503965043 08/17/2016

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4011698

| SUBMISSION TYPE: | NEW ASSIGNMENT |
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| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|---------------|----------------|
| CUILING LAN | 06/07/2016 |
| WENJUN ZENG | 06/12/2016 |
| WENTAO ZHU | 06/07/2016 |
| JUNLIANG XING | 06/20/2016 |

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: | 15169593 |

CORRESPONDENCE DATA

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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.

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| ATTORNEY DOCKET NUMBER: | MS1-6603US |
|-------------------------|-------------------|
| NAME OF SUBMITTER: | CHERRI A. SIMON |
| SIGNATURE: | /Cherri A. Simon/ |
| DATE SIGNED: | 08/17/2016 |

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PATENT 503965043 REEL: 039469 FRAME: 0725



PATENT REEL: 039469 FRAME: 0726

| PATENT A: | SSIGNMENT | MS Dock | rt No.: 358181.01 | |
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| | | Attorney Dock | No.: MS1-6603US | |
| or an origina a patent app | al joint inventor of su dication entitled | | OR") am the original inventor) disclosed and/or claimed in ENT NEURAL NETWORK | |
| ("APPLICATIO | JN"), which: | | | |
| | ASSIGNEE'S legal r LLC., One Microsoft LEGAL REPRESENT. on the following Office | ASSIGNOR hereby autho epresentative, Microsoft of t Way, Redmond, Washingt ATIVES), to insert here and given Application to US - United States Patent of Application No., filing d | Fechnology Licensing, on 98052 (ASSIGNEE'S in parentheses (filed Noby and Trademark Office) | |
| | | 31, 2016 and was given A by the following Office ark Office: | | |
| behalf of itse of acquiring priority, in the derived ther | elf and its successors, the entire and exc he INVENTION and the efrom, such as cont | and assigns ("ASSIGNEE"), :lusive rights, title and int ne APPLICATION (and all of | limited liability company, on is entitled to, and is desirous erest, including the right of her applications and patents ole or in part, in and for the LICATION DERIVATIVES")); | |
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| | No. | Filing Date | Office | |
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| PATENT | |
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| SSIGNMENT | MS Docket No.: 359181.01 | | | |
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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).

| Cailing Law | 2016-67 |
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| Inventor's Signature | Date |
| Cuiling Lan | 兰翠 豹 |
| Printed Name in English | Printed Name in Native Language (if other than English) |

| PATENT AS | SSIGNMENT | MS Dock | | 359181.01 MS1- 6603US |
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| ™ | | bject matter ("INVENTION | ") disclo | ised and/or claimed in |
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| ("APPLICATIO | ON"), which: | | ****** | |
| | ASSIGNEE'S legal re LLC., One Microsoft LEGAL REPRESENT/ on the following Office | ASSIGNOR hereby authorosoft way, Redmond, Washing ATIVES), to insert here and given Application US – United States Paten Application No., filing | Techno iton 980 in par i No t and Tr | logy Licensing, 052 (ASSIGNEE'S entheses (filed by ademark Office) |
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| behalf of itse of acquiring priority, in t derived ther | eif and its successors i, the entire and exc he INVENTION and the efrom, such as cont | ensing, LLC, a Washington and assigns ("ASSIGNEE" lusive rights, title and in the APPLICATION (and all inuing applications, in work all foreign countries ("Al |), is enti nterest, other ap hole or | tled to, and is desirous including the right of oplications and patents in part, in and for the |
| to insert th | e Application No., fi | zes, and requests, ASSIGI ling date, and Office in | | |
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MS Docket No.: 359181.01

Attorney Docket No.: MS1-6603US

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Inventor's Stonature Date

Wenjun Zeng 易女兄

Printed Name in English Printed Name in Native Language
(if other than English)

| PATENT AS | SIGNMENT | MS Dock | et No.: | 359181.01 |
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| | | Attorney Dock | et No.: | MS1- 6603US |
| a patent app | l joint inventor of s lication entitled | nu ("ASSIGN ubject matter ("INVENTION" I DETECTION USING RECURR | ') disclo | sed and/or claimed i |
| ("APPLICATIO | DN"), which: | *************************************** | | |
| | ASSIGNEE'S legal LLC., One Microso LEGAL REPRESENT on the following Office | ASSIGNOR hereby authorepresentative, Microsoft ft Way, Redmond, Washingt ATIVES), to insert here and given Application e US – United States Patent s Application No., filing d | Technolo on 9805 in pare No and Trac | ogy Licensing, 2 (ASSIGNEE'S ntheses (filed by demark Office) |
| × | | v 31, 2016 and was given A by the following Office ! nark Office; | | |
| behalf of itse of acquiring, priority, in th derived there United States | off and its successors, the entire and ex- the INVENTION and the invention of the invention | ensing, LLC, a Washington s and assigns ("ASSIGNEE"), clusive rights, title and int he APPLICATION (and all ottinuing applications, in who all foreign countries ("APP zes, and requests, ASSIGNE | is entitle erest, ir her app ole or in LICATIO | ed to, and is desirous acluding the right o lications and patents part, in and for the N DERIVATIVES")); |
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PATENT REEL: 039469 FRAME: 0731

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| Wentas Zhu | 2016.6.7 |
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| Inventor's Signature | Date |
| Wentao Zhu | 井文:县 |
| Printed Name in English | Printed Name in Native Language (if other than English) |

| PATENT ASSIGNMENT | MS Docket | No.: 359181.01 |
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| | Attorney Docket | No.: MS1- 6603US |
| or an original joint inventor of su a patent application entitled | | |
| ("APPLICATION"), which: | | |
| ASSIGNEE'S legal in LLC., One Microsof LEGAL REPRESENT on the following Office | ASSIGNOR hereby authoring representative, Microsoft Tender of Way, Redmond, Washingto at May, Redmond, Washingto at May, to insert here in an and given Application New Washing dassess and given No., filing dassess and most and given No., filing dassess and most an | echnology Licensing, n 98052 (ASSIGNEE'S n parentheses (filed o by nd Trademark Office) |
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| behalf of itself and its successors of acquiring, the entire and expriority, in the INVENTION and t derived therefrom, such as cont United States, its territories, and | s and assigns ("ASSIGNEE"), is clusive rights, title and inte he APPLICATION (and all oth tinuing applications, in who I all foreign countries ("APPL | rest, including the right of ner applications and patents le or in part, in and for the |
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| Turbay King | 2016-6-20 |
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| Inventor's Signature | Date |
| Junliang Xing | |
| Printed Name in English | Printed Name in Native Language (if other than English) |