tif | |
| source=50GL-326215_Assignment-2#page3.tif | |
| source=50GL-326215_Assignment-2#page4.tif | |
| source=50GL-326215_Assignment-2#page5.tif | |

source=50GL-326215_Assignment-2#page6.tif
source=50GL-326215_Assignment-2#page7.tif
source=50GL-326215_Assignment-2#page8.tif
source=50GL-326215_Assignment-2#page9.tif
source=50GL-326215_Assignment-2#page10.tif
source=50GL-326215_Assignment-2#page11.tif
source=50GL-326215_Assignment-2#page12.tif
source=50GL-326215_Assignment-2#page13.tif
source=50GL-326215_Assignment-2#page14.tif

Patent Assignment

This Patent Assignment (this "Assignment") with an effective date of August 24, 2020 (the "Effective Date") by Alibaba Group Holding Limited, a company duly authorized under the laws of Cayman Islands and having an address at Fourth Floor, One Capital Place, P.O. Box 847, George Town, Grand Cayman, Cayman Islands (hereinafter the "Assignor") witnesseth:

WHEREAS, Assignor is the owner of certain rights, title and interest in and to the patents and patent applications set forth on Schedule A hereto (hereinafter the "Patents and Applications");

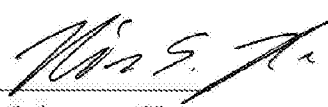
WHEREAS, Advantageous New Technologies Co., Ltd., a company duly organized under and pursuant to the laws of Cayman Islands and having an address at Cayman Corporate Centre, 27 Hospital Road, George Town, Grand Cayman KY1-9008, Cayman Islands (hereinafter the "Assignee"), is desirous of acquiring Assignor's entire right, title and interest in and to said Patents and Applications, and in and to any Letters Patent or Patents to be obtained therefor and thereon;

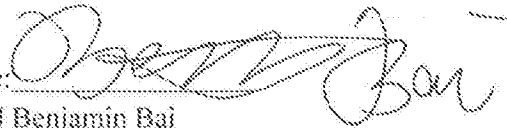
NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, Assignor has as of the Effective Date sold, assigned, transferred and conveyed, and does hereby sell, assign, transfer and convey, unto Assignee, all of Assignor's rights, titles and interests in and to the Patents and Applications, and any and all Letters Patent or Patents in the United States of America and all foreign countries which may be granted therefor and thereon, for its own use and behalf and the use and behalf of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted, as fully and entirely as the same would have been held and enjoyed by the Assignor, had this sale and assignment not been made. Assignor does hereby sell, assign, transfer, and convey to Assignee, its successors, legal representatives, and assigns all claims for damages and all remedies arising out of any violation of the rights assigned hereby that may have accrued prior to the date of assignment to Assignee, or may accrue hereafter including, but not limited to, the right to sue for, collect, and retain damages for past, present and future infringement of the said Patents and Applications before or after issuance.

IN TESTIMONY WHEREOF, this Assignment is signed by the following duly authorized signatories of the Assignor and Assignee respectively, on this 26th day of August, 2020.

Assignor
Alibaba Group Holding Limited

Assignee
Advantageous New Technologies Co., Ltd.

Signature: 
Name: Min Schumann Xu
Title: Chief Patent & Technology Counsel

Signature: 
Name: J Benjamin Bai
Title: Director

Schedule A to Patent Assignment

| Internal Docket | Country / Region | App'n No. | App'n Date | Patent Title |
|-----------------|------------------|------------|------------|--|
| A11418US | US | 15/928,248 | 2018/3/22 | METHOD AND DEVICE FOR CONSTRUCTING SCORING MODEL AND EVALUATING USER CREDIT |
| A11431US | US | 15/927,337 | 2018/3/21 | METHOD AND APPARATUS FOR CONSENSUS VERIFICATION |
| A11432US | US | 15/927,402 | 2018/3/21 | METHOD AND APPARATUS FOR PROCESSING TRANSACTION REQUESTS |
| A11435US | US | 15/933,545 | 2018/3/23 | BLOCKCHAIN-BASED TRANSACTION PROCESSING METHOD AND APPARATUS |
| A11444US | US | 15/935,209 | 2018/3/26 | Method, Apparatus, and System for Blockchain Consensus |
| A12447US | US | 16/127,583 | 2018/9/11 | Method, Apparatus, and Electronic Device for Risk Feature Screening and Descriptive Message Generation |
| A12477US | US | 16/034,689 | 2018/7/13 | Method, Apparatus, and Electronic Device for Processing Consensus Requests in a Blockchain Consensus Network |
| A12641US | US | 16/124,001 | 2018/9/6 | Code Scanning Security Check Method and Apparatus |
| A12778US | US | 16/139,887 | 2018/9/24 | Data Storage Method, Data Query Method and Apparatuses |
| A13027US | US | 16/144,278 | 2018/9/27 | Smart Meal Ordering Method and Device |
| A2211US | US | 14/603,278 | 2015/1/22 | METHOD AND APPARATUS OF DISPLAYING INFORMATION |
| PCT2706US | US | 15326908 | 2015/7/17 | INFORMATION PUSHING METHOD, SERVER, SHARER CLIENT AND THIRD-PARTY CLIENT |
| PCT2871US | US | 15327965 | 2015/7/17 | METHOD AND DEVICE FOR IDENTITY AUTHENTICATION |
| A2978US | US | 14/839,709 | 2015/8/28 | Method and Apparatus of Obtaining Location Information |
| PCT3133US | US | 15/505,400 | 2015/8/11 | Service Processing Method, Apparatus and Server |
| PCT3267US | US | 15520165 | 2015/10/10 | Verification Method and Apparatus |
| PCT3277US | US | 15626956 | 2017/6/19 | Information Presentation Method and Apparatus |
| PCT3412US | US | 15661239 | 2017/7/27 | Method and Device for Saving Chat Record of Instant Messaging |
| PCT3465US | US | 15529843 | 2015/11/27 | Method and Server for Displaying Access Content |
| PCT3579US | US | 15528727 | 2015/12/3 | Service Processing Method and Apparatus, and Service Server |
| PCT3827US | US | 15635642 | 2017/6/28 | Network Resource Processing Method, Apparatus and Instant Messaging System |
| PCT3934US | US | 15662637 | 2017/7/28 | Connection Establishment Method and Device |
| PCT4089US | US | 15661099 | 2017/7/27 | Service Management Method and the Device |
| PCT5214US | US | 15/991,784 | 2018/5/29 | User Data Sharing Method and Device |
| PCT5796US | US | 15/897,431 | 2018/2/15 | AUDIO RECOGNITION METHOD AND SYSTEM |
| A6010US | US | 15/332,663 | 2016/10/24 | METHOD, SYSTEM, AND DEVICE FOR PROCESS TRIGGERING |
| PCT6403US | US | 15/925,144 | 2018/3/19 | Information Registration and Authentication Method and Device |
| PCT6832US | US | 16/000,146 | 2018/6/5 | Method and Apparatus for Generating Random Character String |
| PCT7068US | US | 15/993,071 | 2018/5/30 | METHOD AND APPARATUS FOR DISPLAYING DISPLAY OBJECT ACCORDING TO REAL-TIME INFORMATION |
| PCT7165US | US | 15/994,746 | 2018/5/31 | Resource Processing Method and Device |
| PCT7193US | US | 16/005,404 | 2018/6/11 | Method and Apparatus for Recognizing Service Request to Change Mobile Phone Number |
| PCT8093US | US | 16/145,660 | 2018/9/28 | Data Caching Method and Apparatus |
| PCT8183US | US | 16/162,855 | 2018/10/17 | ORDER PROCESSING METHOD AND DEVICE |
| PCT8184US | US | 16/158,869 | 2018/10/12 | Method and System for Allocating Virtual Articles |
| PCT8186US | US | 16/152,120 | 2018/10/4 | Target Location Search Method and Apparatus |
| PCT8402US | US | 16/156,239 | 2018/10/10 | Service Processing Method and Device |

| | | | | |
|-----------------|----|------------|------------|--|
| PCT8580US | US | 16/156,762 | 2018/10/10 | METHOD AND APPARATUS FOR PROCESSING FAILURE OF CIPHER CHANGE OF CIPHERTEXT IN DATABASE |
| PCT8686US | US | 16/171,791 | 2018/10/26 | METHOD AND APPARATUS FOR SETTING MOBILE DEVICE IDENTIFIER |
| A16345DUS | US | 29/673,351 | 2018/12/13 | PAYMENT MACHINE |
| PCT9400US | US | 16/227,527 | 2018/12/20 | METHOD AND DEVICE FACILITATING EXPANSION OF PRIMARY PAYMENT INSTRUMENTS |
| PCT9404US | US | 16/195,223 | 2018/11/19 | STREAMING DATA DISTRIBUTED PROCESSING METHOD AND DEVICE |
| A15839DUS | US | 29/671,448 | 2018/11/27 | PAYMENT MACHINE |
| PCT9405US | US | 16/217,974 | 2018/12/12 | DATA STORAGE METHOD AND DEVICE |
| PCT9087US | US | 16/234,267 | 2018/12/27 | METHOD AND DEVICE FOR CONTROLLING DATA RISK |
| A16362DUS | US | 29/675,016 | 2018/12/28 | PAYMENT MACHINE |
| PCT9393US | US | 16/216,771 | 2018/12/11 | METHOD AND DEVICE FOR AUDIO RECOGNITION |
| PCT9089US | US | 16/240,498 | 2019/1/4 | TWO-DIMENSIONAL CODE INFORMATION QUERY METHOD, SERVER, CLIENT, AND SYSTEM |
| PCT9093US | US | 16/247,346 | 2019/1/14 | METHOD AND DEVICE FOR PROVIDING AND OBTAINING GRAPHIC CODE INFORMATION, AND TERMINAL |
| A16021DUS | US | 29/672,537 | 2018/12/6 | PORTABLE Payment Machine |
| PCT9374US | US | 16/252,138 | 2019/1/18 | METHOD AND SYSTEM FOR RECOGNIZING LOCATION INFORMATION IN TWO-DIMENSIONAL CODE |
| A16689DUS | US | 29/677,637 | 2019/1/22 | PORTABLE PAYMENT MACHINE |
| PCT9031US | US | 16/260,849 | 2019/1/29 | DATA PROCESSING METHOD AND APPARATUS |
| PCT2706US C1 | US | 16/152,194 | 2018/10/4 | INFORMATION PUSHING METHOD, SERVER, SHARER CLIENT AND THIRD-PARTY CLIENT |
| PCT9026US | US | 16/266,816 | 2019/2/4 | SERVICE DISPLAYING METHOD AND TERMINAL |
| PCT9369US | US | 16/265,881 | 2019/2/1 | CARD-BASED INFORMATION DISPLAYING METHOD AND APPARATUS, AND INFORMATION DISPLAYING SERVICE PROCESSING METHOD AND APPARATUS |
| PCT9489US | US | 16/272,852 | 2019/2/11 | AUTHENTICATION METHOD, DEVICE AND AUTHENTICATION CLIENT |
| PCT9503US | US | 16/274,450 | 2019/2/13 | METHOD FOR DETERMINING CHANGE IN DISTANCE, LOCATION PROMPTING METHOD AND APPARATUS AND SYSTEM THEREOF |
| PCT9567US | US | 16/276,204 | 2019/2/14 | METHOD AND DEVICE FOR DETECTING FUND TRANSACTION ROUTE IN ELECTRONIC PAYMENT PROCESS |
| A17037DUS | US | 29680331 | 2019/2/14 | INFORMATION TERMINAL FOR PAYMENT |
| A17036DUS | US | 29680333 | 2019/2/14 | INFORMATION TERMINAL FOR PAYMENT |
| PCT9749US | US | 16/276,418 | 2019/2/14 | DATA STORAGE, DATA CHECK, AND DATA LINKAGE METHOD AND APPARATUS |
| PCT7193US C1 | US | 16/206,220 | 2018/11/30 | METHOD AND APPARATUS FOR RECOGNIZING SERVICE REQUEST TO CHANGE MOBILE PHONE NUMBER |
| PCT9536US | US | 16/282,102 | 2019/2/21 | USER IDENTITY VERIFICATION METHOD, APPARATUS AND SYSTEM |
| PCT9661US | US | 16/281,331 | 2019/2/21 | INFORMATION INPUT METHOD AND APPARATUS |
| PCT9408US | US | 16/283,381 | 2019/2/22 | METHOD AND DEVICE FOR DETERMINING KEY VARIABLE IN MODEL |
| PCT9692US | US | 16/284,272 | 2019/2/25 | DIGITAL OBJECT UNIQUE IDENTIFIER (DOI) RECOGNITION METHOD AND DEVICE |
| PCT9131US | US | 16/284,724 | 2019/2/25 | USER POSITIONING METHOD, INFORMATION PUSH METHOD, AND RELATED APPARATUS |
| PCT9040US | US | 16284969 | 2019/2/25 | INFORMATION PRESENTATION METHOD AND DEVICE |
| PCT8787US | US | 16/285,760 | 2019/2/26 | SEARCH INFORMATION PROCESSING METHOD AND APPARATUS |
| PCT9532US | US | 16/286,270 | 2019/2/26 | VERIFICATION METHOD AND DEVICE |
| PCT9667US | US | 16/287,617 | 2019/2/27 | RANDOM NUMBER GENERATION METHOD AND DEVICE UTILIZED IN COMPUTER SYSTEM |

| | | | | |
|------------|----|------------|------------|---|
| PCT9876US | US | 16/351,904 | 2019/3/13 | METHOD AND DEVICE FOR WRITING STORED DATA INTO STORAGE MEDIUM BASED ON FLASH MEMORY |
| PCT9702US | US | 16/356,400 | 2019/3/18 | INTERNET RESOURCE DISTRIBUTING METHOD AND DEVICE, AND NETWORK RED-ENVELOPE DISTRIBUTING METHOD |
| PCT9392US | US | 16/356,506 | 2019/3/18 | METHOD AND APPARATUS FOR REALIZING COMMUNICATION BETWEEN WEB PAGE AND NATIVE APPLICATION, AND ELECTRONIC DEVICE |
| PCT9705US | US | 16/358,382 | 2019/3/19 | OPERATION OBJECT PROCESSING METHOD AND APPARATUS |
| PCT9879US | US | 16/363,365 | 2019/3/25 | IDENTITY RECOGNITION METHOD AND DEVICE |
| PCT9797US | US | 16/363,877 | 2019/3/25 | INFORMATION PUSH METHOD AND DEVICE |
| PCT9683US | US | 16/364,917 | 2019/3/26 | METHOD AND DEVICE FOR DETERMINING AREAS OF INTEREST BASED ON GEOLOCATION DATA |
| PCT9132US | US | 16/364,641 | 2019/3/26 | IMAGE LOADING METHOD AND DEVICE |
| A14354US | US | 16/372,719 | 2019/4/2 | CREDIT CARD PAYMENT PROCESSING METHOD AND APPARATUS |
| A17859DUS | US | 29/686,863 | 2019/4/8 | SMART SPEAKER SET |
| PCT9995US | US | 16/380,643 | 2019/4/10 | METHODS AND DEVICES FOR ENCODING AND DECODING BINARY DATA |
| PCT17147US | US | 16/342,181 | 2018/11/27 | SYSTEM AND METHOD FOR INFORMATION PROTECTION |
| PCT17824US | US | 16/342,513 | 2018/11/27 | SYSTEM AND METHOD FOR IMPROVING SECURITY OF SMART CONTRACT ON BLOCKCHAIN |
| PCT17149US | US | 16/342,605 | 2018/11/27 | SYSTEM AND METHOD FOR INFORMATION PROTECTION |
| PCT17159US | US | 16/342,713 | 2018/11/27 | SYSTEM AND METHOD FOR INFORMATION PROTECTION |
| PCT17158US | US | 16/342,817 | 2018/11/27 | SYSTEM AND METHOD FOR INFORMATION PROTECTION |
| PCT17156US | US | 16/342,653 | 2018/11/27 | SYSTEM AND METHOD FOR INFORMATION PROTECTION |
| PCT10140US | US | 16/389,105 | 2019/4/19 | APPLICATION INTERFACE MANAGEMENT METHOD AND APPARATUS |
| PCT9946US | US | 16/390,662 | 2019/4/22 | METHOD AND APPARATUS FOR DISPLAYING IMAGE INFORMATION |
| PCT9998US | US | 16/391,779 | 2019/4/23 | METHOD AND APPARATUS FOR DETECTING PAGE REDIRECTION CIRCULATION |
| A12882US | US | 16/392,166 | 2019/4/23 | CREDIT RISK PREDICTION METHOD AND DEVICE BASED ON LSTM MODEL |
| PCT10004US | US | 16/394,201 | 2019/4/25 | DATA TRANSMISSION METHOD, APPARATUS AND SYSTEM |
| PCT10579US | US | 16/400,550 | 2019/5/1 | SCAN AND PAY METHOD AND DEVICE UTILIZED IN MOBILE APPARATUS |
| A18154DUS | US | 29/689,811 | 2019/5/2 | PAYMENT MACHINE |
| A18188DUS | US | 29/689,822 | 2019/5/2 | Payment Machine |
| A18683DUS | US | 29/689,809 | 2019/5/2 | PAYMENT MACHINE |
| PCT9461US | US | 16/233,015 | 2018/12/26 | NETWORK TRANSACTION METHOD AND DEVICE BASED ON PRIVILEGE SEPARATION CONTROL |
| PCT7940US | US | 16/256,849 | 2019/1/24 | TWO-DIMENSIONAL CODE IDENTIFICATION METHOD AND DEVICE, AND MOBILE TERMINAL |
| PCT10751US | US | 16/405,570 | 2019/5/7 | PAYMENT SERVICE EXECUTION SYSTEM, METHOD, AND DEVICE |
| PCT10824US | US | 16/417,894 | 2019/5/21 | RESOURCE ALLOCATION METHOD AND DEVICE, AND ELECTRONIC PAYMENT METHOD |
| A18681US | US | 16/661,735 | 2019/10/23 | METHOD, APPARATUS, AND ELECTRONIC DEVICE FOR BLOCKCHAIN-BASED RECORDKEEPING |
| A17892US | US | 16/719,747 | 2019/12/18 | MONITORING METHOD AND SYSTEM FOR OFFLINE PAYMENT MACHINE |
| A18340US | US | 16/702,334 | 2019/12/3 | METHOD AND DEVICE FOR FACE SELECTION, RECOGNITION AND COMPARISON |
| A19191US | US | 16/698,813 | 2019/11/27 | BLOCKCHAIN-BASED RECORDKEEPING METHOD AND APPARATUS |
| A19537US | US | 16/697,972 | 2019/11/27 | EVENT PROCESSING METHOD, APPARATUS AND ELECTRONIC DEVICE BASED ON BLOCKCHAIN TECHNOLOGY |

| | | | | |
|------------|----|------------|------------|--|
| A19536US | US | 16/699,603 | 2019/11/30 | EVENT PROCESSING METHOD, APPARATUS AND ELECTRONIC DEVICE BASED ON BLOCKCHAIN TECHNOLOGY |
| A19194US | US | 16/708,133 | 2019/12/9 | BLOCKCHAIN-BASED CONTENT MANAGEMENT SYSTEM, METHOD, APPARATUS, AND ELECTRONIC DEVICE |
| A19193US | US | 16/722,772 | 2019/12/20 | BLOCKCHAIN-BASED PRODUCT PURCHASE METHOD AND APPARATUS |
| A18680US | US | 16/668,437 | 2019/10/30 | METHOD, APPARATUS, AND ELECTRONIC DEVICE FOR BLOCKCHAIN-BASED RECORDKEEPING |
| A18337US | US | 16/693,069 | 2019/11/22 | METHOD, DEVICE AND TERMINAL FOR PAYMENT |
| A18335US | US | 16/663,106 | 2019/10/24 | METHOD AND APPARATUS FOR DELIVERING ADVERTISEMENTS |
| A18140US | US | 16/660,563 | 2019/10/22 | METHOD AND APPARATUS FOR UPDATING SHARED DATA IN A MULTI-CORE PROCESSOR ENVIRONMENT |
| A18138US | US | 16/691,236 | 2019/11/21 | METHOD, APPARATUS, ELECTRONIC DEVICE AND COMPUTER STORAGE MEDIUM FOR GENERATING INFORMATION IDENTIFICATION CODES |
| A15140US | US | 16/446,304 | 2019/6/19 | METHOD AND DEVICE FOR CASH ADVANCE RECOGNITION |
| A15189US | US | 16/455,685 | 2019/6/27 | METHOD AND APPARATUS FOR OBTAINING INPUT OF SECURE MULTIPARTY COMPUTATION PROTOCOL |
| A16079US | US | 16/504,457 | 2019/7/8 | DATA PROCESSING METHOD AND APPARATUS |
| A16196US | US | 16/531,476 | 2019/8/5 | METHOD, APPARATUS AND ELECTRONIC DEVICE FOR BLOCKCHAIN TRANSACTIONS |
| A16935US | US | 16/531,609 | 2019/8/5 | METHOD, APPARATUS AND ELECTRONIC DEVICE FOR BLOCKCHAIN TRANSACTIONS |
| A17056US | US | 16/588,682 | 2019/9/30 | METHOD, APPARATUS AND ELECTRONIC DEVICE FOR BLOCKCHAIN TRANSACTIONS |
| A15188US | US | 16/455,511 | 2019/6/27 | METHOD AND APPARATUS FOR OBTAINING INPUT OF SECURE MULTIPARTY COMPUTATION PROTOCOL |
| A15607US | US | 16/591,749 | 2019/10/3 | BLOCKCHAIN-BASED TRANSACTION PROCESSING METHOD, APPARATUS, AND ELECTRONIC DEVICE |
| A16161US | US | 16/570,401 | 2019/9/13 | DATA PROCESSING METHOD, APPARATUS, AND DEVICE |
| A16197US | US | 16/554,507 | 2019/8/28 | METHOD, APPARATUS AND ELECTRONIC DEVICE FOR BLOCKCHAIN TRANSACTIONS |
| A17053US | US | 16/592,047 | 2019/10/3 | METHOD, APPARATUS AND ELECTRONIC DEVICE FOR BLOCKCHAIN TRANSACTIONS |
| A17057US | US | 16/533,704 | 2019/8/6 | METHOD, APPARATUS AND ELECTRONIC DEVICE FOR BLOCKCHAIN TRANSACTIONS |
| PCT10650US | US | 16/421,188 | 2019/5/23 | SERVICE PROCESSING METHOD AND APPARATUS |
| PCT19910US | US | 16/464,172 | 2018/12/29 | SYSTEM AND METHOD FOR DETECTING REPLAY ATTACK |
| PCT10854US | US | 16/422,673 | 2019/5/24 | METHOD AND DEVICE FOR ALLOCATING AUGMENTED REALITY-BASED VIRTUAL OBJECTS |
| PCT18620US | US | 16/464,148 | 2018/12/29 | SYSTEM AND METHOD FOR IMPLEMENTING NATIVE CONTRACT ON BLOCKCHAIN |
| PCT17511US | US | 16/464,013 | 2018/12/29 | SYSTEM AND METHOD FOR DETECTING REPLAY ATTACK |
| PCT17825US | US | 16/464,061 | 2018/12/29 | SYSTEM AND METHOD FOR INFORMATION PROTECTION |
| PCT10910US | US | 16/424,038 | 2019/5/28 | METHOD FOR ADJUSTING RISK PARAMETER, AND METHOD AND DEVICE FOR RISK IDENTIFICATION |
| A20413DUS | US | 29/701,984 | 2019/8/15 | Holder |
| A20414DUS | US | 29/702,384 | 2019/8/19 | Vehicle Speaker |
| A20417DUS | US | 29/701,994 | 2019/8/15 | Stand |
| A21168DUS | US | 29/705,323 | 2019/9/11 | SMART PAYMENT ANNOUNCEMENT DEVICE |
| PCT11629US | US | 16/584,579 | 2019/9/26 | METHOD AND DEVICE FOR WRITING SERVICE DATA IN BLOCK CHAIN SYSTEM |
| PCT11645US | US | 16/579,331 | 2019/9/23 | METHOD AND APPARATUS FOR USE IN PREVIEWING DURING IRIS RECOGNITION PROCESS |

| | | | | |
|------------|----|------------|------------|--|
| PCT11711US | US | 16/655,620 | 2019/10/17 | METHOD AND DEVICE FOR PROCESSING ELECTRONIC COUPON LINK |
| PCT11772US | US | 16/684,831 | 2019/11/15 | METHOD AND APPARATUS FOR CLUSTERING DATA STREAM |
| PCT11780US | US | 16/586,796 | 2019/9/27 | INFORMATION PROCESSING METHOD AND DEVICE BASED ON INTERNET OF THINGS |
| PCT11816US | US | 16/662,837 | 2019/10/24 | METHOD AND APPARATUS FOR OBTAINING VEHICLE LOSS ASSESSMENT IMAGE, SERVER AND TERMINAL DEVICE |
| PCT11817US | US | 16/655,001 | 2019/10/16 | METHOD AND APPARATUS FOR OBTAINING VEHICLE LOSS ASSESSMENT IMAGE, SERVER AND TERMINAL DEVICE |
| PCT12034US | US | 16/692,153 | 2019/11/22 | DATA COLLECTION METHOD AND APPARATUS FOR RISK EVALUATION, AND ELECTRONIC DEVICE |
| PCT12035US | US | 16/690,949 | 2019/11/21 | METHOD AND APPARATUS FOR DETERMINING LEVEL OF RISK OF USER, AND COMPUTER DEVICE |
| PCT12036US | US | 16/691,161 | 2019/11/21 | METHOD FOR DETERMINING RISK PREFERENCE OF USER, INFORMATION RECOMMENDATION METHOD, AND APPARATUS |
| PCT3133US | US | 16/429,141 | 2019/6/3 | Service Processing Method, Apparatus and Server |
| PCT10651US | US | 16/442,686 | 2019/6/17 | CURRENCY TYPE SWITCHING METHOD AND DEVICE |
| PCT19696US | US | 16/472,807 | 2019/2/28 | SYSTEM AND METHOD FOR BLOCKCHAIN-BASED DATA MANAGEMENT |
| PCT11393US | US | 16/535,887 | 2019/8/8 | VIRTUAL REALITY SCENE-BASED BUSINESS VERIFICATION METHOD AND DEVICE |
| PCT11391US | US | 16/527,978 | 2019/7/31 | VIRTUAL REALITY HEAD-MOUNTED APPARATUS |
| PCT11388US | US | 16/526,228 | 2019/7/30 | VIRTUAL REALITY HEAD-MOUNTED APPARATUS |
| PCT11387US | US | 16/520,561 | 2019/7/24 | VIRTUAL REALITY HEAD-MOUNTED APPARATUS |
| PCT11386US | US | 16/517,487 | 2019/7/19 | VIRTUAL REALITY HEAD-MOUNTED APPARATUS |
| PCT11385US | US | 16/511,353 | 2019/7/15 | VIRTUAL REALITY HEAD-MOUNTED APPARATUS |
| PCT11063US | US | 16/535,746 | 2019/8/8 | RISK MANAGEMENT AND CONTROL METHOD AND DEVICE |
| PCT10939US | US | 16/513,432 | 2019/7/16 | BLOCKCHAIN SYSTEM AND DATA STORAGE METHOD AND APPARATUS |
| PCT10653US | US | 16/446,534 | 2019/6/19 | RESOURCE PROCESSING METHOD AND APPARATUS |
| PCT10583US | US | 16/459,294 | 2019/7/1 | DATA ACQUISITION METHOD AND DEVICE |
| PCT10571US | US | 16/460,453 | 2019/7/2 | APPLICATION-BASED DATA INTERACTION METHOD AND APPARATUS |
| PCT10338US | US | 16/450,976 | 2019/6/24 | SERVICE PROCESSING METHOD AND APPARATUS |
| PCT10336US | US | 16/535,035 | 2019/8/7 | METHOD AND APPARATUS FOR WRITING SERVICE DATA INTO BLOCK CHAIN AND METHOD FOR DETERMINING SERVICE SUBSET |
| PCT10335US | US | 16/507,983 | 2019/7/10 | DATA PROCESSING METHOD AND DEVICE |
| PCT23199US | US | 16/472,752 | 2019/2/28 | SYSTEM AND METHOD FOR IMPLEMENTING BLOCKCHAIN-BASED DIGITAL CERTIFICATES |
| PCT19695US | US | 16/472,789 | 2019/2/28 | SYSTEM AND METHOD FOR BLOCKCHAIN-BASED AUTHENTICATION |
| PCT19697US | US | 16/472,606 | 2019/2/28 | SYSTEM AND METHOD FOR GENERATING DIGITAL MARKS |
| A19609DUS | US | 29/695,352 | 2019/6/18 | Wireless Signal Sensor |
| A19643DUS | US | 29/695,275 | 2019/6/18 | BROADCAST CONTROL BOX |
| A19610DUS | US | 29/695,273 | 2019/6/18 | SENSING BOX |
| A19608DUS | US | 29/695,491 | 2019/6/19 | IMAGE CAPTURE AND ANALYSIS DEVICE |
| A19642DUS | US | 29/695,267 | 2019/6/18 | VERTICAL ADVERTISING MACHINE |
| A19909DUS | US | 29/696,967 | 2019/7/2 | VEHICLE EQUIPMENT |

| | | | | |
|------------------|----|------------|------------|--|
| PCT3579US C1 | US | 16/505,151 | 2019/7/8 | Service Processing Method and Apparatus, and Service Server |
| PCT18141U S | US | 16/490,834 | 2019/3/28 | SYSTEM AND METHOD FOR PARALLEL-PROCESSING BLOCKCHAIN TRANSACTIONS |
| PCT18621U S | US | 16/495,775 | 2019/3/26 | SYSTEM AND METHOD FOR IMPLEMENTING DIFFERENT TYPES OF BLOCKCHAIN CONTRACTS |
| PCT23200U S | US | 16/494,592 | 2019/3/18 | CONSENSUS SYSTEM DOWNTIME RECOVERY |
| PCT19678U S | US | 16/490,871 | 2019/3/18 | CONSENSUS SYSTEM DOWNTIME RECOVERY |
| PCT19679U S | US | 16/497,543 | 2019/3/18 | SYSTEM AND METHOD FOR ENDING VIEW CHANGE PROTOCOL |
| PCT19680U S | US | 16/498,348 | 2019/3/18 | SYSTEM AND METHOD FOR ENDING VIEW CHANGE PROTOCOL |
| PCT21065U S | US | 16/496,342 | 2019/3/27 | SYSTEM AND METHOD FOR MANAGING USER INTERACTIONS WITH A BLOCKCHAIN |
| PCT12884U S | US | 16/675,399 | 2019/11/6 | SERVICE EXECUTION METHOD, APPARATUS, AND DEVICE FOR USE IN CLIENT TERMINAL AND SERVER |
| PCT12867U S | US | 16/715,052 | 2019/12/16 | METHOD AND APPARATUS FOR IMPROVING VEHICLE LOSS ASSESSMENT IMAGE IDENTIFICATION RESULT AND SERVER |
| PCT12866U S | US | 16/714,722 | 2019/12/14 | METHOD AND APPARATUS FOR IMPROVING VEHICLE LOSS ASSESSMENT IMAGE IDENTIFICATION RESULT, AND SERVER |
| PCT12863U S | US | 16/736,714 | 2020/1/7 | VIRTUAL CARD OPENING METHOD AND SYSTEM, PAYMENT SYSTEM, AND CARD ISSUING SYSTEM |
| A22026DUS | US | 29/715,006 | 2019/11/27 | SMART SCANNING DEVICE |
| A22017DFU S | US | 29/713,277 | 2019/11/14 | DECORATION ACCESSORY KIT |
| A19932DUS | US | 29/707,468 | 2019/9/27 | SMART PAYMENT NOTIFICATION DEVICE |
| A22017DUS | US | 29/713,272 | 2019/11/14 | SMART SPEAKER CASE |
| A21940DUS | US | 29/713,105 | 2019/11/13 | SCANNING DEVICE |
| A6010USC1 | US | 16/563,073 | 2019/9/6 | METHOD, SYSTEM, AND DEVICE FOR PROCESS TRIGGERING |
| PCT10939U SC1 | US | 16/705,886 | 2019/12/6 | BLOCKCHAIN SYSTEM AND DATA STORAGE METHOD AND APPARATUS |
| PCT24175U S | US | 16/737,813 | 2020/1/8 | SYSTEM AND METHOD FOR BLOCKCHAIN-BASED CROSS-ENTITY AUTHENTICATION |
| PCT9536US C1 | US | 16/587,376 | 2019/9/30 | USER IDENTITY VERIFICATION METHOD, APPARATUS AND SYSTEM |
| PCT24174U S | US | 16/737,806 | 2020/1/8 | SYSTEM AND METHOD FOR BLOCKCHAIN-BASED CROSS-ENTITY AUTHENTICATION |
| PCT24173U S | US | 16/735,018 | 2020/1/6 | SYSTEM AND METHOD FOR DECENTRALIZED-IDENTIFIER AUTHENTICATION |
| PCT24172U S | US | 16/735,056 | 2020/1/6 | SYSTEM AND METHOD FOR DECENTRALIZED-IDENTIFIER CREATION |
| PCT24171U S | US | 16/737,797 | 2020/1/8 | SYSTEM AND METHOD FOR BLOCKCHAIN-BASED NOTIFICATION |
| PCT24419U S | US | 16/741,951 | 2020/1/14 | SYSTEM AND METHOD FOR DIGITAL ASSET MANAGEMENT |
| PCT24420U S | US | 16/741,979 | 2020/1/14 | SYSTEM AND METHOD FOR DIGITAL ASSET TRANSFER |
| PCT24421U S | US | 16/742,005 | 2020/1/14 | SYSTEM AND METHOD FOR CONTROLLING RESTRICTIONS ON DIGITAL ASSET |
| PCT24422U S | US | 16/742,025 | 2020/1/14 | SYSTEM AND METHOD FOR DIGITAL ASSET VALUATION |
| PCT24155U S | US | 16/722,372 | 2019/12/20 | SYSTEM AND METHOD FOR REGISTERING SUBSCRIBABLE STATES IN BLOCKCHAIN |
| PCT24156U S | US | 16/722,405 | 2019/12/20 | SYSTEM AND METHOD FOR BLOCKCHAIN-BASED NOTIFICATION |
| PCT24158U S | US | 16/722,487 | 2019/12/20 | SYSTEM AND METHOD FOR BLOCKCHAIN-BASED NOTIFICATION |
| PCT24157U S | US | 16/722,457 | 2019/12/20 | SYSTEM AND METHOD FOR REGISTERING SUBSCRIBABLE SUB-STATES IN BLOCKCHAIN |
| PCT18613U S | US | 16/715,126 | 2019/12/16 | SYSTEM AND METHOD FOR ADDING NODE IN BLOCKCHAIN NETWORK |

| | | | | |
|------------|----|------------|------------|---|
| PCT24788US | US | 16/715,963 | 2019/12/16 | SYSTEM AND METHOD FOR DELETING NODE IN BLOCKCHAIN NETWORK |
| PCT21091US | US | 16/716,016 | 2019/12/16 | SYSTEM AND METHOD FOR EXECUTING DIFFERENT TYPES OF BLOCKCHAIN CONTRACTS |
| PCT21791US | US | 16/715,151 | 2019/12/16 | SYSTEM AND METHOD FOR DATA PROCESSING |
| PCT21066US | US | 16/714,717 | 2019/12/14 | SYSTEM AND METHOD FOR PROVIDING PRIVACY AND SECURITY PROTECTION IN BLOCKCHAIN-BASED PRIVATE TRANSACTIONS |
| PCT23552US | US | 16/734,972 | 2020/1/6 | SYSTEM AND METHOD FOR IMPLEMENTING A RESOLVER SERVICE FOR DECENTRALIZED IDENTIFIERS |
| PCT23551US | US | 16/735,538 | 2020/1/6 | SYSTEM AND METHOD FOR MAPPING DECENTRALIZED IDENTIFIERS TO REAL-WORLD ENTITIES |
| PCT23458US | US | 16/718,937 | 2019/12/18 | SYSTEM AND METHOD FOR CREATING DECENTRALIZED IDENTIFIERS |
| PCT23459US | US | 16/718,984 | 2019/12/18 | SYSTEM AND METHOD FOR ISSUING VERIFIABLE CLAIMS |
| PCT23460US | US | 16/719,026 | 2019/12/18 | SYSTEM AND METHOD FOR VERIFYING VERIFIABLE CLAIMS |
| PCT23450US | US | 16/738,920 | 2020/1/9 | SYSTEM AND METHOD FOR UPDATING DATA IN BLOCKCHAIN |
| PCT23451US | US | 16/739,008 | 2020/1/9 | SYSTEM AND METHOD FOR BLOCKCHAIN ADDRESS MAPPING |
| PCT22316US | US | 16/716,932 | 2019/12/17 | CONSENSUS SYSTEM AND METHOD |
| PCT24398US | US | 16/722,533 | 2019/12/20 | SYSTEM AND METHOD FOR ROUTING OPTIMIZATION |
| A221HUSC1 | US | 16/675,463 | 2019/11/6 | METHOD AND APPARATUS OF DISPLAYING INFORMATION |
| PCT13257US | US | 16/806,781 | 2020/3/2 | CREDIT-BASED CLAIM SETTLEMENT IMPLEMENTING METHOD AND DEVICE |
| PCT13163US | US | 16/813,168 | 2020/3/9 | RESOURCE TRANSFER VERIFICATION METHOD AND APPARATUS, AND ELECTRONIC PAYMENT VERIFICATION METHOD AND APPARATUS |
| PCT13132US | US | 16/776,456 | 2020/1/29 | METHOD, DEVICE, AND APPARATUS FOR WORD VECTOR PROCESSING BASED ON CLUSTERS |
| PCT13125US | US | 16/743,120 | 2020/1/15 | METHOD AND APPARATUS FOR PAYING FARE |
| PCT13123US | US | 16/806,525 | 2020/3/2 | DATA STATISTICS METHOD AND APPARATUS |
| PCT13120US | US | 16/802,157 | 2020/2/26 | SYSTEM AND METHOD FOR REALIZING IDENTITY IDENTIFICATION ON THE BASIS OF RADIO FREQUENCY IDENTIFICATION TECHNOLOGY |
| PCT13119US | US | 16/742,617 | 2020/1/14 | QUICK ENABLING METHOD AND APPARATUS FOR SERVICE IN APPLICATION PROGRAM AND ELECTRONIC DEVICE |
| PCT13116US | US | 16/798,018 | 2020/2/21 | VIDEO PROCESSING METHOD AND APPARATUS BASED ON AUGMENTED REALITY, AND ELECTRONIC DEVICE |
| PCT13039US | US | 16/813,268 | 2020/3/9 | MACHINE LEARNING MODEL TRAINING METHOD AND DEVICE, AND ELECTRONIC DEVICE |
| PCT13023US | US | 16/743,224 | 2020/1/15 | CLUSTER-BASED WORD VECTOR PROCESSING METHOD, DEVICE, AND APPARATUS |
| PCT13019US | US | 16/812,163 | 2020/3/6 | BIOMETRIC AUTHENTICATION, IDENTIFICATION AND DETECTION METHOD AND DEVICE FOR MOBILE TERMINAL AND EQUIPMENT |
| PCT13018US | US | 16/788,217 | 2020/2/11 | RESOURCE TRANSFER AND CAPITAL TRANSFER METHOD AND APPARATUS |
| PCT13017US | US | 16/780,819 | 2020/2/3 | DATA PROCESSING METHOD AND APPARATUS |
| PCT13016US | US | 16/752,460 | 2020/1/24 | METHOD AND APPARATUS FOR ENCRYPTING AND DECRYPTING PRODUCT INFORMATION |
| PCT12996US | US | 16/797,882 | 2020/2/21 | SERVICE PROCESS STARTING METHOD AND APPARATUS |
| PCT12993US | US | 16/794,113 | 2020/2/18 | ACCOUNT INFORMATION MANAGEMENT METHOD AND APPARATUS |

| | | | | |
|--------------|----|------------|------------|--|
| PCT12893US | US | 16/795,387 | 2020/2/19 | METHOD AND APPARATUS FOR DETERMINING RISK MANAGEMENT DECISION-MAKING CRITICAL VALUES |
| PCT12892US | US | 16/736,603 | 2020/1/7 | RANDOM WALKING AND CLUSTER-BASED RANDOM WALKING METHOD, APPARATUS AND DEVICE |
| PCT12855US | US | 16/745,657 | 2020/1/17 | FARE COLLECTION DEVICE FOR MEANS OF PUBLIC TRANSPORT |
| PCT12773US | US | 16/806,324 | 2020/3/2 | MODEL INTEGRATION METHOD AND DEVICE |
| PCT12771US | US | 16/736,673 | 2020/1/7 | RANDOM WALKING AND CLUSTER-BASED RANDOM WALKING METHOD, APPARATUS AND DEVICE |
| PCT12742US | US | 16/796,616 | 2020/2/20 | METHOD AND APPARATUS FOR RECOGNIZING ILLEGAL BEHAVIOR IN UNATTENDED SCENARIO |
| PCT12741US | US | 16/746,757 | 2020/1/17 | DATA SAMPLE LABEL PROCESSING METHOD AND APPARATUS |
| PCT12632US | US | 16/736,962 | 2020/1/8 | DOCUMENT VERIFICATION SYSTEM, DEVICE, AND METHOD USING A CLASSIFICATION MODEL |
| PCT12297US | US | 16/737,766 | 2020/1/8 | SECURITY SCANNING METHOD AND APPARATUS FOR MINI PROGRAM, AND ELECTRONIC DEVICE |
| A12641USC1 | US | 16/716,838 | 2019/12/17 | CODE SCANNING SECURITY CHECK METHOD AND APPARATUS |
| PCT17147USC1 | US | 16/708,249 | 2019/12/9 | SYSTEM AND METHOD FOR INFORMATION PROTECTION |
| PCT17156USC1 | US | 16/708,329 | 2019/12/9 | SYSTEM AND METHOD FOR INFORMATION PROTECTION |
| PCT17824USC1 | US | 16/709,817 | 2019/12/10 | SYSTEM AND METHOD FOR IMPROVING SECURITY OF SMART CONTRACT ON BLOCKCHAIN |
| PCT17158USC1 | US | 16/709,770 | 2019/12/10 | SYSTEM AND METHOD FOR INFORMATION PROTECTION |
| PCT17511USC1 | US | 16/716,970 | 2019/12/17 | SYSTEM AND METHOD FOR DETECTING REPLAY ATTACK |
| PCT17825USC1 | US | 16870662 | 2020/5/8 | SYSTEM AND METHOD FOR INFORMATION PROTECTION |
| PCT19910USC1 | US | 16/717,081 | 2019/12/17 | SYSTEM AND METHOD FOR DETECTING REPLAY ATTACK |
| PCT19695USC1 | US | 16/725,937 | 2019/12/23 | SYSTEM AND METHOD FOR BLOCKCHAIN-BASED AUTHENTICATION |
| PCT19696USC1 | US | 16/735,499 | 2020/1/6 | SYSTEM AND METHOD FOR BLOCKCHAIN-BASED DATA MANAGEMENT |
| PCT19697USC1 | US | 16/738,155 | 2020/1/9 | SYSTEM AND METHOD FOR GENERATING DIGITAL MARKS |
| PCT23199USC1 | US | 16/738,195 | 2020/1/9 | SYSTEM AND METHOD FOR IMPLEMENTING BLOCKCHAIN-BASED DIGITAL CERTIFICATES |
| PCT23200USC1 | US | 16/724,349 | 2019/12/22 | CONSENSUS SYSTEM DOWNTIME RECOVERY |
| PCT17159USC1 | US | 16/709,794 | 2019/12/10 | SYSTEM AND METHOD FOR INFORMATION PROTECTION |
| PCT17149USC1 | US | 16/708,297 | 2019/12/9 | SYSTEM AND METHOD FOR INFORMATION PROTECTION |
| PCT18620USC1 | US | 16/725,290 | 2019/12/23 | SYSTEM AND METHOD FOR IMPLEMENTING NATIVE CONTRACT ON BLOCKCHAIN |
| PCT18141USC1 | US | 16/735,233 | 2020/1/6 | SYSTEM AND METHOD FOR PARALLEL-PROCESSING BLOCKCHAIN TRANSACTIONS |
| PCT19679USC1 | US | 16/735,387 | 2020/1/6 | SYSTEM AND METHOD FOR ENDING VIEW CHANGE PROTOCOL |
| PCT18621USC1 | US | 16/735,307 | 2020/1/6 | SYSTEM AND METHOD FOR IMPLEMENTING DIFFERENT TYPES OF BLOCKCHAIN CONTRACTS |
| PCT21065USC1 | US | 16/742,710 | 2020/1/14 | SYSTEM AND METHOD FOR MANAGING USER INTERACTIONS WITH A BLOCKCHAIN |
| PCT19680USC1 | US | 16/735,457 | 2020/1/6 | SYSTEM AND METHOD FOR ENDING VIEW CHANGE PROTOCOL |
| PCT19678USC1 | US | 16/724,347 | 2019/12/22 | CONSENSUS SYSTEM DOWNTIME RECOVERY |
| PCT9749USC1 | US | 16/730,873 | 2019/12/30 | DATA STORAGE, DATA CHECK, AND DATA LINKAGE METHOD AND APPARATUS |
| A16935USC1 | US | 16/738,055 | 2020/1/9 | METHOD, APPARATUS AND ELECTRONIC DEVICE FOR BLOCKCHAIN TRANSACTIONS |

| | | | | |
|------------------|----|------------|-----------|--|
| A12778USC 1 | US | 16/744,079 | 2020/1/15 | Data Storage Method, Data Query Method and Apparatuses |
| A11432USC 1 | US | 16/745,033 | 2020/1/16 | METHOD AND APPARATUS FOR PROCESSING TRANSACTION REQUESTS |
| PCT10336U SC1 | US | 16/745,519 | 2020/1/17 | METHOD AND APPARATUS FOR WRITING SERVICE DATA INTO BLOCK CHAIN AND METHOD FOR DETERMINING SERVICE SUBSET |
| A16079USC 1 | US | 16/775,157 | 2020/1/28 | DATA PROCESSING METHOD AND APPARATUS |
| PCT18613U SC1 | US | 16/741,270 | 2020/1/13 | SYSTEM AND METHOD FOR ADDING NODE IN BLOCKCHAIN NETWORK |
| A12477USC 1 | US | 16/752,365 | 2020/1/24 | Method, Apparatus, and Electronic Device for Processing Consensus Requests in a Blockchain Consensus Network |
| A11431USC 1 | US | 16/752,323 | 2020/1/24 | METHOD AND APPARATUS FOR CONSENSUS VERIFICATION |
| A11444USC 1 | US | 16/752,422 | 2020/1/24 | Method, Apparatus, and System for Blockchain Consensus |
| PCT10335U SC1 | US | 16/774,929 | 2020/1/28 | BLOCKCHAIN-BASED DATA PROCESSING METHOD AND DEVICE |
| PCT11629U SC1 | US | 16/775,116 | 2020/1/28 | METHOD AND DEVICE FOR WRITING SERVICE DATA IN BLOCK CHAIN SYSTEM |
| PCT10338U SC1 | US | 16/779,641 | 2020/2/2 | BLOCKCHAIN-BASED TRANSACTION PROCESSING METHOD AND APPARATUS |
| A15189USC 1 | US | 16/784,421 | 2020/2/7 | METHOD AND APPARATUS FOR OBTAINING INPUT OF SECURE MULTIPARTY COMPUTATION PROTOCOL |
| PCT16020U S | US | 16/894,884 | 2020/6/8 | BLOCKCHAIN-BASED METHOD AND APPARATUS FOR PRE-EXCHANGING AVAILABLE RESOURCE QUOTAS |
| PCT16019U S | US | 16/894,881 | 2020/6/8 | BLOCKCHAIN-BASED SET EXCHANGE METHOD AND APPARATUS FOR AVAILABLE RESOURCE QUOTAS |
| PCT16018U S | US | 16/894,846 | 2020/6/7 | BLOCKCHAIN-BASED EXCHANGE METHOD AND APPARATUS FOR AVAILABLE RESOURCE QUOTAS |
| PCT15777U S | US | 16/888,810 | 2020/5/31 | PAYMENT COLLECTION DEVICE AND METHOD AND APPARATUS |
| PCT15742U S | US | 16/890,543 | 2020/6/2 | Transaction Card and Information Displaying Method |
| PCT14813U S | US | 16/889,548 | 2020/6/1 | PAYMENT PASSWORD RESET METHOD AND APPARATUS, AND ELECTRONIC DEVICE |
| PCT14562U S | US | 16/888,833 | 2020/5/31 | SERVICE PROCESSING METHOD, DEVICE AND APPARATUS |
| PCT13875U S | US | 16/911,089 | 2020/6/24 | RESOURCE TRANSFERRING MONITORING METHOD AND DEVICE |
| PCT13702U S | US | 16/905,432 | 2020/6/18 | OBJECT DISPLAY FRAME, DATA PROCESSING METHOD, DEVICE, EQUIPMENT AND SYSTEM |
| PCT13695U S | US | 16/880,315 | 2020/5/21 | PAYMENT CARD BINDING METHOD, TRUST EVALUATION METHOD, APPARATUS, AND ELECTRONIC DEVICE |
| PCT13689U S | US | 16/892,902 | 2020/6/4 | Identity Verification Method and Device and Electronic Device |
| PCT13681U S | US | 16/888,584 | 2020/5/29 | LIVING BODY DETECTION METHOD, APPARATUS AND DEVICE |
| PCT13677U S | US | 16/878,521 | 2020/5/19 | URL ABNORMALITY POSITIONING METHOD AND DEVICE, AND SERVER AND STORAGE MEDIUM |
| PCT13672U S | US | 16/888,801 | 2020/5/31 | METHOD AND APPARATUS FOR TRANSFERRING FROM ROBOT CUSTOMER SERVICE TO HUMAN CUSTOMER SERVICE |
| PCT13566U S | US | 16/882,350 | 2020/5/22 | ELECTRONIC CERTIFICATE TRANSMISSION METHOD, APPARATUS AND DEVICE |
| PCT13559U S | US | 16/903,210 | 2020/6/16 | Payment Method, Apparatus and Device |
| PCT13426U S | US | 16/889,269 | 2020/6/1 | Location Information Processing Method and Apparatus |
| PCT13415U S | US | 16/875,850 | 2020/5/15 | Method and Apparatus for Visualization of Public Welfare Activities |
| PCT13409U S | US | 16/882,685 | 2020/5/25 | MOBILE TERMINAL CLICK EVENT RECOGNITION METHOD AND APPARATUS |
| PCT12870U S | US | 16/884,526 | 2020/5/27 | Identity Verification Method and Apparatus |

| | | | | |
|-----------------|----|------------|-----------|--|
| PCT2871US C1 | US | 16/804,768 | 2020/2/28 | METHOD AND DEVICE FOR IDENTITY AUTHENTICATION |
| PCT21951U S | US | 16/838,920 | 2020/4/2 | METHOD, APPARATUS, TERMINAL, AND READABLE STORAGE MEDIUM FOR OFFLINE CACHING |
| PCT23618U S | US | 16/875,929 | 2020/5/15 | CREDIT CONTRACT PROCESSING METHOD AND APPARATUS |
| PCT23206U S | US | 16/859,795 | 2020/4/27 | NODE LAYOUT DETERMINING METHOD AND APPARATUS, COMPUTING DEVICE, AND COMPUTER READABLE MEDIUM |
| PCT23198U S | US | 16/860,065 | 2020/4/28 | APPLET-BASED ACCOUNT SECURITY PROTECTION METHOD AND SYSTEM |
| PCT23028U S | US | 16/888,797 | 2020/5/31 | BUSINESS PROCESSING METHOD, APPARATUS, AND EQUIPMENT |
| PCT23017U S | US | 16/888,817 | 2020/5/31 | PAYMENT METHOD AND DEVICE |
| PCT23016U S | US | 16/878,587 | 2020/5/19 | METHOD AND APPARATUS FOR CERTIFICATE IDENTIFICATION |
| PCT23015U S | US | 16/879,427 | 2020/5/20 | METHOD AND APPARATUS FOR CERTIFICATE IDENTIFICATION |
| PCT22994U S | US | 16/822,902 | 2020/3/18 | ELECTRONIC DOOR OPENING/CLOSING APPARATUS AND ELECTRONIC DOOR OPENING/CLOSING DETECTION METHOD, APPARATUS AND DEVICE |
| PCT22975U S | US | 16/882,880 | 2020/5/26 | METHOD, APPARATUS, SYSTEM, SERVER, AND STORAGE MEDIUM FOR CONNECTING TABLES STORED AT DISTRIBUTED DATABASE |
| PCT22913U S | US | 16/848,811 | 2020/4/14 | BLOCKCHAIN-BASED IMAGE TRANSACTION SYSTEM, METHOD, APPARATUS, AND ELECTRONIC DEVICE |
| PCT22911U S | US | 16/848,503 | 2020/4/14 | BLOCKCHAIN-BASED DATA EVIDENCE STORAGE METHOD AND APPARATUS |
| PCT22899U S | US | 16/877,337 | 2020/5/18 | BLOCKCHAIN-BASED RELATIONSHIP BINDING METHOD, APPARATUS, AND DEVICE |
| PCT22889U S | US | 16/834,999 | 2020/3/30 | BLOCKCHAIN-BASED ENTERPRISE AUTHENTICATION METHOD, APPARATUS, AND DEVICE, AND BLOCKCHAIN-BASED AUTHENTICATION TRACEABILITY METHOD, APPARATUS, AND DEVICE |
| PCT22888U S | US | 16/835,487 | 2020/3/31 | BLOCKCHAIN-BASED IDENTITY AUTHENTICATION METHOD, APPARATUS, AND DEVICE |
| PCT22625U S | US | 16/888,410 | 2020/5/29 | METHOD AND APPARATUS FOR PROCESSING AND GENERATING OFFLINE GRAPHIC CODE |
| PCT22622U S | US | 16/875,937 | 2020/5/15 | GRAPHIC CODE DISPLAY METHOD AND APPARATUS |
| PCT22607U S | US | 16/822,463 | 2020/3/18 | RDMA-BASED DATA TRANSMISSION METHOD, NETWORK INTERFACE CARD, SERVER AND MEDIUM |
| PCT22606U S | US | 16/854,740 | 2020/4/21 | RDMA DATA SENDING AND RECEIVING METHODS, ELECTRONIC DEVICE, AND READABLE STORAGE MEDIUM |
| PCT22596U S | US | 16/884,444 | 2020/5/27 | DATA STORAGE METHOD AND APPARATUS |
| PCT22475U S | US | 16/886,657 | 2020/5/28 | BLOCKCHAIN-BASED PATROL INSPECTION PROOF STORAGE METHOD, APPARATUS, AND ELECTRONIC DEVICE |
| PCT22460U S | US | 16/886,686 | 2020/5/28 | SERVICE PROCESSING SYSTEM AND METHOD BASED ON BLOCKCHAIN |
| PCT22407U S | US | 16/875,619 | 2020/5/15 | METHOD AND APPARATUS FOR ACCESSING SERVICE SYSTEM |
| PCT22355U S | US | 16/875,121 | 2020/5/15 | FACE VERIFICATION METHOD AND APPARATUS, SERVER AND READABLE STORAGE MEDIUM |
| PCT22309U S | US | 16875913 | 2020/5/15 | BLOCKCHAIN-BASED RECONCILIATION SYSTEM, METHOD, AND APPARATUS AND ELECTRONIC DEVICE |
| PCT22302U S | US | 16/888,305 | 2020/5/29 | BLOCKCHAIN-BASED METHOD, APPARATUS, AND DEVICE |
| PCT21974U S | US | 16/875,811 | 2020/5/15 | ON-SHELF COMMODITY DETECTION METHOD AND SYSTEM |

| | | | | |
|------------|----|------------|-----------|---|
| PCT21948US | US | 16/827,233 | 2020/3/23 | CAPITAL CHAIN INFORMATION TRACEABILITY METHOD, SYSTEM, SERVER AND READABLE STORAGE MEDIUM |
| PCT21946US | US | 16/827,118 | 2020/3/23 | MESSAGE SHUNTING METHOD, DEVICE AND SYSTEM BASED ON USER MODE PROTOCOL STACK |
| PCT21871US | US | 16/879,496 | 2020/5/20 | WIRELESS COMMUNICATIONS METHOD, APPARATUS, DEVICE, AND STORAGE MEDIUM |
| PCT21866US | US | 16/883,730 | 2020/5/26 | METHOD AND APPARATUS FOR SECURE CHECK-IN |
| PCT21799US | US | 16/887,578 | 2020/5/29 | BLOCKCHAIN-BASED FILE PROCESSING METHOD, APPARATUS, AND DEVICE, AND STORAGE MEDIUM |
| PCT21794US | US | 16/876,036 | 2020/5/16 | BLOCKCHAIN-BASED RECONCILIATION METHOD AND APPARATUS AND ELECTRONIC DEVICE |
| PCT21793US | US | 16/877,362 | 2020/5/18 | BLOCKCHAIN-BASED DATA SYNCHRONIZATION SYSTEM, METHOD, APPARATUS, AND ELECTRONIC DEVICE |
| PCT21741US | US | 16/866,526 | 2020/5/4 | BLOCKCHAIN-BASED IMAGE PROCESSING METHOD AND APPARATUS |
| PCT21740US | US | 16/866,378 | 2020/5/4 | Blockchain-Based Image Processing Method and Apparatus |
| PCT21739US | US | 16/870,507 | 2020/5/8 | Blockchain-Based Copyright Protection Method and Apparatus, and Electronic Device |
| PCT21734US | US | 16/870,410 | 2020/5/8 | METHOD, APPARATUS, AND ELECTRONIC DEVICE FOR BLOCKCHAIN-BASED INFRINGEMENT EVIDENCE STORAGE |
| PCT21660US | US | 16/884,497 | 2020/5/27 | DATA BLOCK STORAGE METHOD AND APPARATUS, AND ELECTRONIC DEVICE |
| PCT21191US | US | 16/854,186 | 2020/4/21 | BLOCKCHAIN-BASED DATA PROCESSING SYSTEM, METHOD, COMPUTING DEVICE AND STORAGE MEDIUM |
| PCT21181US | US | 16/860,053 | 2020/4/27 | METHOD AND DEVICE FOR VOICE BROADCAST |
| PCT21179US | US | 16/823,264 | 2020/3/18 | INFORMATION PROCESSING SYSTEM, METHOD, DEVICE AND EQUIPMENT |
| PCT21055US | US | 16/848,765 | 2020/4/14 | BLOCKCHAIN-BASED ADVERTISEMENT MONITORING METHOD AND APPARATUS, AND ELECTRONIC DEVICE |
| PCT21029US | US | 16/853,419 | 2020/4/20 | DATA PROCESSING METHOD AND DEVICE |
| PCT21017US | US | 16/845,286 | 2020/4/10 | VERIFICATION METHOD AND APPARATUS FOR USER SIGNING FAST PAYMENT WITH BANK CARD |
| PCT20992US | US | 16/876,038 | 2020/5/16 | BLOCKCHAIN-BASED PROGRAM REVIEW SYSTEM, METHOD, COMPUTING DEVICE AND STORAGE MEDIUM |
| PCT20953US | US | 16/875,552 | 2020/5/15 | BLOCKCHAIN-BASED DATA PROCESSING SYSTEM, METHOD, COMPUTING DEVICE AND STORAGE MEDIUM |
| PCT20952US | US | 16/855,148 | 2020/4/22 | INFORMATION READ/WRITE METHOD AND APPARATUS BASED ON BLOCKCHAIN |
| PCT20943US | US | 16/885,059 | 2020/5/27 | ADVERTISING MONITORING METHOD, SYSTEM, APPARATUS, AND ELECTRONIC EQUIPMENT |
| PCT20935US | US | 16/877,380 | 2020/5/18 | METHOD AND APPARATUS FOR DETERMINING VEHICLE SCHEDULING STRATEGY |
| PCT20894US | US | 16/882,670 | 2020/5/25 | PAYMENT COMPLAINT METHOD, DEVICE, SERVER AND READABLE STORAGE MEDIUM |
| PCT20771US | US | 16/820,535 | 2020/3/16 | METHOD AND DEVICE FOR SENSITIVE DATA MASKING BASED ON IMAGE RECOGNITION |
| PCT19006US | US | 16/820,884 | 2020/3/17 | METHOD AND SYSTEM FOR ACTIVE RISK CONTROL BASED ON INTELLIGENT INTERACTION |
| PCT18676US | US | 16/821,836 | 2020/3/17 | METHOD AND SYSTEM FOR PURCHASE AGREEMENT PROCESSING |
| PCT18400US | US | 16/830,057 | 2020/3/25 | METHOD, APPARATUS AND SYSTEM FOR SELF-SERVICE CONTRACT FOR MOBILE PAYMENTS |
| PCT17372US | US | 16/877,394 | 2020/5/18 | Method and System for Outer Join of Database Tables |
| PCT17162US | US | 16/841,418 | 2020/4/6 | RELIABLE USER SERVICE SYSTEM AND METHOD |
| PCT17160US | US | 16/836,725 | 2020/3/31 | METHOD AND DEVICE FOR SECURITY ASSESSMENT OF ENCRYPTION MODELS |

| | | | | |
|-------------------|----|------------|-----------|--|
| PCT17153US | US | 16/841,462 | 2020/4/6 | METHOD AND SYSTEM FOR PERSONAL DATA SERVICE BASED ON SECURE COMPUTATION |
| PCT3465US C1 | US | 16/872,209 | 2020/5/11 | Method and Server for Displaying Access Content |
| A11435US C1 | US | 16/805,507 | 2020/2/28 | BLOCKCHAIN-BASED TRANSACTION PROCESSING METHOD AND APPARATUS |
| PCT19679US SC2 | US | 16/811,037 | 2020/3/6 | SYSTEM AND METHOD FOR ENDING VIEW CHANGE PROTOCOL |
| PCT23551US SC1 | US | 16/846,150 | 2020/4/10 | SYSTEM AND METHOD FOR MAPPING DECENTRALIZED IDENTIFIERS TO REAL-WORLD ENTITIES |
| PCT23552US SC1 | US | 16/846,192 | 2020/4/10 | SYSTEM AND METHOD FOR IMPLEMENTING A RESOLVER SERVICE FOR DECENTRALIZED IDENTIFIERS |
| A15607US C1 | US | 16/807,871 | 2020/3/3 | BLOCKCHAIN-BASED TRANSACTION PROCESSING METHOD, APPARATUS, AND ELECTRONIC DEVICE |
| A16161US C1 | US | 16/815,895 | 2020/3/11 | DATA PROCESSING METHOD, APPARATUS, AND DEVICE |
| A17053US C1 | US | 16/817,741 | 2020/3/13 | METHOD, APPARATUS AND ELECTRONIC DEVICE FOR BLOCKCHAIN TRANSACTIONS |
| A18138US C1 | US | 16/843,784 | 2020/4/8 | METHOD, APPARATUS, ELECTRONIC DEVICE AND COMPUTER STORAGE MEDIUM FOR GENERATING INFORMATION IDENTIFICATION CODES |
| PCT9489US C1 | US | 16/867,527 | 2020/5/5 | AUTHENTICATION METHOD, DEVICE AND AUTHENTICATION CLIENT |
| PCT24158US SC1 | US | 16/847,433 | 2020/4/13 | SYSTEM AND METHOD FOR BLOCKCHAIN-BASED NOTIFICATION |
| PCT24420US SC1 | US | 16/855,891 | 2020/4/22 | SYSTEM AND METHOD FOR DIGITAL ASSET TRANSFER |
| PCT24156US SC1 | US | 16/847,372 | 2020/4/13 | SYSTEM AND METHOD FOR BLOCKCHAIN-BASED NOTIFICATION |
| PCT10939US SC2 | US | 16/917,730 | 2020/6/30 | BLOCKCHAIN SYSTEM AND DATA STORAGE METHOD AND APPARATUS |
| PCT24155US SC1 | US | 16/859,707 | 2020/4/27 | SYSTEM AND METHOD FOR REGISTERING SUBSCRIBABLE STATES IN BLOCKCHAIN |
| PCT17147US SC2 | US | 16/877,276 | 2020/5/18 | SYSTEM AND METHOD FOR INFORMATION PROTECTION |
| PCT17159US SC2 | US | 16/862,993 | 2020/4/30 | SYSTEM AND METHOD FOR INFORMATION PROTECTION |
| PCT17159US SC3 | US | 16/863,060 | 2020/4/30 | SYSTEM AND METHOD FOR INFORMATION PROTECTION |
| A19536US C1 | US | 16/875,841 | 2020/5/15 | EVENT PROCESSING METHOD, APPARATUS AND ELECTRONIC DEVICE BASED ON BLOCKCHAIN TECHNOLOGY |
| A12477US C2 | US | 16/847,481 | 2020/4/13 | Method, Apparatus, and Electronic Device for Processing Consensus Requests in a Blockchain Consensus Network |
| PCT10338US SC2 | US | 16/884,861 | 2020/5/27 | SERVICE PROCESSING METHOD AND APPARATUS |
| PCT24788US SC1 | US | 16/891,793 | 2020/6/3 | SYSTEM AND METHOD FOR DELETING NODE IN BLOCKCHAIN NETWORK |
| PCT21791US SC1 | US | 16/893,201 | 2020/6/4 | SYSTEM AND METHOD FOR DATA PROCESSING |
| PCT23450US SC1 | US | 16/893,149 | 2020/6/4 | SYSTEM AND METHOD FOR UPDATING DATA IN BLOCKCHAIN |
| PCT24175US SC1 | US | 16/898,265 | 2020/6/10 | SYSTEM AND METHOD FOR BLOCKCHAIN-BASED CROSS-ENTITY AUTHENTICATION |
| A11435US C2 | US | 16/895,881 | 2020/6/8 | BLOCKCHAIN-BASED TRANSACTION PROCESSING METHOD AND APPARATUS |
| PCT19680US SC2 | US | 16/902,401 | 2020/6/16 | SYSTEM AND METHOD FOR ENDING VIEW CHANGE PROTOCOL |
| A6010US C2 | US | 16/925,256 | 2020/7/9 | METHOD, SYSTEM, AND DEVICE FOR PROCESS TRIGGERING |
| PCT24158US SC2 | US | 16/903,275 | 2020/6/16 | SYSTEM AND METHOD FOR BLOCKCHAIN-BASED NOTIFICATION |
| PCT24174US SC1 | US | 16/912,325 | 2020/6/25 | SYSTEM AND METHOD FOR BLOCKCHAIN-BASED CROSS-ENTITY AUTHENTICATION |
| A16196US C1 | US | 16/879,728 | 2020/5/20 | METHOD, APPARATUS AND ELECTRONIC DEVICE FOR BLOCKCHAIN TRANSACTIONS |
| A18680US C1 | US | 15/931,879 | 2020/5/14 | METHOD, APPARATUS, AND ELECTRONIC DEVICE FOR BLOCKCHAIN-BASED RECORDKEEPING |

| | | | | |
|------------------|----|------------|-----------|--|
| A17056USC 1 | US | 16/879,718 | 2020/5/20 | METHOD, APPARATUS AND ELECTRONIC DEVICE FOR BLOCKCHAIN TRANSACTIONS |
| PCT24157U SC1 | US | 16/943,920 | 2020/7/30 | SYSTEM AND METHOD FOR REGISTERING SUBSCRIBABLE SUB-STATES IN BLOCKCHAIN |
| PCT24155U SC2 | US | 16/943,852 | 2020/7/30 | SYSTEM AND METHOD FOR REGISTERING SUBSCRIBABLE STATES IN BLOCKCHAIN |
| PCT21091U SC1 | US | 16/883,817 | 2020/5/26 | SYSTEM AND METHOD FOR EXECUTING DIFFERENT TYPES OF BLOCKCHAIN CONTRACTS |
| A16197USC 1 | US | 16/878,236 | 2020/5/19 | METHOD, APPARATUS AND ELECTRONIC DEVICE FOR BLOCKCHAIN TRANSACTIONS |
| A18681USC 1 | US | 15/931,909 | 2020/5/14 | METHOD, APPARATUS, AND ELECTRONIC DEVICE FOR BLOCKCHAIN-BASED RECORDKEEPING |
| PCT17147U SC3 | US | 16/940,254 | 2020/7/27 | SYSTEM AND METHOD FOR INFORMATION PROTECTION |
| PCT12742U SC1 | US | 16/943,639 | 2020/7/30 | METHOD AND APPARATUS FOR RECOGNIZING ILLEGAL BEHAVIOR IN UNATTENDED SCENARIO |
| A19537USC 1 | US | 16/945,056 | 2020/7/31 | EVENT PROCESSING METHOD, APPARATUS AND ELECTRONIC DEVICE BASED ON BLOCKCHAIN TECHNOLOGY |
| A17057USC 1 | US | 16/882,841 | 2020/5/26 | METHOD, APPARATUS AND ELECTRONIC DEVICE FOR BLOCKCHAIN TRANSACTIONS |
| PCT3054US | US | 15505418 | 2015/8/11 | Method and Device for Processing Continuous Redirection |
| PCT3771US | US | 15532934 | 2015/12/3 | METHOD AND APPARATUS FOR PROCESSING VOICE INFORMATION TO DETERMINE EMOTION BASED ON VOLUME AND PACING OF THE VOICE |