PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5095391

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
PAYAL BAJAJ	05/25/2018
GEARARD BOLAND	08/09/2018
ANSHUL GUPTA	05/21/2018
MATTHEW GLENN JIN	08/08/2018
EDUARDO ENRIQUE NORIEGA DE ARMAS	08/08/2018
JASON SHAVER	05/31/2018
NEELAKANTAN SUNDARESAN	05/30/2018
ROSHANAK ZILOUCHIAN MOGHADDAM	05/21/2018

RECEIVING PARTY DATA

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

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16101520

CORRESPONDENCE DATA

Fax Number:

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.

Email: USDOCKET@MICROSOFT.COM
Correspondent Name: MICROSOFT CORPORATION

Address Line 1: ONE MICROSOFT WAY

Address Line 4: REDMOND, WASHINGTON 98052

ATTORNEY DOCKET NUMBER:	403889-US-NP
NAME OF SUBMITTER:	CLARE HARTNETT
SIGNATURE:	/CLARE HARTNETT/
DATE SIGNED:	08/13/2018

PATENT REEL: 046777 FRAME: 0143

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Total Attachments: 16 source=403889-US-NP-ASSIGN#page1.tif source=403889-US-NP-ASSIGN#page2.tif source=403889-US-NP-ASSIGN#page3.tif source=403889-US-NP-ASSIGN#page4.tif source=403889-US-NP-ASSIGN#page5.tif source=403889-US-NP-ASSIGN#page6.tif source=403889-US-NP-ASSIGN#page7.tif source=403889-US-NP-ASSIGN#page8.tif source=403889-US-NP-ASSIGN#page9.tif source=403889-US-NP-ASSIGN#page10.tif source=403889-US-NP-ASSIGN#page11.tif source=403889-US-NP-ASSIGN#page12.tif source=403889-US-NP-ASSIGN#page13.tif source=403889-US-NP-ASSIGN#page14.tif source=403889-US-NP-ASSIGN#page15.tif source=403889-US-NP-ASSIGN#page16.tif

PATENT REEL: 046777 FRAME: 0144

of subject matte	BAJAJ ("ASSIGNOR") am the r ("INVENTION") disclosed a IERATION USING DEEP LEAF	original inventor nd/or claimed in	Docket No.: <u>403889-US-PSP</u> or an original joint inventor a patent application entitled ATION"), which:
LLO LEO ano <u>US</u>	I be filed. ASSIGNOR SIGNEE'S legal representation. C, One Microsoft Way, Redigated Representation No	ive, Microsoft T mond, Washingto insert here in p by Trademark Office	echnology Licensing, on 98052 (ASSIGNEE'S parentheses (filed on the following Office e) this APPLICATION's
No	s filed on <u>January 21, 2018</u> 62/619,804 nited States Patent and Tra	by the follow	ving Office "US
behalf of itself ar of acquiring, the priority, in the IN derived therefron	nd its successors and assign e entire and exclusive righ IVENTION and the APPLICA	ns ("ASSIGNEE"), i ts, title and inte TION (and all oth lications, in who	imited liability company, on sentitled to, and is desirous erest, including the right of ner applications and patents le or in part, in and for the ICATION DERIVATIVES"));
ASSIGNOR	hereby authorizes, and re	quests ASSIGNER	E'S LEGAL REPRESENTATIVES
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Page 1 of 2

PATENT REEL: 046777 FRAME: 0145

MS Docket No.: 403889-US-PSP

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"));

Roset.	05/25/2018
Inventor's Signature	Date
Payal BAJAJ	
Printed Name in English	Printed Name in Native Language (if other than English)

			MS D	ocket No.: <u>40</u>	3889-US-NP
inventor of	earard BOLAND ("A subject matter entitled " <u>QUESTIC</u> ON"), which:	("INVENTION") dis	closed and	l/or claimed	in a patent
	ASSIGNEE'S legal LLC, One Microso LEGAL REPRESENTAGE 12, No. 16/101,52 States Patent and	ASSIGNOR here representative, Moft Way, Redmond, TATIVES), to inser 2018 a 20 by Trademark Office) nd Office, when kr	flicrosoft Te Washingtor t here in p nd giv the followir this APPLIC	chnology Lice 1 98052 (ASSI arentheses (fi 2en Appl 1g Office <u>US -</u>	ensing, GNEE'S lled on ication United
	was filed on and the following Offi	nd was given Appli ce "";	cation No _		by
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	NOR hereby author				
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Application		Filing Date	0	ffice	

MS Docket No.: 403889-US-NP

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).

Inventor's Signature

Gearard BOLAND

Printed Name in English

Printed Name in Native Language
(if other than English)

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I Anshul GUPTA ("ASSinventor of subject matter ("application entitled "QUESTION which:	IGNOR") am the original 'INVENTION") disclosed a	•
ASSIGNEE'S legal LLC, One Microsof LEGAL REPRESENT and given Applica US – United States Application No., fil was filed on Janual No 62/619,804	ASSIGNOR hereby authorepresentative, Microsoft Way, Redmond, Washing ATIVES), to insert here in tion No	Technology Licensing, ton 98052 (ASSIGNEE'S parentheses (filed on by the following Office ice) this APPLICATION's half known; Application owing Office "US
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behalf of itself and its successors of acquiring, the entire and exerpriority, in the INVENTION and t derived therefrom, such as cont United States, its territories, and	s and assigns ("ASSIGNEE") clusive rights, title and in he APPLICATION (and all o tinuing applications, in wh	iterest, including the right of other applications and patents nole or in part, in and for the
ASSIGNOR hereby authori	zes, and requests, ASSIGN	EE'S LEGAL REPRESENTATIVES
to insert the Application No., f APPLICATION DERIVATIVES after		the following table for any
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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"));

Parohul	05/21/2018
Inventor's Signature	Date
Anshul GUPTA	
Printed Name in English	Printed Name in Native Language (if other than English)

		MS	Docket No.: <u>40</u> 3889-US-NP
I Má	atthew Glenn JIN ("A	SSIGNOR") am the origina	l inventor or an original join
inventor of	subject matter ("	INVENTION") disclosed a	nd/or claimed in a patent
application of	entitled " <u>QUESTION</u>	AND PAIR GENERATION	USING MACHINE LEARNING
("APPLICATIO)N"), which:		
\square	will be filed.	ASSIGNOR hereby autho	orizon and requests
		representative, Microsoft	•
	-	: Way, Redmond, Washingt	3 ,
		ATIVES), to insert here in	
	August 12,		given Application
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		rademark Office) this APPI	_
	No., filing date, and	d Office, when known;	
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		d was given Application No	o by
	the following Office	e "";	
Micro	soft Technology Lice	ensing, LLC, a Washington	limited liability company, on
behalf of itse	If and its successors	and assigns ("ASSIGNEE"),	, is entitled to, and is desirous
of acquiring	, the entire and exc	clusive rights, title and in	terest, including the right of
priority, in th	ne INVENTION and th	ne APPLICATION (and all o	ther applications and patents
		- · ·	ole or in part, in and for the
United States	s, its territories, and	all foreign countries ("API	PLICATION DERIVATIVES"));
ASSIC	NOR hereby authori:	zes and requests ASSIGN	EE'S LEGAL REPRESENTATIVES
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MS Docket No.: 403889-US-NP

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).

Inventor's Signature

Matthew Glenn Jin

Printed Name in English

Printed Name in Native Language
(if other than English)

	М	S Docket No.: <u>403889-US-NP</u>
l Eduardo Enrique NOF	RIEGA DE ARMES ("ASSIGNO	OR") am the original inventor or
an original joint inventor of su	bject matter ("INVENTION") disclosed and/or claimed in a
		SENERATION USING MACHINE
LEARNING " ("APPLICATION"), v		
will be filed	ASSIGNOR hereby auth	porizos and warment
	representative, Microsoft	
	oft Way, Redmond, Washing	
	TATIVES), to insert here i	
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	by the followi	
	Trademark Office) this API	PLICATION's Application
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the following Office Microsoft Technology Libehalf of itself and its successor of acquiring, the entire and expriority, in the INVENTION and derived therefrom, such as confused States, its territories, and ASSIGNOR hereby authorito insert the Application No.,	censing, LLC, a Washingto rs and assigns ("ASSIGNEE" xclusive rights, title and in the APPLICATION (and all ontinuing applications, in will deall foreign countries ("AFT rizes, and requests, ASSIGN filing date, and Office into	n limited liability company, on), is entitled to, and is desirous nterest, including the right of other applications and patents hole or in part, in and for the PPLICATION DERIVATIVES"));
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MS Docket No.: 403889-US-NP

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).

Inventor's Signature

Date

Eduardo Enrique NORIEGA DE ARMAS

Printed Name in English

Printed Name in Native Language

(if other than English)

inventor of	subject matter ("	GNOR") am the original INVENTION") disclosed a	S Docket No.: <u>403889-US-PSP</u> inventor or an original joins and/or claimed in a patent P <u>LEARNING</u> " ("APPLICATION")
	ASSIGNEE'S legal LLC, One Microsof LEGAL REPRESENT and given Applica US – United States	ASSIGNOR hereby authorepresentative, Microsoft tway, Redmond, Washing ATIVES), to insert here in tion No. Patent and Trademark Offing date, and Office, where	Technology Licensing, ton 98052 (ASSIGNEE'S parentheses (filed on by the following Office ice) this APPLICATION's
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behalf of itse of acquiring priority, in the derived ther United States ASSIG	elf and its successors, the entire and exc ne INVENTION and the efrom, such as cont s, its territories, and	s and assigns ("ASSIGNEE") clusive rights, title and in he APPLICATION (and all o inuing applications, in wh all foreign countries ("API zes, and requests, ASSIGN	n limited liability company, on , is entitled to, and is desirous eterest, including the right of other applications and patents nole or in part, in and for the PLICATION DERIVATIVES")); EE'S LEGAL REPRESENTATIVES of the following table for any
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16/101,520)	8-12-2018	US

MS Docket No.: 403889-US-PSP	,

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")):

MAMA	5-31-18
hventor's Signature	Date
Jason SHAVER	Jason A. Stan
Printed Name in English	Printed Name in Native Language
-	(if other than English)

joint invent	or of subject matte	ESAN ("ASSIGNOR") am the er ("INVENTION") disclose	S Docket No.: <u>403889-US-PSF</u> original inventor or an origina d and/or claimed in a paten <u>P LEARNING</u> " ("APPLICATION")
	ASSIGNEE'S legal LLC, One Microsof LEGAL REPRESENT and given Applica US – United States	ASSIGNOR hereby auth representative, Microsoft t Way, Redmond, Washing ATIVES), to insert here in tion No. Patent and Trademark Off ling date, and Office, when	Technology Licensing, gton 98052 (ASSIGNEE'S n parentheses (filed on by the following Office fice) this APPLICATION's
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behalf of itse of acquiring priority, in the derived there United States	elf and its successors, the entire and exe ne INVENTION and t efrom, such as cont s, its territories, and	s and assigns ("ASSIGNEE") clusive rights, title and ir he APPLICATION (and all c inuing applications, in wh all foreign countries ("AP	n limited liability company, on its entitled to, and is desirous nterest, including the right of other applications and patents nole or in part, in and for the PLICATION DERIVATIVES"));
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Application		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"));

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Inventor's Signature	05 30 2018 Date
Neelakantan SUNDARESAN	
Printed Name in English	Printed Name in Native Language (if other than English)

		M	S Docket No.: <u>403889-US-PSP</u>
1 Rosh	nanak Zilouchian	MOGHADDAM ("ASSIGNO	R") am the original inventor or
an original joir	nt inventor of sub	oject matter ("INVENTION")	disclosed and/or claimed in a
patent applic	ation entitled	"OUESTION GENERATIO	N USING DEEP LEARNING "
("APPLICATION	l"). which:	COLUMN OF THE WAY	N OSING DEEF LEARNING
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	vill be filed.	ASSIGNOR hereby auth	orizes, and requests,
Д	SSIGNEE'S legal	representative, Microsoft	Technology Licensing,
L	LC, One Microsof	t Way, Redmond, Washing	gton 98052 (ASSIGNEE'S
L	EGAL REPRESENT	ATIVES), to insert here in	n parentheses (filed on
a	nd given Applica	tion No	by the following Office
<u>U</u>	IS – United States	Patent and Trademark Off	fice) this APPLICATION's
А	pplication No., fi	ing date, and Office, whe	n known:
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× w	as filed on Janua	n/21 2019 and was misser	- A It at
	o <u>62/619,804</u>	ry 21, 2018 and was giver	
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hohalf of itsalf	and its succession	ensing, LLC, a Washingtor	n limited liability company, on
of acquiring the	and its successors	s and assigns ("ASSIGNEE")	, is entitled to, and is desirous
or acquiring, tr	he entire and exc	clusive rights, title and in	iterest, including the right of
priority, in the i	INVENTION and the	ne APPLICATION (and all c	ther applications and patents
derived therefro	om, such as cont	inuing applications, in wh	nole or in part, in and for the
United States, it	ts territories, and	all foreign countries ("AP	PLICATION DERIVATIVES"));
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to insert the A	pplication No., fi	ling date, and Office into	the following table for any
APPLICATION D	ERIVATIVES after	they are known;	,
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Page 1 of 2

PATENT REEL: 046777 FRAME: 0159

MS Docket No.: 403889-US-PSP

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"));

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Glachan	
Inventor's Signature	5/21/2018 Date
Roshanak Zilouchian MOGHADDAM	روشنک زیلوچیان مقدم
Printed Name in English	Printed Name in Native Language (if other than English)

RECORDED: 08/13/2018