# PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
KENG-HAO CHANG	10/28/2015
RUOFEI ZHANG	10/28/2015
SHUANGFEI ZHAI	10/28/2015

#### **RECEIVING PARTY DATA**

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State/Country:	WASHINGTON
Postal Code:	98052

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

Property Type	Number
Application Number:	14926617

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ATTORNEY DOCKET NUMBER:	358608.01
NAME OF SUBMITTER:	DAVID HUNTLEY
SIGNATURE:	/ David Huntley 40309 /
DATE SIGNED:	10/29/2015

#### **Total Attachments: 6**

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PATENT 503546095 REEL: 036914 FRAME: 0961

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> PATENT REEL: 036914 FRAME: 0962

## PATENT ASSIGNMENT

MS Docket No.: 358608.01

l <u>Keng-ha</u>	<u>ao Chang</u> ("ASSI	GNOR") am	the origina	i inventor	or an	original joint
inventor of sub	oject matter ("I	NVENTION")	disclosed	and/or c	laimed	in a patent
application enti	tled " <u>Identifying</u>	<u>Relevant</u>	Content Ite	<u>ms using</u>	<u>a Dee</u>	p-Structured
<u>Neural Network</u> "	("APPLICATION")	, which:				

X	will be filed.	ASSIGNOR	hereby	authorize:	s, and	reques	ts,
	ASSIGNEE'S lega	l representat	ive, Micr	osoft Tech	nology	Licensii	ng,
	LLC., One Mi	icrosoft Wa	y, Redn	nond, Wa	shingto	n 980	52
	(ASSIGNEE'S LE	GAL REPRE	SENTATIN	/ES), to	insert	here	in
	parentheses (file	ed on Octobe	r 29, 2015	and	given /	Applicati	ion
	No. 14926	617	by	the		followi	ng
	Office USPTO			) thi	s APPI	LICATIO	V's
	Application No.,	filing date, a	nd Office	, when kno	wn;		
~	was filed on	***************************************	and was g	jiven Appli	cation		
	No	by the f	ollowing	Office			
	\$\$ 		88 <sub>0</sub>				

Microsoft Technology Licensing, LLC, a Washington limited liability company, 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;

Application No.	Filing Date	Office	
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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).

		10/28/2015
Inventor's Sigrature	***************************************	Date
Keng-hao Chang	NAMES AND ADDRESS OF THE PARTY	
Printed Name in English		Printed Name in Native Language
	8° v	(if other than English)

# PATENT ASSIGNMENT

l <u>Ruo</u>	<u>fei Zhang</u> ("ASSIG	NOR") am the original i	nventor or an original joint
inventor of	subject matter (	"INVENTION") disclosed	and/or claimed in a patent
application	entitled " <u>Identifyir</u>	<u>ig Relevant Content Iter</u>	ns using a Deep-Structured
Neural Netwo	ork" ("APPLICATION	"), which:	
		ASSIGNOR hereby auth	
	ASSIGNEE'S legal	representative, Microsoft	Technology Licensing,
	LLC., One Mic	rosoft Way, Redmond,	Washington 98052
	(ASSIGNEE'S LEC	AL REPRESENTATIVES),	to insert here in
	parentheses (filed	on October 29, 2015	and given Application
	No. 149266	17 by	the following
	Office USPTO		) this APPLICATION's
	Application No., fi	ling date, and Office, whe	
	was filed on	and was given	Annlication
keeryse			
	#	by the following Office ".	
	· · ·	<del>3</del>	
desirous of a right of prior patents deriv	acquiring, the enting rity, in the INVENTING red therefrom, suc- ited States, its t	re and exclusive rights, ti ON and the APPLICATION h as continuing applicatio	GNEE"), is entitled to, and is tle and interest, including the (and all other applications and ns, in whole or in part, in and gn countries ("APPLICATION
ASSIC	NIND harahu	authorizes, and requ	iests, ASSIGNEE'S LEGAL
	•	· ·	g date, and Office into the
		TION DERIVATIVES after the	
Application N	<u>vo.</u>	Filing Date	Office
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MS Docket No.: 358608.01

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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).

Ruste Wang	10/28/2015
Inventor's Signature	Date
Ruofei Zhang	
Printed Name in English	Printed Name in Native Language
	(if other than English)

MS Docket No.: 358608.01 PATENT ASSIGNMENT I Shuangfei Zhai ("ASSIGNOR") am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled "Identifying Relevant Content Items using a Deep-Structured Neural Network" ("APPLICATION"), which: will be filed. ASSIGNOR hereby authorizes, and requests, 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 October 29, 2015 and given Application 14926617 the following No. bv 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 Technology Licensing, LLC, a Washington limited liability company, 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:

Application No. Filing Date Office

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### PATENT ASSIGNMENT

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MS Docket No.: 358608.01

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"));

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).

J	
Inventor's Signature	
Shuangfei Zhai	<u> </u>
Printed Name in English	Printed Name in Native Language (if other than English)