506218760 08/25/2020

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

SUBMISSION TYPE: NEW ASSIGNMENT

NATURE OF CONVEYANCE: ASSIGNMENT

EPAS ID: PAT6265503

CONVEYING PARTY DATA

Name	Execution Date
RUITING SHAO	04/20/2018
YANG LEI	04/20/2018
JIAN FAN	04/20/2018
JERRY LIU	04/22/2018

RECEIVING PARTY DATA

Name:	Hewlett-Packard Development Company, L.P.		
Street Address:	10300 Energy Drive		
City:	Spring		
State/Country:	TEXAS		
Postal Code:	77389		

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16975411

CORRESPONDENCE DATA

Fax Number: (970)778-4063

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: (541)360-4450 **Email:** ipa.mail@hp.com

Correspondent Name: HP INC.

Address Line 1:3390 E. HARMONY ROAD MS 35Address Line 4:FORT COLLINS, COLORADO 80528

ATTORNEY DOCKET NUMBER:	85922035
NAME OF SUBMITTER:	TRACY J. KIMMEL
SIGNATURE:	/Tracy J. Kimmel/
DATE SIGNED:	08/25/2020

Total Attachments: 6

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PATENT 506218760 REEL: 053582 FRAME: 0556

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Fort Collins, Colorado 80528

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RECORD ID:	84929083
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ASSIGNMENT OF PATENT APPLICATION

I/We, the undersigned (each), for good and valuable consideration, the receipt of which is hereby acknowledged, and in furtherance of my/our obligations to HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P., a Texas Limited Partnership having its principal place of business in Houston, Texas, (hereinafter HPDC), and to its ıd nt

assigns, the en entitled: THREE-DIMEN	tire right, title and interest, inc	cluding the right of prior	sign and transfer to HPDC, its successors and rity, in, to and under an application for Patent L USING CONVOLUTIONAL NEURAL
Filing Date:	20 Apr 2018	Applicati	ion No.: PCT/US2018/028658
divisionals, and	renewals of and substitutes fo	r said application for sa	f all continuations, continuations-in-part (C-I-P's), iid Patent, and any and all other Patent of any eissues, or reexaminations, or extensions of said
by HPDC, its su Patent respective	ccessors, assigns, nominees or	legal representatives, to r extended, as fully and	for Patent in any country, to be held and enjoyed the full end of the term or terms for which said entirely as the same would have been held and
executed and wi time a request is perfect the title t nominees or leg- said invention(s) papers, to exec- rightful oaths and legal represental improvement(s) i	Il not execute any agreement in made, and without undue delay o said invention(s) or improvement in representatives, and I/we agree or improvement(s), said applicate all disclaimers and divisional declarations, and generally to otives to obtain and enforce, for	conflict herewith, and I/w cexecute and deliver all a ent(s), said application and ee to communicate to HP ation and said Patent, to als, continuations, C-I-P' to everything possible to its or their own benefit,	re interest herein assigned, and that I/we have not we further covenant and agree that I/we will, each such papers as may be necessary or desirable to not said Patent, to HPDC, its successors, assigns, PDC, or to its nominee, all known facts respecting testify in any legal proceedings, to sign all lawful is, reissue and foreign applications, to make all aid HPDC, its successors, assigns, nominees and proper patent protection for said invention(s) or be incurred by me/us in lending such cooperation
applications as a invention(s) or i	foresaid, to issue to HPDC, as	assignee of the entire ri	or countries whose duty it is to issue patents on ight, title and interest, any and all Patent for said or as a result of the application aforesaid, in
			the filing date and application number of said bove, as soon as the same shall have been made
IN WITNES	S WHEREOF, I/we hereunto se	et my/our hand(s) and s	seal(s):
4	Ruitalla		64/20/18
Inventor's Signatu	re De la companya de		Date
Ruiting	Shao		
First/Middle Name	Last Name		
Inventor's Signatu	re		Date
Yang	Lei		
First/Middle Name	Last Name		
Rev 8/2014 (Assignmen	nt)	Page 1 of 2	

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Fort Collins, Colorado 80528

First/Middle Name

Rev 8/2014 (Assignment)

Last Name

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RECORD ID:	84929083	

ASSIGNMENT OF PATENT APPLICATION

I/We, the undersigned (each), for good and valuable consideration, the receipt of which is hereby acknowledged,

Limited Partne	rship having its princip	oal place of business in	Houston, Te	exas, (hereinafter HPDC), and to its transfer to HPDC, its successors and
assigns, the er				and under an application for Paten
entitled: THREE-DIME	NSIONAL SHAPE CLA	SSIFICATION AND RETI	RIEVAL USIN	G CONVOLUTIONAL NEURAL
	ND MAJORITY VOTE			
Filing Date: _	20 Apr 2018	Арр	lication No.:	PCT/US2018/028658
divisionals, and	renewals of and substi	tutes for said application	for said Paten	inuations, continuations-in-part (C-I-P's) t, and any and all other Patent of an or reexaminations, or extensions of said
by HPDC, its su Patent respective	uccessors, assigns, nomi rely may be granted, reis	inees or legal representativ	res, to the full r and entirely a	nt in any country, to be held and enjoyed end of the term or terms for which said as the same would have been held and
executed and w time a request in perfect the title nominees or leg said invention(s papers, to exec rightful oaths an legal representa improvement(s)	rill not execute any agree is made, and without undit to said invention(s) or impal representatives, and led or improvement(s), said the cute all disclaimers and declarations, and geneatives to obtain and enfo	ment in conflict herewith, a ue delay, execute and deliv provement(s), said applicat /we agree to communicate di application and said Pate divisionals, continuations, rally to do everything possil proe, for its or their own be	and I/we further er all such pap ion and said P to HPDC, or to nt, to testify in C-I-P's, reissu ple to aid HPDG enefit, proper p	therein assigned, and that I/we have not covenant and agree that I/we will, each ters as may be necessary or desirable thatent, to HPDC, its successors, assigns to its nominee, all known facts respecting any legal proceedings, to sign all lawfue and foreign applications, to make a C, its successors, assigns, nominees an patent protection for said invention(s) or and by me/us in lending such cooperations.
applications as invention(s) or	aforesaid, to issue to HF	PDC, as assignee of the er may be issued and grante	ntire right, title	ies whose duty it is to issue patents o and interest, any and all Patent for sai result of the application aforesaid, i
				g date and application number of sai soon as the same shall have been mad
IN WITNE	SS WHEREOF, I/we here	eunto set my/our hand(s)	and seal(s):	
Inventor's Signat	ure		Date	
Ruiting	Shao			
First/Middle Name			romani de la compania del compania del compania de la compania del compania de la compania de la compania del compania de la compania del compania de la compania del compania de la compa	
4	<u> 170 </u>		į.	1/20/2016
Inventor's Signat	ure	(2005) ya Mara K aranga Kabupatan Baranga (2005) ²⁰⁰ Karanga Kabupatan Baranga (2005)	Date	s.c. Successive Succes
Yang	Lei			

Page 1 of 2

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RECORD ID:	84929083
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ASSIGNMENT OF PATENT APPLICATION

Eirst/Middle Name	Last Name	
Yang	Lei	
Inventor's Signature		Date
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Ruiting First/Middle Name	Shao Last Name	
	Shaa	Duto
Inventor's Signature		Date
IN WITNESS WHEREOF,	I/we hereunto set my/o	ur hand(s) and seal(s):
		nd title set forth above, as soon as the same shall have been made
accordance with the terms of the	nis assignment.	record to insert the filing date and application number of said
applications as aforesaid, to is	sue to HPDC, as assigne	of any country or countries whose duty it is to issue patents on se of the entire right, title and interest, any and all Patent for said and granted on or as a result of the application aforesaid, in
papers, to execute all disclair rightful oaths and declarations, legal representatives to obtain	mers and divisionals, con and generally to do every and enforce, for its or the countries provided the exp	tinuations, C-I-P's, reissue and foreign applications, to make all thing possible to aid HPDC, its successors, assigns, nominees and heir own benefit, proper patent protection for said invention(s) or enses which may be incurred by me/us in lending such cooperation
executed and will not execute time a request is made, and w perfect the title to said invention nominees or legal representati	any agreement in conflict ithout undue delay, execut on(s) or improvement(s), s ves, and I/we agree to co	o convey the entire interest herein assigned, and that I/we have not herewith, and I/we further covenant and agree that I/we will, each te and deliver all such papers as may be necessary or desirable to aid application and said Patent, to HPDC, its successors, assigns, mmunicate to HPDC, or to its nominee, all known facts respecting a said Patent, to testify in any legal proceedings, to sign all lawful
by HPDC, its successors, ass	igns, nominees or legal re anted, reissued or extend	in my/our name for Patent in any country, to be held and enjoyed epresentatives, to the full end of the term or terms for which said led, as fully and entirely as the same would have been held and been made;
divisionals, and renewals of a countries thereto which may be Patent.	and substitutes for said a se granted thereon or ther	ein, and any and all continuations, continuations-in-part (C-I-P's), application for said Patent, and any and all other Patent of any efore; and any reissues, or reexaminations, or extensions of said
Filing Date: 20 Apr 2018		Application No.: PCT/US2018/028658
entitled: THREE-DIMENSIONAL SHA NETWORKS AND MAJORIT	APE CLASSIFICATION A	AND RETRIEVAL USING CONVOLUTIONAL NEURAL
subsidiaries and affiliates, ag	ree to assign and transfe	or and hereby assign and transfer to HPDC, its successors and the right of priority, in, to and under an application for Patent
	ur obligations to HEWLI	ETT-PACKARD DEVELOPMENT COMPANY, L.P., a Texas usiness in Houston, Texas, (hereinafter HPDC), and to its

Page 1 of 2

Rev 8/2014 (Assignment)

HP Inc. 3390 E. Harmony Road Mail Stop 35 Fort Collins, Colorado 80528

PATENT APPLICATION

Fort Collins, Colorado 80528		RECORD ID:	84929083
ASSIGNM	IENT OF PATEN	IT APPLICATION (co	ont.)
ファ Man In		41	20/2018
nventor's Signature		Date	20/20/0
lian Fan	i		
First/Middle Name Last Nam	ne		
nventor's Signature		Date	
Jerry Liu		·	
First/Middle Name Last Nam	ne		
Inventor's Signature		Date	
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First/Middle Name Last Nam	ne .		
Inventor's Signature		Date	
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Page 2 of 2

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Fort Collins, Colorado 80528

Rev 8/2014 (Assignment)

PATENT APPLICATION

RECORD ID:	84929083

ASSIGNMENT OF PATENT APPLICATION

I/We the undersigned (each), for good and valuable consideration, the receipt of which is hereby acknowledged. d ηţ

and in furtherance of my/our of Limited Partnership having its subsidiaries and affiliates, agree assigns, the entire right, title an	obligations to HEWLETT principal place of busir to assign and transfer ar	PACKARD DEVELOPMENT COMPANY, L.P., a Texas in Houston, Texas, (hereinafter HPDC), and to its id hereby assign and transfer to HPDC, its successors and right of priority, in, to and under an application for Patent
entitled: THREE-DIMENSIONAL SHAPE NETWORKS AND MAJORITY \		RETRIEVAL USING CONVOLUTIONAL NEURAL
Filing Date: 20 Apr 2018	***************************************	Application No.: PCT/US2018/028658
divisionals, and renewals of and	substitutes for said appli	and any and all continuations, continuations-in-part (C-I-P's), cation for said Patent, and any and all other Patent of any e; and any reissues, or reexaminations, or extensions of said
by HPDC, its successors, assigns	s, nominees or legal repre ed, reissued or extended,	ny/our name for Patent in any country, to be held and enjoyed sentatives, to the full end of the term or terms for which said as fully and entirely as the same would have been held and made;
executed and will not execute any time a request is made, and witho perfect the title to said invention(s nominees or legal representatives said invention(s) or improvement(spapers, to execute all disclaimentightful oaths and declarations, and legal representatives to obtain an	agreement in conflict her ut undue delay, execute at) or improvement(s), said , and I/we agree to comm s), said application and sa s and divisionals, continu d generally to do everythin id enforce, for its or their htries provided the expensi	nvey the entire interest herein assigned, and that I/we have not ewith, and I/we further covenant and agree that I/we will, each addeliver all such papers as may be necessary or desirable to application and said Patent, to HPDC, its successors, assigns, unicate to HPDC, or to its nominee, all known facts respecting id Patent, to testify in any legal proceedings, to sign all lawful ations, C-I-P's, reissue and foreign applications, to make all g possible to aid HPDC, its successors, assigns, nominees and own benefit, proper patent protection for said invention(s) or as which may be incurred by me/us in lending such cooperation
applications as aforesaid, to issue	e to HPDC, as assignee o which may be issued and	any country or countries whose duty it is to issue patents on f the entire right, title and interest, any and all Patent for said granted on or as a result of the application aforesaid, in
		ord to insert the filing date and application number of said le set forth above, as soon as the same shall have been made
IN WITNESS WHEREOF, I/w	e hereunto set my/our h	and(s) and seal(s):
Inventor's Signature		Date
Ruiting	Shao	
First/Middle Name	Last Name	······································
Inventor's Signature		Date
Yang	Lei	
First/Middle Name	Last Name	

Page 1 of 2

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PATENT APPLICATION

RECORD ID:	84929083

ASSIGNMENT OF PATENT APPLICATION (cont.)

Inventor's Signature		Date
	Fan	
Jian	Fan	_
First/Middle Name	Last Name	
	1	11 23 3018
		4-22-2018
Inventor's Signature		Date
Jerry	Liu	
First/Middle Name	Last Name	
Inventor's Signature		Date
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First/Middle Name	Last Name	
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Pey 9/2014 (Assignment)	Page 2 of 2	,

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