502749362 04/01/2014

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT2795958

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
XIAODONG HE	03/28/2014
JIANFENG GAO	03/28/2014
LI DENG	03/28/2014
QIANG LOU	03/28/2014
YUNHONG ZHOU	03/28/2014
GUOWEI LIU	03/31/2014
GREGORY T. BUEHRER	03/31/2014
JIANCHANG MAO	04/01/2014
YELONG SHEN	03/28/2014
RUOFEI ZHANG	03/30/2014

#### **RECEIVING PARTY DATA**

Name:	MICROSOFT CORPORATION	
Street Address:	ONE MICROSOFT WAY	
City:	REDMOND	
State/Country:	WASHINGTON	
Postal Code:	98052	

### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	14242845

#### CORRESPONDENCE DATA

**Fax Number:** (425)936-7329

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via

US Mail.

**Phone:** 425-707-9382

Email:vffiling@microsoft.comCorrespondent Name:ASSAL MEFTAHI

Address Line 1: ONE MICROSOFT WAY

Address Line 2:PATENT GROUP DOCKETING DEPTAddress Line 4:REDMOND, WASHINGTON 98052

ATTORNEY DOCKET NUMBER: 341317.01

502749362 PATENT REEL: 032577 FRAME: 0714

NAME OF SUBMITTER:	DAVID HUNTLEY		
SIGNATURE:	/ David Huntley 40309 /		
DATE SIGNED:	04/01/2014		
Total Attachments: 20			
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PATENT REEL: 032577 FRAME: 0715

I <u>Xiaodong He</u> ("ASSIGNOI	R") am the original invent	or or an original joint inventor
of subject matter ("INVENTION	l") disclosed and/or cla	imed in a patent application
entitled "Convolutional Late	<u>ent Semantic Models</u>	and their Applications'
("APPLICATION"), which:		
$oxed{\boxtimes}$ will be filed.	ASSIGNOR hereby auth	orizes, and requests,
ASSIGNEE'S legal re	epresentatives, of the Lav	w and Corporate Affairs
Department, Micro	soft Corporation, One M	icrosoft Way, Redmond,
	(ASSIGNEE'S LEGAL REPR	
here in parenthe	ses (filed on <u>April 1, 201</u>	4 and given
Application No	, 14242845	by the following
Office USPTO	. 14242845	) this APPLICATION's
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following table for any APPLICAT		
Application No.	Filing Date	Office

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Inventor's Signature	Date	
Xiaodong He	何晓冬	
Printed Name in English	Printed Name in Native Language	
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I <u>Jianfeng Gao</u> ("ASSIGNO	OR") am the original invent	or or an original Joint invento
of subject matter ("INVENTIO	N") disclosed and/or cla	imed in a patent application
		and their Applications
ASSIGNEE'S legal Department, Micr Washington 9805 here in parenth Application N Office USPTO	ASSIGNOR hereby authorepresentatives, of the Lawosoft Corporation, One M 2 (ASSIGNEE'S LEGAL REPRESES (filed on April 1, 201) o. 14242845	w and Corporate Affairs icrosoft Way, Redmond, tESENTATIVES), to insert and given by the following this APPLICATION's
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Microsoft Corporation, successors and assigns ("ASSIG entire and exclusive rights, ti INVENTION and the APPLICAT therefrom, such as continuing States, its territories, and all for	GNEE"), is entitled to, and tle and interest, including TION (and all other appl applications, in whole or	g the right of priority, in the ications and patents derived in part, in and for the United
ASSIGNOR hereby	authorizes, and requ	uests, ASSIGNEE'S LEGAL
REPRESENTATIVES to insert t		**
following table for any APPLICA	TION DERIVATIVES after th	ney are known;
Application No.	Filing Date	Office
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MS.	Docket	No.:	341317.01	

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Tanaya	3/28/2014	
Inventor's Signature	Date 克剑峰	
Jianfeng Gao	*** ) 7	
Printed Name in English	Printed Name in Native Language	
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subject matter ("IN	IVENTION") disclo	sed and/or claii	med in a pate	iginal joint inventor ent application entiti APPLICATION"), whic	81
ASSIC Depa Wash here Appli Offic		sentatives, of the Corporation, O SIGNEE'S LEGAL (filed on Apr 14242845	ne Law and C ne Microsoft REPRESENTA II 1, 2014 by t	orporate Affairs Way, Redmond, TIVES), to insert and given he following APPLICATION's	
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For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns and transfers to the ASSIGNEE, ASSIGNOR's entire and exclusive rights, title and interest, including the right of priority, in the invention and the APPLICATION (and all other applications and 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 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).

	3/28/2014
Inventor's Signature	Date
Li Deng	
Printed Name in English	Printed Name in Native Language
	(if other than English)

MS Docket No.: 341317.01

I <u>Qian</u>	g Lou	L("AS	SIGNOR	") am the ori	ginal inv	entor or an o	riginal	joint invento	or of
subject matt	er ("Il	NVEN	ITION") d	disclosed and	d/or clai	med in a pate	ent ap	plication enti	tled
'Convolution	al La	tent :	<u>Semantic</u>	Models and	their Ap	oplications" ("/	APPLIC	:ATION"), whi	ch:
X	will	be	filed.	ASSIGNOR	hereby	authorizes,	and	requests,	
	ASSI	GNEI	E'S legal	representati	ves, of t	he Law and C	orpor	ate Affairs	

Department, Microsoft Corporation, One Microsoft Way, Redmond, Washington 98052 (ASSIGNEE'S LEGAL REPRESENTATIVES), to insert

Applicat	ion	No.	14242845		by	t	he	following
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here in parentheses (filed on \_\_\_\_April 1, 2014

Microsoft Corporation, a Washington Corporation, on behalf of itself and its successors and assigns ("ASSIGNEE"), is entitled to, and is 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 and 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:

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Page 1 of 2

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MS Docket No.: 341317.01

For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns and transfers to the ASSIGNEE, ASSIGNOR's entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and all other applications and 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"));

Olany Lon	3/28/2014
Inventor's Signature	Date
Qiang Lou	
Printed Name in English	Printed Name in Native Language (if other than English)

	SS	inventor or an original joint
inventor of subject matter (	"NVENTION") disclosed a	and/or claimed in a patent
application entitled "Convoluti	<u>onal Latent Semantic Mo</u>	dels and their Applications"
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graduation of the state of the	osoft Corporation, One Mi	
- 19 Page 1 Page	2 (ASSIGNEE'S LEGAL REPR	
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ASSIGNOR hereby	authorizes, and requ	Jests, ASSIGNEE'S LEGAL
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Page 1 of 2

MS Docket No.: 341317.01

MS	Docket	No.:	341317.01	

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40 Dha	3/28/2014	:
Inventor's Signature	Date	
Yunhong Zhou		
Printed Name in English	Printed Name in Native Language	
	(if other than English)	

I <u>Guowei Liu</u> ("ASSIGNOR") am the original inventor or an original joint invent of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled " <u>Convolutional Latent Semantic Models and their Application</u> ("APPLICATION"), which:
will be filed. ASSIGNOR hereby authorizes, and requests, ASSIGNEE'S legal representatives, of the Law and Corporate Affairs Department, Microsoft Corporation, One Microsoft Way, Redmond, Washington 98052 (ASSIGNEE'S LEGAL REPRESENTATIVES), to insert here in parentheses (filed on April 1, 2014 and given Application No. 14242845 by the following Office USPTO this APPLICATION's Application No., filing date, and Office, when known;
was filed on and was given Application  No by the following Office  "
Microsoft Corporation, a Washington Corporation, on behalf of itself and is successors and assigns ("ASSIGNEE"), is entitled to, and is 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 and patents derive 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 LEGAREPRESENTATIVES 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

MS	Docket	No.:	341317	<u>'.01</u>

For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns and transfers to the ASSIGNEE, ASSIGNOR's entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and all other applications and 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")):

Gourle	3/31/2014	
Inventor's Signature	Date <sup>'</sup>	
Guowei Liu	刘/副体	***************************************
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PATENT ASSIGNMENT MS Docket No.: 341317.01 I Gregory T. Buehrer ("ASSIGNOR") am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled "Convolutional Latent Semantic Models and their Applications" ("APPLICATION"), which: will be filed. ASSIGNOR hereby authorizes, and requests, ASSIGNEE'S legal representatives, of the Law and Corporate Affairs Department, Microsoft Corporation, One Microsoft Way, Redmond, Washington 98052 (ASSIGNEE'S LEGAL REPRESENTATIVES), to insert here in parentheses (filed on April 1, 2014) \_\_ and given 14242845 Application No. by the following Office USPTO \_\_\_\_\_) this APPLICATION's Application No., filing date, and Office, when known; was filed on \_\_\_\_\_ and was given Application No \_\_\_\_\_\_ by the following Office Microsoft Corporation, a Washington Corporation, on behalf of itself and its successors and assigns ("ASSICNEE"), is entitled to, and is 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 and 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

MS	Docket No.:	<u>341317.01</u>

Inventor's Signature	3/3 / 1 4 Date
Gregory T. Buehrer Printed Name in English	Printed Name in Native Language (if other than English)

PATENT A	SSIGNMENT ]	MS Docket No.: 341317.01
I <u>lianchang Mao</u> ("ASSIC inventor of subject matter (" application entitled " <u>Convoluti</u> ("APPLICATION"), which:	NVENTION") disclosed a	nventor or an original joint nd/or claimed in a patent dels and their Applications"
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Inventor's Signature	Date	
Jianchang Mao	JIANCHANG MAO	
Printed Name in English	Printed Name in Native Language (if other than English)	1847 + 84 <u>1.1</u> 8

l <u>Yelo</u>	<u>ng Shen</u> ("ASSIGN(	OR") am the original i	nventor or an o	riginal joint invento
of subject i	matter ("INVENTIC	N") disclosed and/o	or claimed in a	patent application
entitled "S	<u>Convolutional La</u>	tent Semantic M	odels and t	<u>heir Applications'</u>
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	ASSIGNEE'S legal	representatives, of t	he Law and Corp	orate Affairs
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Micro	soft Corporation,	a Washington Corpo	oration, on beh	alf of itself and its
successors a	ınd assigns ("ASSI	GNEE"), is entitled to	, and is desirou	us of acquiring, the
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inventor of subject matt	er ("INVENTION") dise	riginal inventor or an or closed and/or claimed ir antic Models and their A	i a patent
ASSIGNEE'S le Department, Washington 9 here in par Application Office USPTO	gal representatives, of Microsoft Corporation, 8052 (ASSIGNEE'S LEG entheses (filed on _ No. <u>14242845</u>	oy authorizes, and requicate of the Law and Corporate Af , One Microsoft Way, Redminated Nature (Nature 1, 2014) and continuous of the folloom of the following of th	fairs ond, nsert given wing
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Ruster Thong	03/30/2014
Inventor's Signature	Date
Ruofei Zhang	
Printed Name in English	Printed Name in Native Language
	(if other than English)

RECORDED: 04/01/2014