505808571 12/06/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

SUBMISSION TYPE: NEW ASSIGNMENT

NATURE OF CONVEYANCE: ASSIGNMENT

EPAS ID: PAT5855400

CONVEYING PARTY DATA

Name	Execution Date
RUI DING	06/15/2017
ZHOUYU FU	06/16/2017
SHI HAN	06/15/2017
HAIDONG ZHANG	06/16/2017
DONGMEI ZHANG	06/15/2017

RECEIVING PARTY DATA

Name:	MICROSOFT TECHNOLOGY LICENSING, LLC
Street Address:	ONE MICROSOFT WAY
City:	REDMOND
State/Country:	WASHINGTON
Postal Code:	98052-6399

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16620381

CORRESPONDENCE DATA

Fax Number: (612)332-9081

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: 612-332-5300

Email: crogers@merchantgould.com **Correspondent Name:** MERCHANT & GOULD P.C.

Address Line 1: P.O. BOX 2903

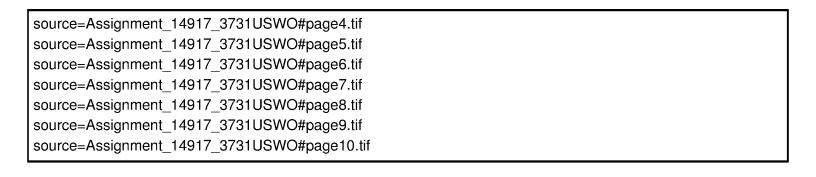
Address Line 4: MINNEAPOLIS, MINNESOTA 55402-0903

NAME OF SUBMITTER:	TIMOTHY B. SCULL
SIGNATURE:	/Timothy B. Scull/
DATE SIGNED:	12/06/2019

Total Attachments: 10

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PATENT 505808571 REEL: 051206 FRAME: 0911



PATENT REEL: 051206 FRAME: 0912

PATENT ASSIGNMENT MS Docket No.: 363177.01
I <u>Rui Ding</u> ("ASSIGNOR") am the original inventor or an original joi inventor of subject matter ("INVENTION") disclosed and/or claimed in patent application entitled " <u>AUTOMATED ANALYSIS OF DIFFERENCE BETWEE MULTI-DIMENSIONAL DATASETS</u> " ("APPLICATION"), which:
ASSIGNEE'S legal representative, Microsoft Technology Licensing, LLC, One Microsoft Way, Redmond, Washington 98052 (ASSIGNEE'S LEGAL REPRESENTATIVES), to insert here in parentheses (filed on and given Application No by the following Office) this APPLICATION'S Application No., filing date, and Office, when known;
was filed on June 9, 2017 and was given Application No 201710433307.4 by the following Office "State Intellectual Property Office of the People's Republic of China (RO/CN) ;
Microsoft Technology Licensing, LLC, a Washington limited liability company, of behalf of itself and its successors and assigns ("ASSIGNEE"), is entitled to, and desirous of acquiring, the entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and all other applications are patents derived therefrom, such as continuing applications, in whole or in part, in asserting applications.

ė patents derived therefrom, such as continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES"));

ASSIGNOR hereby authorizes, and requests, ASSIGNEE'S **LEGAL** REPRESENTATIVES to insert the Application No., filing date, and Office into the following table for any APPLICATION DERIVATIVES after they are known;

Application No.	Filing Date	Office
US 16/620381	2019-12-06	US Patent and Trademark Office

Page 1 of 2

PATENT ASSIGNMENT			MS Docket No.:	363177.01	

ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of the APPLICATION (and APPLICATION DERIVATIVES), for litigation regarding letters patent derived therefrom, and for the purpose of protecting and perfecting title to the APPLICATION (and APPLICATION DERIVATIVES).

Rui Ding	06/15/2017	
Inventor's Signature	Date	
Rui Ding	丁锐	
Printed Name in English	Printed Name in Native Language (if other than English)	

PATENT	ASSIGNMENT	MS Docket No.: <u>363177.01</u>	
inventor of subject matte patent application entitled MULTI-DIMENSIONAL DATASET	r ("INVENTION") disclos " <u>AUTOMATED ANALYSIS</u>	OF DIFFERENCE BETWEEN 1:	
ASSIGNEE'S legal LLC, One Microso LEGAL REPRESEN on No. Office	representative, Microsoft ft Way, Redmond, Washing TATIVES), to insert here and by iling date, and Office, whe	Technology Licensing, gton 98052 (ASSIGNEE'S in parentheses (filed given Application the following) this APPLICATION's	
201710433307.4	9, 2017 and was given Ap by the following Office " <u>S</u> the People's Republic of C ";	tate Intellectual	
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Zhowm Fr	06/16/2017
Inventor's Signature	Date
Zhouyu Fu	傅周宇
Printed Name in English	Printed Name in Native Language (if other than English)

PATENT ASSIGNMENT

I Shi	Han ("ASSIGNOR	") am the original in	ventor or an original joint
inventor of		("INVENTION") disclo	
	•		OF DIFFERENCE BETWEEN
		S " ("APPLICATION"), whic	
	will be filed.	ASSIGNOR hereby auth	
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		ft Way, Redmond, Washin	
		TATIVES), to insert here	•
	on	and	given Application
		by	the following
) this APPLICATION's
	Application No., fi	ling date, and Office, who	en known;
\boxtimes		<u>9, 2017</u> and was given Ap	
	201710433307.4	by the following Office "S	<u>tate Intellectual</u>
	Property Office of	the People's Republic of	<u>China</u>
	(RO/CN)	",	
Miguo	ooft Toologology Liv	noncina IIC o Machinata	un limate ad liabilita a anno anno an
	- .	<u> </u>	on limited liability company, on
			GNEE"), is entitled to, and is
	•		itle and interest, including the
	•		(and all other applications and
-		<u> </u>	ons, in whole or in part, in and
		territories, and all fore	ign countries ("APPLICATION
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Application N	No.	Filing Date 2019-12-06	US Patent and Trademark Office

Page 1 of 2

MS Docket No.: <u>363177.01</u>

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Shi Han
Inventor's Signature

Date

Shi Han
Printed Name in English

Printed Name in Native Language (if other than English)

PATENT ASSIGNMENT

	PATENT ASSIGNMENT	MS Docket No.: <u>363177.01</u>
l <u>Haido</u>	ong Zhang ("ASSIGNOR") am the original	inventor or an original joint
inventor of	subject matter ("INVENTION") disclo	sed and/or claimed in a
patent applica	ation entitled " <u>AUTOMATED ANALYSIS</u>	OF DIFFERENCE BETWEEN
MULTI-DIMEN	ISIONAL DATASETS " ("APPLICATION"), which	h:
	will be filed. ASSIGNOR hereby auth	norizes, and requests,
,	ASSIGNEE'S legal representative, Microsoft	t Technology Licensing,
I	LLC, One Microsoft Way, Redmond, Washin	gton 98052 (ASSIGNEE'S
I	LEGAL REPRESENTATIVES), to insert here	e in parentheses (filed
	on and	given Application
1	No by	the following
(Office) this APPLICATION's
,	Application No., filing date, and Office, whe	en known;
\boxtimes ι	was filed on <u>June 9, 2017</u> and was given Ap	oplication No
	201710433307.4 by the following Office "S	
_	Property Office of the People's Republic of (
_	(RO/CN) ";	<u>Cimia</u>
7	,	
Microso	oft Technology Licensing, LLC, a Washingto	on limited liability company on
	elf and its successors and assigns ("ASSI	
	cquiring, the entire and exclusive rights, t	
	ty, in the INVENTION and the APPLICATION	
•	ed therefrom, such as continuing application	• •
paterits derive	za merenom, such as commung applicant	ons, in whole of in part, in and

for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES")); hereby authorizes, and ASSIGNEE'S ASSIGNOR requests, LEGAL

REPRESENTATIVES to insert the Application No., filing date, and Office into the following table for any APPLICATION DERIVATIVES after they are known;

Application No.	Filing Date	Office
US 16/620381	2019-12-06	US Patent and Trademark Office

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PATENT .	ASSIGNMENT	MS Docket No.:	363177.01

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	PATENT	ASSIGNMENT	MS Docket No.: <u>363177.01</u>
inventor of application	subject matter entitled "AUTOM	("INVENTION") disclosed	inventor or an original joint and/or claimed in a patent IFFERENCE BETWEEN MULTI-
	will be filed.	ASSIGNOR hereby auth	norizes and requests
	ASSIGNEE'S legal LLC, One Microso LEGAL REPRESEN on No. Office	representative, Microsoft ft Way, Redmond, Washing TATIVES), to insert here and by	Technology Licensing, gton 98052 (ASSIGNEE'S in parentheses (filed given Application the following) this APPLICATION's
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	(RO/CN)	н <u>.</u>	
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Dougnei Zhang	June 15, 2017
Inventor's Signature	Date
Dongmei Zhang	张冬梅
Printed Name in English	Printed Name in Native Language (if other than English)