

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT5947290

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
AMBARELLA, INC.	01/20/2020
RECEIVING PARTY DATA	
Name:	AMBARELLA INTERNATIONAL LP
Street Address:	100 KING STREET WEST, SUITE 6000
Internal Address:	1 FIRST CANADIAN PLACE
City:	TORONTO
State/Country:	CANADA
Postal Code:	M5X 1E2
PROPERTY NUMBERS Total: 183	
Property Type	Number
Application Number:	14736638
Application Number:	11465514
Application Number:	11034034
Application Number:	11078779
Application Number:	11407181
Application Number:	11413897
Application Number:	11010032
Application Number:	11235906
Application Number:	11241357
Application Number:	12716525
Application Number:	12249206
Application Number:	12252703
Application Number:	12255020
Application Number:	12181499
Application Number:	11692580
Application Number:	12261402
Application Number:	11837744
Application Number:	13105157
Application Number:	12861133

Property Type	Number
Application Number:	12256723
Application Number:	11689008
Application Number:	12688113
Application Number:	11692513
Application Number:	12956232
Application Number:	12638205
Application Number:	11300185
Application Number:	13157488
Application Number:	12645740
Application Number:	12570104
Application Number:	13009058
Application Number:	12972789
Application Number:	12707174
Application Number:	13585091
Application Number:	12727517
Application Number:	13252381
Application Number:	12712307
Application Number:	12706816
Application Number:	13406772
Application Number:	12640415
Application Number:	12731372
Application Number:	12815929
Application Number:	12748668
Application Number:	12732614
Application Number:	11692733
Application Number:	12817414
Application Number:	12818396
Application Number:	12725899
Application Number:	13949575
Application Number:	13892535
Application Number:	12268563
Application Number:	12750791
Application Number:	13479576
Application Number:	13934598
Application Number:	13472661
Application Number:	13710725
Application Number:	13780045
Application Number:	14013433

Property Type	Number
Application Number:	12690302
Application Number:	13603720
Application Number:	14202276
Application Number:	12606495
Application Number:	13916067
Application Number:	12692835
Application Number:	13547517
Application Number:	13219896
Application Number:	14515718
Application Number:	14172032
Application Number:	12893205
Application Number:	14496121
Application Number:	11559025
Application Number:	11414007
Application Number:	12824731
Application Number:	14166000
Application Number:	13711947
Application Number:	14538088
Application Number:	14250904
Application Number:	14312921
Application Number:	14197592
Application Number:	13915862
Application Number:	14753368
Application Number:	14187551
Application Number:	14595562
Application Number:	12796042
Application Number:	12751130
Application Number:	14333657
Application Number:	12582831
Application Number:	14012312
Application Number:	14925225
Application Number:	14257243
Application Number:	14601593
Application Number:	15050719
Application Number:	14580867
Application Number:	15046922
Application Number:	13951548
Application Number:	14136409

Property Type	Number
Application Number:	14048307
Application Number:	14639479
Application Number:	13008287
Application Number:	15073861
Application Number:	13937409
Application Number:	11750555
Application Number:	14792824
Application Number:	14267119
Application Number:	14732968
Application Number:	14953996
Application Number:	14827555
Application Number:	15378312
Application Number:	14690945
Application Number:	15092812
Application Number:	14667950
Application Number:	14745728
Application Number:	13935424
Application Number:	14706222
Application Number:	14688071
Application Number:	14729332
Application Number:	15053196
Application Number:	14179715
Application Number:	15718257
Application Number:	14699310
Application Number:	14636618
Application Number:	15695237
Application Number:	15725647
Application Number:	15419072
Application Number:	15210169
Application Number:	14867183
Application Number:	15335872
Application Number:	14882007
Application Number:	14935688
Application Number:	15139845
Application Number:	15202786
Application Number:	15690694
Application Number:	15291273
Application Number:	16014207

Property Type	Number
Application Number:	15893842
Application Number:	14831187
Application Number:	15438970
Application Number:	15360296
Application Number:	15874334
Application Number:	15270232
Application Number:	15468343
Application Number:	15898527
Application Number:	15883209
Application Number:	15040106
Application Number:	15581220
Application Number:	14929673
Application Number:	15883220
Application Number:	15373876
Application Number:	14463960
Application Number:	15459284
Application Number:	15590251
Application Number:	15403540
Application Number:	15692253
Application Number:	15884844
Application Number:	15598637
Application Number:	15964642
Application Number:	15437655
Application Number:	15897460
Application Number:	15605411
Application Number:	16178732
Application Number:	15444641
Application Number:	16156132
Application Number:	14575185
Application Number:	14840311
Application Number:	16035925
Application Number:	15879754
Application Number:	15593463
Application Number:	15720205
Application Number:	15594884
Application Number:	15591352
Application Number:	16012048
Application Number:	15615150

Property Type	Number
Application Number:	16281639
Application Number:	15967722
Application Number:	15581341
Application Number:	15436993
Application Number:	16521900
Application Number:	15822672
Application Number:	15092071
Application Number:	15332190
Application Number:	15372995
Application Number:	15687760
Application Number:	16426255
Application Number:	16251487

CORRESPONDENCE DATA

Fax Number: (586)498-0673

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.

Phone: 586-498-0670

Email: chriscpm2@aol.com

Correspondent Name: CHRISTOPHER P. MAIORANA

Address Line 1: 24840 HARPER, SUITE 100

Address Line 4: ST. CLAIR SHORES, MICHIGAN 48080

ATTORNEY DOCKET NUMBER: 8611.50029-ISSUED

NAME OF SUBMITTER: MARY DONNA BERKLEY

SIGNATURE: /Mary Donna Berkley/

DATE SIGNED: 02/05/2020

Total Attachments: 9

source=861150029_assignment_020520#page1.tif
source=861150029_assignment_020520#page2.tif
source=861150029_assignment_020520#page3.tif
source=861150029_assignment_020520#page4.tif
source=861150029_assignment_020520#page5.tif
source=861150029_assignment_020520#page6.tif
source=861150029_assignment_020520#page7.tif
source=861150029_assignment_020520#page8.tif
source=861150029_assignment_020520#page9.tif

ASSIGNMENT OF PATENT RIGHTS

For good and valuable consideration, the receipt of which is hereby acknowledged, **AMBARELLA, INC.**, a Cayman Island corporation, having a registered address at c/o Maples Corporate Services Limited, P.O. Box 309, Ugland House, Grand Cayman, KY1-1104, Cayman Islands ("**Assignor**"), does hereby irrevocably sell, assign, transfer, and convey to, **AMBARELLA INTERNATIONAL LP**, a Canadian limited partnership, having a registered address at 100 King Street West, Suite 6000, 1 First Canadian Place, Toronto, Ontario M5X 1E2, Canada ("**Assignee**"), or its designees, all of Assignor's right, title, and interest that exist today and may exist in the future in and to any and all of the following (collectively, the "**Patent Rights**"):

- (a) the patents and allowed patent applications listed in the attached table (8 pages) (the "**Assigned Patents and Allowed Patent Applications**");
- (b) all issuances, reissues, divisionals, provisionals, continuations and continuations-in-part, re-examinations, renewals, substitutions and extensions of the Assigned Patents, along with all other rights of any kind of Assignor accruing under any of the foregoing provided by applicable law of any jurisdiction, by international treaties and conventions, and any other governmental authority-issued indicia of invention ownership of the Assigned Patents and Allowed Patent Applications;
- (c) any and all royalties, fees, income, payments and other proceeds now or hereafter due or payable with respect to any and all of the foregoing; and
- (d) any and all unresolved claims and causes of action with respect to any of the foregoing, whether accruing before, on or after the date hereof, including all rights to and claims for damages, restitution and injunctive and other legal and equitable relief for past, present and future infringement, misappropriation, violation, misuse, breach or default, with the right but no obligation to sue for such legal and equitable relief and to collect, or otherwise recover, any such damages.

Assignor hereby authorizes the respective patent office or governmental agency in each jurisdiction, including the Commissioner for Patents in the United States Patent and Trademark Office, to record and register this Assignment of Patent Rights upon request by Assignee, and to issue any and all patents, certificates of invention, utility models or other governmental grants or issuances that may be granted upon any of the Patent Rights in the name of Assignee, as the assignee to the entire interest therein.

ASSIGNOR:

AMBARELLA, INC.


By: 
Name: Michael Morehead
Title: Secretary
Date: 1/20/2020

TABLE ATTACHED TO ASSIGNMENT OF PATENT RIGHTS
Assigned Patents and Allowed Patent Applications

TITLE	FILING DATE	SERIAL NO.	JURISDICTION
MULTI-STAGE WAKEUP BATTERY-POWERED IP CAMERA	6/11/2015	14/736,638	United States
SYNCHRONIZATION CIRCUIT FOR DDR IO INTERFACE	8/18/2006	11/465,514	United States
DIGITAL VIDEO CAMERA WITH BINNING OR SKIPPING CORRECTION	1/12/2005	11/034,034	United States
LOW POWER MEMORY HIERARCHY FOR HIGH PERFORMANCE VIDEO PROCESSOR	3/11/2005	11/078,779	United States
DIGITAL VIDEO CAMERA NON-INTEGGER-RATIO BAYER DOMAIN SCALER	4/19/2006	11/407,181	United States
CAMERA WITH HIGH-QUALITY STILL CAPTURE DURING CONTINUOUS VIDEO CAPTURE	4/28/2006	11/413,897	United States
HIGH RESOLUTION ZOOM: A NOVEL DIGITAL ZOOM FOR DIGITAL VIDEO CAMERA	12/10/2004	11/010,032	United States
METHODS FOR INTRA BEATING REDUCTION IN VIDEO COMPRESSION	9/27/2005	11/235,906	United States
VIDEO ENCODER RATE CONTROL USING BIT USAGE MEASURING AND ALLOCATING BY MACROBLOCK CLASSES	9/30/2005	11/241,357	United States
HIGH RESOLUTION ZOOM: A NOVEL DIGITAL ZOOM FOR DIGITAL VIDEO CAMERA	3/3/2010	12/716,525	United States
DIGITAL VIDEO CAMERA WITH BINNING OR SKIPPING CORRECTION	10/10/2008	12/249,206	United States
CAMERA WITH HIGH-QUALITY STILL CAPTURE DURING CONTINUOUS VIDEO CAPTURE	10/16/2008	12/252,703	United States
DIGITAL VIDEO CAMERA NON-INTEGGER-RATIO BAYER DOMAIN SCALER	10/21/2008	12/255,020	United States
DIGITAL VIDEO CAMERA WITH BINNING OR SKIPPING CORRECTION	7/29/2008	12/181,499	United States
FIXED PATTERN NOISE CORRECTION WITH COMPRESSED GAIN AND OFFSET	3/28/2007	11/692,580	United States
SYSTEM FOR TOPOLOGY BASED AUTOMATIC FOCUS	10/30/2008	12/261,402	United States
SYSTEM FOR TOPOLOGY BASED AUTOMATIC FOCUS	8/13/2007	11/837,744	United States
DIGITAL VIDEO CAMERA NON-INTEGGER-RATIO BAYER DOMAIN SCALER	5/11/2011	13/105,157	United States
TEMPERATURE AND/OR VOLTAGE INDEPENDENT VOLTAGE CONTROLLED OSCILLATOR WITH PROGRAMMABLE GAIN AND/OR OUTPUT FREQUENCY RANGE	8/23/2010	12/861,133	United States
DIGITAL STILL CAMERA WITH MULTIPLE FRAMES COMBINED INTO A SINGLE FRAME FOR DIGITAL ANTI-SHAKE/ANTI-BLUR	10/23/2008	12/256,723	United States
DIGITAL STILL CAMERA WITH MULTIPLE FRAMES COMBINED INTO A SINGLE FRAME FOR DIGITAL ANTI-SHAKE/ANTI-BLUR	3/21/2007	11/689,008	United States
HIGH PERFORMANCE CACHING FOR MOTION COMPENSATED VIDEO DECODER	1/15/2010	12/688,113	United States
FIXED PATTERN NOISE AND BAD PIXEL CALIBRATION	3/28/2007	11/692,513	United States
HIGH RESOLUTION ZOOM: A NOVEL DIGITAL ZOOM FOR DIGITAL VIDEO CAMERA	11/30/2010	12/956,232	United States
MEMORY SYSTEM CASCADING REGION-BASED FILTERS	12/15/2009	12/638,205	United States

TABLE ATTACHED TO ASSIGNMENT OF PATENT RIGHTS
Assigned Patents and Allowed Patent Applications

TITLE	FILING DATE	SERIAL NO.	JURISDICTION
MODE DECISION USING APPROXIMATE 1/2 PEL INTERPOLATION	12/14/2005	11/300,185	United States
METHOD TO ACHIEVE CONSTANT SLEW RATE (OVER PROCESS CORNERS) FOR AN OUTPUT BUFFER	6/10/2011	13/157,488	United States
HIGH PERFORMANCE CONTEXT-ADAPTIVE VIDEO PROCESSOR	12/23/2009	12/645,740	United States
DATA SAMPLE COMPRESSION AND DECOMPRESSION USING RANDOMIZED QUANTIZATION BINS	9/30/2009	12/570,104	United States
CAMERA WITH HIGH-QUALITY STILL CAPTURE DURING CONTINUOUS VIDEO CAPTURE	1/18/2011	13/009,058	United States
IMAGE WARP CACHING	12/20/2010	12/972,789	United States
SYSTEM FOR CAMERA MOTION COMPENSATION	2/17/2010	12/707,174	United States
MODE DECISION USING APPROXIMATE 1/2 PEL INTERPOLATION	8/14/2012	13/585,091	United States
CAMERA WITH COLOR CORRECTION AFTER LUMINANCE AND CHROMINANCE SEPARATION	3/19/2010	12/727,517	United States
SYSTEM FOR TOPOLOGY BASED AUTOMATIC FOCUS	10/4/2011	13/252,381	United States
CAMERA THAT USES YUV TO YUV TABLE- BASED COLOR CORRECTION FOR PROCESSING DIGITAL IMAGES	2/25/2010	12/712,307	United States
CAMERA USING COMBINED COLOR PROCESSING IN LOOKUP	2/17/2010	12/706,816	United States
TEMPERATURE AND/OR VOLTAGE INDEPENDENT VOLTAGE CONTROLLED OSCILLATOR WITH PROGRAMMABLE GAIN AND/OR OUTPUT FREQUENCY RANGE	2/28/2012	13/406,772	United States
LOW COST RATE-DISTORTION COMPUTATIONS FOR VIDEO COMPRESSION	12/17/2009	12/640,415	United States
DIGITAL PICTURE NOISE REDUCTION BY COMBINING HIGH-NOISE AND LOW-NOISE PROCESSED PICTURES	3/25/2010	12/731,372	United States
ELECTROSTATIC DISCHARGE PROTECTION SCHEME FOR HIGH-DEFINITION MULTIMEDIA INTERFACE TRANSMITTERS	6/15/2010	12/815,929	United States
METHOD TO TRANSFER IMAGE DATA BETWEEN ARBITRARILY OVERLAPPING AREAS OF MEMORY	3/29/2010	12/748,668	United States
ARCHITECTURE FOR VIDEO, FAST STILL AND HIGH QUALITY STILL PICTURE PROCESSING	3/26/2010	12/732,614	United States
TEMPERATURE-BASED FIXED PATTERN NOISE AND BAD PIXEL CALIBRATION	3/28/2007	11/692,733	United States
HIGH PERFORMANCE WARP CORRECTION IN TWO-DIMENSIONAL IMAGES	6/17/2010	12/817,414	United States
METHOD AND/OR APPARATUS FOR OBJECT DETECTION UTILIZING CACHED AND COMPRESSED CLASSIFIER INFORMATION	6/18/2010	12/818,396	United States
VIRTUAL MEMORY MANAGEMENT FOR REAL- TIME EMBEDDED DEVICES	3/17/2010	12/725,899	United States
CAMERA WITH COLOR CORRECTION AFTER LUMINANCE AND CHROMINANCE SEPARATION	7/24/2013	13/949,575	United States
IMAGE WARP CACHING	5/13/2013	13/892,535	United States
CAMERA WITH HIGH-QUALITY STILL CAPTURE DURING CONTINUOUS VIDEO CAPTURE	11/11/2008	12/268,563	United States
MINIMAL-COST PSEUDO-ROUND-ROBIN ARBITER	3/31/2010	12/750,791	United States

TABLE ATTACHED TO ASSIGNMENT OF PATENT RIGHTS
Assigned Patents and Allowed Patent Applications

TITLE	FILING DATE	SERIAL NO.	JURISDICTION
LOW SUPPLY VOLTAGE ANALOG PHASE INTERPOLATOR	5/24/2012	13/479,576	United States
SYSTEM FOR CAMERA MOTION COMPENSATION	7/3/2013	13/934,598	United States
DIGITAL STILL CAMERA WITH MULTIPLE FRAMES COMBINED INTO A SINGLE FRAME FOR DIGITAL ANTI-SHAKE/ANTI-BLUR	5/16/2012	13/472,661	United States
VIDEO EDITING WITH CONNECTED HIGH- RESOLUTION VIDEO CAMERA AND VIDEO CLOUD SERVER	12/11/2012	13/710,725	United States
DATA SAMPLE COMPRESSION AND DECOMPRESSION USING RANDOMIZED QUANTIZATION BINS	2/28/2013	13/780,045	United States
CAMERA USING COMBINED COLOR PROCESSING IN LOOKUP	8/29/2013	14/013,433	United States
HARDWARE PARTIAL FRAME ELIMINATION IN A SENSOR INTERFACE	1/20/2010	12/690,302	United States
SUCTION CUP CAMERA	9/5/2012	13/603,720	United States
VIRTUAL MEMORY MANAGEMENT FOR REAL- TIME EMBEDDED DEVICES	3/10/2014	14/202,276	United States
DIGITAL VIDEO CAMERA WITH INTERNAL DATA SAMPLE COMPRESSION	10/27/2009	12/606,495	United States
GENERATING SIGNALS WITH ACCURATE QUARTER-CYCLE INTERVALS USING DIGITAL DELAY LOCKED LOOP	6/12/2013	13/916,067	United States
MEMORY ACCESS ORDERING FOR A TRANSFORMATION	1/25/2010	12/692,835	United States
HIGH PERFORMANCE CACHING FOR MOTION COMPENSATED VIDEO DECODER	7/12/2012	13/547,517	United States
FIXED PATTERN NOISE CORRECTION WITH COMPRESSED GAIN AND OFFSET	8/29/2011	13/219,896	United States
DIGITAL VIDEO CAMERA WITH INTERNAL DATA SAMPLE COMPRESSION	10/16/2014	14/515,718	United States
DIGITAL PICTURE NOISE REDUCTION BY COMBINING HIGH-NOISE AND LOW-NOISE PROCESSED PICTURES	2/4/2014	14/172,032	United States
METHODS FOR INTRA BEATING REDUCTION IN VIDEO COMPRESSION	9/29/2010	12/893,205	United States
VIRTUAL MEMORY MANAGEMENT FOR REAL- TIME EMBEDDED DEVICES	9/25/2014	14/496,121	United States
AUTOMATIC EXPOSURE WITH DIGITAL GAIN OPTIMIZED FOR NOISE REDUCTION	11/13/2006	11/559,025	United States
CAMERA WITH HIGH-QUALITY STILL CAPTURE DURING CONTINUOUS VIDEO CAPTURE	4/28/2006	11/414,007	United States
METHOD AND/OR APPARATUS FOR IMPLEMENTING HIGH DYNAMIC RANGE IMAGE PROCESSING IN A VIDEO PROCESSING SYSTEM	6/28/2010	12/824,731	United States
METHOD TO TRANSFER IMAGE DATA BETWEEN ARBITRARILY OVERLAPPING AREAS OF MEMORY	1/28/2014	14/166,000	United States
HIGH EFFICIENCY VIDEO CODING FOR VIDEO WITH INTERLACED AND PROGRESSIVE CONTENT USING LOOKAHEAD	12/12/2012	13/711,947	United States
GENERATING SIGNALS WITH ACCURATE QUARTER-CYCLE INTERVALS USING DIGITAL DELAY LOCKED LOOP	11/11/2014	14/538,088	United States
MINIMAL-COST PSEUDO-ROUND-ROBIN ARBITER	4/11/2014	14/250,904	United States

TABLE ATTACHED TO ASSIGNMENT OF PATENT RIGHTS
Assigned Patents and Allowed Patent Applications

TITLE	FILING DATE	SERIAL NO.	JURISDICTION
VIDEO EDITING WITH CONNECTED HIGH- RESOLUTION VIDEO CAMERA AND VIDEO CLOUD SERVER	6/24/2014	14/312,921	United States
ARCHITECTURE FOR VIDEO, FAST STILL AND HIGH QUALITY STILL PICTURE PROCESSING	3/5/2014	14/197,592	United States
PORTABLE VIDEO CAMERA/RECORDER HAVING VIDEO SECURITY FEATURE	6/12/2013	13/915,862	United States
PICTURE BRIGHTNESS ADJUSTED TEMPORAL FILTERING	6/29/2015	14/753,368	United States
HIGH PERFORMANCE WARP CORRECTION IN TWO-DIMENSIONAL IMAGES	2/24/2014	14/187,551	United States
TEMPORAL FILTERING WITH LOCAL NEIGHBORHOOD LIMITATIONS	1/13/2015	14/595,562	United States
LAYER SWITCHING IN H.264 SCALABLE VIDEO DECODER	6/8/2010	12/796,042	United States
HIGH PERFORMANCE MEMORY SYSTEM FOR 3D COLOR CORRECTION	3/31/2010	12/751,130	United States
HARDWARE PARTIAL FRAME ELIMINATION IN A SENSOR INTERFACE	7/17/2014	14/333,657	United States
BLOCK FLOATING-POINT REPRESENTATION OF DATA SAMPLES	10/21/2009	12/582,831	United States
SYSTEM AND/OR METHOD TO REDUCE A TIME TO A TARGET IMAGE CAPTURE IN A CAMERA	8/28/2013	14/012,312	United States
METHOD AND/OR APPARATUS FOR IMPLEMENTING HIGH DYNAMIC RANGE IMAGE PROCESSING IN A VIDEO PROCESSING SYSTEM	10/28/2015	14/925,225	United States
TWO-DIMENSIONAL TRANSFORMATION WITH MINIMUM BUFFERING	4/21/2014	14/257,243	United States
FIXED PATTERN NOISE CORRECTION WITH COMPRESSED GAIN AND OFFSET	1/21/2015	14/601,593	United States
VIDEO EDITING PROCESSOR FOR VIDEO CLOUD SERVER	2/23/2016	15/050,719	United States
LEVEL-BASED MOTION DETECTION IN A SEQUENCE OF PICTURES	12/23/2014	14/580,867	United States
VIDEO EDITING WITH CONNECTED HIGH- RESOLUTION VIDEO CAMERA AND VIDEO CLOUD SERVER	2/18/2016	15/046,922	United States
SURROUND CAMERA TO GENERATE A PARKING VIDEO SIGNAL AND A RECORDER VIDEO SIGNAL FROM A SINGLE SENSOR	7/26/2013	13/951,548	United States
LOW COST RATE-DISTORTION COMPUTATIONS FOR VIDEO COMPRESSION	12/20/2013	14/136,409	United States
TREE-CODED VIDEO COMPRESSION WITH COUPLED PIPELINES	10/8/2013	14/048,307	United States
AUTOMATIC MIRROR ADJUSTMENT USING AN IN-CAR CAMERA SYSTEM	3/5/2015	14/639,479	United States
SECURE VIRTUAL ACCESS FOR REAL-TIME EMBEDDED DEVICES	1/18/2011	13/008,287	United States
PICTURE BRIGHTNESS ADJUSTED TEMPORAL FILTERING	3/18/2016	15/073,861	United States
CONTEXT-ADAPTIVE BINARY ARITHMETIC DECODER WITH LOW LATENCY	7/9/2013	13/937,409	United States
METHOD AND/OR APPARATUS FOR IMPLEMENTING A GAME UNIVERSE STATE PRESERVATION AND/OR REVIEW FEATURE IN A VIDEO GAME SYSTEM	5/18/2007	11/750,555	United States

TABLE ATTACHED TO ASSIGNMENT OF PATENT RIGHTS
Assigned Patents and Allowed Patent Applications

TITLE	FILING DATE	SERIAL NO.	JURISDICTION
BULK SEARCHABLE GEO-TAGGING OF DETECTED OBJECTS IN VIDEO	7/7/2015	14/792,824	United States
SYSTEM AND/OR METHOD FOR ENHANCING HEARING USING A CAMERA MODULE, PROCESSOR AND/OR AUDIO INPUT AND/OR OUTPUT DEVICES	5/1/2014	14/267,119	United States
PICTURE BRIGHTNESS ADJUSTED MOTION DETECTION	6/8/2015	14/732,968	United States
HIGH EFFICIENCY VIDEO CODING FOR VIDEO WITH INTERLACED AND PROGRESSIVE CONTENT USING LOOKAHEAD	11/30/2015	14/953,996	United States
AUTOMATIC MAINTENANCE OF FRONT AND/OR REAR WINDSHIELD VISIBILITY	8/17/2015	14/827,555	United States
LOW COST RATE-DISTORTION COMPUTATIONS FOR VIDEO COMPRESSION	12/14/2016	15/378,312	United States
AUTOMATIC BEAM-SHAPING USING AN ON-CAR CAMERA SYSTEM	4/20/2015	14/690,945	United States
POWER-SAVING BATTERY-OPERATED CAMERA	4/7/2016	15/092,812	United States
TEMPORAL FILTERING BASED ON MOTION DETECTION ON AREAS OF DIFFERENT SIZES	3/25/2015	14/667,950	United States
INTER-PREDICTION CANDIDATE SELECTION IN A MODE DECISION	6/22/2015	14/745,728	United States
INTERLEAVED VIDEO CODING PIPELINE	7/3/2013	13/935,424	United States
BLIND-SPOT MONITORING USING MACHINE VISION AND PRECISE FOV INFORMATION	5/7/2015	14/706,222	United States
TEMPORAL FILTERING BASED ON REDUCED- RESOLUTION MOTION DETECTION	4/16/2015	14/688,071	United States
REDUCTION OF LED HEADLIGHT FLICKERING IN ELECTRONIC MIRROR APPLICATIONS	6/3/2015	14/729,332	United States
ARCHITECTURE FOR VIDEO, FAST STILL AND HIGH QUALITY STILL PICTURE PROCESSING	2/25/2016	15/053,196	United States
VEHICLE VIDEO CAMERA/RECORDER INITIATED EMERGENCY CALLING	2/13/2014	14/179,715	United States
HIGH EFFICIENCY FOR VIDEO CODING FOR VIDEO WITH INTERLACED AND PROGRESSIVE CONTENT USING LOOKAHEAD	9/28/2017	15/718,257	United States
TEMPORAL FILTERING BASED ON MOTION DETECTION BETWEEN NON-ADJACENT PICTURES	4/29/2015	14/699,310	United States
MOTION DETECTION BASED ON OBSERVING SEVERAL PICTURES	3/3/2015	14/636,618	United States
BULK SEARCHABLE GEO-TAGGING OF DETECTED OBJECTS IN VIDEO	9/5/2017	15/695,237	United States
PICTURE BRIGHTNESS ADJUSTED MOTION DETECTION	10/5/2017	15/725,647	United States
TREE-CODED VIDEO COMPRESSION WITH COUPLED PIPELINES	1/30/2017	15/419,072	United States
TWO-DIMENSIONAL TRANSFORMATION WITH MINIMUM BUFFERING	7/14/2016	15/210,169	United States
ALL-ROUND VIEW MONITORING SYSTEM FOR A MOTOR VEHICLE	9/18/2015	14/867,183	United States
REDUCING BANDWIDTH FOR VIDEO STREAMING USING DE-WARPING AND VIDEO ANALYTICS	10/27/2016	15/335,872	United States

TABLE ATTACHED TO ASSIGNMENT OF PATENT RIGHTS
Assigned Patents and Allowed Patent Applications

TITLE	FILING DATE	SERIAL NO.	JURISDICTION
AUTOMOBILE VIDEO CAMERA FOR THE DETECTION OF CHILDREN, PEOPLE OR PETS LEFT IN A VEHICLE	10/13/2015	14/882,007	United States
SYSTEM AND METHOD TO ADJUST THE FIELD OF VIEW DISPLAYED ON AN ELECTRONIC MIRROR USING REAL-TIME, PHYSICAL CUES FROM THE DRIVER IN A VEHICLE	11/9/2015	14/935,688	United States
MULTI-SENSOR CAMERA USING ROLLING SHUTTER SENSORS	4/27/2016	15/139,845	United States
METHOD FOR ENHANCING STABILITY ROBUSTNESS AND THROUGHPUT OF SEMICONDUCTOR DEVICE TEST MACHINES IN LOW TEMPERATURE CONDITIONS	7/6/2016	15/202,786	United States
CONTEXT-ADAPTIVE BINARY ARITHMETIC DECODER WITH LOW LATENCY	8/30/2017	15/690,694	United States
NON-MAXIMUM SUPPRESSION IN IMAGE DATA	10/12/2016	15/291,273	United States
MOTION DETECTION BASED ON OBSERVING SEVERAL PICTURES	6/21/2018	16/014,207	United States
SURROUND SOUND BASED WARNING SYSTEM	2/12/2018	15/893,842	United States
DATA UNIT FEED SYNCHRONIZATION TO MULTIPLE PIPELINES	8/20/2015	14/831,187	United States
SECURE VIRTUAL ACCESS FOR REAL-TIME EMBEDDED DEVICES	2/22/2017	15/438,970	United States
SURROUND CAMERA TO GENERATE A PARKING VIDEO SIGNAL AND A RECORDER VIDEO SIGNAL FROM A SINGLE SENSOR	11/23/2016	15/360,296	United States
POWER-SAVING BATTERY-OPERATED CAMERA	1/25/2018	15/874,334	United States
UNIQUE IDENTIFICATION VALUE FOR A SENSOR	9/20/2016	15/270,232	United States
DC-IRIS CONTROL SYSTEM	3/24/2017	15/468,343	United States
MULTI-GHZ FULLY SYNTHESIZABLE CMOS FRACTIONAL DIVIDER	2/19/2018	15/898,527	United States
INTER-PREDICTION CANDIDATE SELECTION IN A MODE DECISION APPARATUS TO ADJUST A FIELD OF VIEW DISPLAYED ON AN ELECTRONIC MIRROR USING AN AUTOMOBILE STATE OR A DRIVER ACTION	1/30/2018	15/883,209	United States
LOCAL MAXIMA SUB-INTEGGER POSITION ESTIMATION IN VIDEO PROCESSING	2/10/2016	15/040,106	United States
NIGHT VISION DEVICE WITH PERIODIC INFRARED ILLUMINATION AND GLOBAL SHUTTER CMOS SENSOR	4/28/2017	15/581,220	United States
TEMPORAL FILTERING BASED ON MOTION DETECTION ON AREAS OF DIFFERENT SIZES	11/2/2015	14/929,673	United States
REAR COLLISION ALERT SYSTEM	1/30/2018	15/883,220	United States
REDUCING LANE DEPARTURE WARNING FALSE ALARMS	12/9/2016	15/373,876	United States
COMPUTER VISION PROCESSING IN HARDWARE DATA PATHS	8/20/2014	14/463,960	United States
APPROXIMATE CROSS-CHECK FOR REAL-TIME FEATURE MATCHING	3/15/2017	15/459,284	United States
CONVOLUTION CALCULATIONS IN MULTIPLE DIMENSIONS	5/9/2017	15/590,251	United States
EFFICIENT TWO-STAGE OBJECT DETECTION SCHEME FOR EMBEDDED DEVICE	1/11/2017	15/403,540	United States
BLIND-SPOT MONITORING USING MACHINE VISION AND PRECISE FOV INFORMATION	8/31/2017	15/692,253	United States
MULTIDIMENSIONAL VECTORS IN A COPROCESSOR	1/31/2018	15/884,844	United States
	5/18/2017	15/598,637	United States

TABLE ATTACHED TO ASSIGNMENT OF PATENT RIGHTS
Assigned Patents and Allowed Patent Applications

TITLE	FILING DATE	SERIAL NO.	JURISDICTION
REDUCTION OF LED HEADLIGHT FLICKERING IN ELECTRONIC MIRROR APPLICATIONS	4/27/2018	15/964,642	United States
DYNAMIC SURROUND CAMERA SYSTEM	2/21/2017	15/437,655	United States
LIGHTING CORRECTION FOR MOTION DETECTION AND TEMPORAL FILTERING	2/15/2018	15/897,460	United States
BLOCK BASED APPROXIMATE NON-MAXIMUM SUPPRESSION	5/25/2017	15/605,411	United States
METHOD FOR ENHANCING STABILITY ROBUSTNESS AND THROUGHPUT OF SEMICONDUCTOR DEVICE TEST MACHINES IN LOW TEMPERATURE CONDITIONS	11/2/2018	16/178,732	United States
GENERALIZED DOT PRODUCT FOR COMPUTER VISION APPLICATIONS	2/28/2017	15/444,641	United States
HIGH THROUGHPUT HARDWARE UNIT PROVIDING EFFICIENT LOSSLESS DATA COMPRESSION IN CONVOLUTION NEURAL NETWORK	10/10/2018	16/156,132	United States
MEMORY ACCESS ORDERING FOR A TRANSFORMATION	12/18/2014	14/575,185	United States
DATA UNIT SYNCHRONIZATION BETWEEN CHAINED PIPELINES	8/31/2015	14/840,311	United States
COLOR AND BRIGHTNESS CALIBRATION FOR VIDEO STITCHING	7/16/2018	16/035,925	United States
AUTOMATIC BEAM-SHAPING USING AN ON-CAR CAMERA SYSTEM	1/25/2018	15/879,754	United States
MEMORY HIERARCHY TO TRANSFER VECTOR DATA FOR OPERATORS OF A DIRECTED ACYCLIC GRAPH	5/12/2017	15/593,463	United States
FAST AND ENERGY-EFFICIENT REGION OF INTEREST POOLING FOR OBJECT DETECTION WITH CONVOLUTIONAL NEURAL NETWORK	9/29/2017	15/720,205	United States
ID-RECYCLE MECHANISM FOR CONNECTED COMPONENT LABELING	5/15/2017	15/594,884	United States
SCHEDULER FOR VECTOR PROCESSING OPERATOR ALLOCATION	5/10/2017	15/591,352	United States
TEMPORAL FILTERING BASED ON MOTION DETECTION BETWEEN TEMPORALLY NON-ADJACENT PICTURES	6/19/2018	16/012,048	United States
EFFICIENT SCHEME FOR REVERSING IMAGE DATA IN A MEMORY BUFFER	6/6/2017	15/615,150	United States
MULTI-GHZ FULLY SYNTHESIZABLE CMOS FRACTIONAL DIVIDER	2/21/2019	16/281,639	United States
TEMPORAL FILTER WITH CRITERIA SETTING MAXIMUM AMOUNT OF TEMPORAL BLEND	5/1/2018	15/967,722	United States
SCHEDULER FOR VECTOR PROCESSING OPERATOR READINESS	4/28/2017	15/581,341	United States
AUTOMATIC MIRROR ADJUSTMENT USING AN IN-CAR CAMERA SYSTEM	2/20/2017	15/436,993	United States
DATA UNIT SYNCHRONIZATION BETWEEN CHAINED PIPELINES	7/25/2019	16/521,900	United States
AUTOMATIC MAINTENANCE OF FRONT AND/OR REAR WINDSHIELD VISIBILITY	11/27/2017	15/822,672	United States
LOW BITRATE ENCODING OF SPHERICAL VIDEO TO SUPPORT LIVE STREAMING OVER A HIGH LATENCY AND/OR LOW BANDWIDTH NETWORK	4/6/2016	15/092,071	United States
BROADCASTING PANORAMIC VIDEOS FROM ONE SERVER TO MULTIPLE ENDPOINTS	10/24/2016	15/332,190	United States

TABLE ATTACHED TO ASSIGNMENT OF PATENT RIGHTS
Assigned Patents and Allowed Patent Applications

TITLE	FILING DATE	SERIAL NO.	JURISDICTION
CALCULATIONS OF WINDOW SUMS IN OVERLAPPING WINDOWS	12/8/2016	15/372,995	United States
REAL-TIME COLOR CLASSIFICATION FOR STREET VEHICLES	8/28/2017	15/687,760	United States
LIGHTING CORRECTION FOR MOTION DETECTION AND TEMPORAL FILTERING	5/30/2019	16/426,255	United States
DC-IRIS CONTROL SYSTEM	1/18/2019	16/251,487	United States