

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT3629522

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| <b>SUBMISSION TYPE:</b>   | NEW ASSIGNMENT                       |
| <b>NATURE OF CONVEYANCE:</b>  | ASSIGNMENT                           |
| <b>CONVEYING PARTY DATA</b>   |                                      |
| <b>Name</b>   | <b>Execution Date</b>                |
| JIANFENG GAO  | 11/20/2015                           |
| LI DENG   | 11/20/2015                           |
| XIAODONG HE   | 11/20/2015                           |
| LIN XIAO  | 11/20/2015                           |
| XINYING SONG  | 11/20/2015                           |
| YELONG SHEN   | 11/23/2015                           |
| JI HE   | 11/21/2015                           |
| JIANSHU CHEN  | 11/20/2015                           |
| <b>RECEIVING PARTY DATA</b>   |                                      |
| <b>Name:</b>  | MICROSOFT TECHNOLOGY LICENSING, LLC. |
| <b>Street Address:</b>  | ONE MICROSOFT WAY                    |
| <b>City:</b>  | REDMOND                              |
| <b>State/Country:</b>   | WASHINGTON                           |
| <b>Postal Code:</b>   | 98052                                |
| <b>PROPERTY NUMBERS Total: 1</b>  |                                      |
| <b>Property Type</b>  | <b>Number</b>                        |
| Application Number:   | 14949156                             |
| <b>CORRESPONDENCE DATA</b>  |                                      |
| <b>Fax Number:</b>  | (509)323-8979                        |
| <i>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.</i> |                                      |
| <b>Phone:</b>   | 509-324-9256                         |
| <b>Email:</b>   | janettea@leehayes.com                |
| <b>Correspondent Name:</b>  | LEE & HAYES, PLLC                    |
| <b>Address Line 1:</b>  | 601 W. RIVERSIDE AVENUE              |
| <b>Address Line 2:</b>  | SUITE 1400                           |
| <b>Address Line 4:</b>  | SPOKANE, WASHINGTON 99201            |
| <b>ATTORNEY DOCKET NUMBER:</b>  | MS1-6305US                           |
| <b>NAME OF SUBMITTER:</b>   | JANETTE ABERNATHY                    |
| <b>SIGNATURE:</b>   | /Janette Abernathy/                  |

PATENT

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| <b>DATE SIGNED:</b>   | 11/24/2015 |
| <b>Total Attachments: 16</b><br>source=1FG6011#page1.tif<br>source=1FG6011#page2.tif<br>source=1FG6011#page3.tif<br>source=1FG6011#page4.tif<br>source=1FG6011#page5.tif<br>source=1FG6011#page6.tif<br>source=1FG6011#page7.tif<br>source=1FG6011#page8.tif<br>source=1FG6011#page9.tif<br>source=1FG6011#page10.tif<br>source=1FG6011#page11.tif<br>source=1FG6011#page12.tif<br>source=1FG6011#page13.tif<br>source=1FG6011#page14.tif<br>source=1FG6011#page15.tif<br>source=1FG6011#page16.tif |            |

I Jianfeng Gao ("ASSIGNOR") am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled

Training and Operating Multi-Layer Computational Models

("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 November 23, 2015 and given Application No. 14/949,156 by the following Office US – United States Patent and Trademark Office) this APPLICATION's Application No., filing date, and Office, when known;

☐ was filed on \_\_\_\_\_ and was given Application No. \_\_\_\_\_ by the following Office US – United States Patent and Trademark 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"));

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|   |   |
|---|---|
|  | 11/20/2015  |
| _____<br>Inventor's Signature   | _____<br>Date   |
| Jianfeng Gao  | 高剑峰   |
| _____<br>Printed Name in English  | _____<br>Printed Name in Native Language<br>(if other than English) |

I Li Deng ("ASSIGNOR") am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled

TRAINING AND OPERATING MULTI-LAYER COMPUTATIONAL MODELS

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|                                  |   |
|----------------------------------|---|
| <i>Li Deng</i>                   | Nov 20, 2015  |
| _____<br>Inventor's Signature    | _____<br>Date   |
| Li Deng                          |   |
| _____<br>Printed Name in English | _____<br>Printed Name in Native Language<br>(if other than English) |

I Xiaodong He ("ASSIGNOR") am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled

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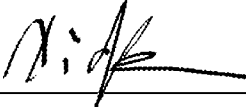
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|  |  |
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| <br>_____<br>Inventor's Signature | <u>11/20/2015</u><br>_____<br>Date   |
| Xiaodong He<br>_____<br>Printed Name in English  | 何晓冬<br>_____<br>Printed Name in Native Language<br>(if other than English) |



I Lin Xiao ("ASSIGNOR") am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled

TRAINING AND OPERATING MULTI-LAYER COMPUTATIONAL MODELS

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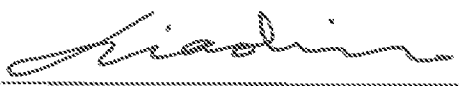
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|   |  |
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|  | 11/20/2015   |
| Inventor's Signature  | Date   |
| Lin Xiao  | 肖林   |
| Printed Name in English   | Printed Name in Native Language<br>(if other than English) |

I Xinying Song ("ASSIGNOR") am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled

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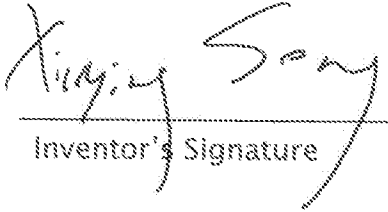
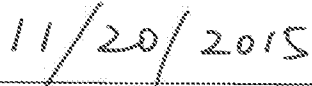

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| Inventor's Signature  | Date   |
| Xinying Song  |  |
| Printed Name in English   | Printed Name in Native Language<br>(if other than English)                           |

## PATENT ASSIGNMENT

MS Docket No.: 358263.01Attorney Docket No.: MS1- 6305US

I Yelong Shen ("ASSIGNOR") am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled

TRAINING AND OPERATING MULTI-LAYER COMPUTATIONAL MODELS

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|                         |  |
|-------------------------|--|
| <u>Yelong Shen</u>      | <u>Nov-23-2015</u>   |
| Inventor's Signature    | Date   |
| <u>Yelong Shen</u>      | <u>谔叶龙</u>   |
| Printed Name in English | Printed Name in Native Language<br>(if other than English) |

I Ji He ("ASSIGNOR") am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled

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|  | Nov. 21st, 2015  |
| Inventor's Signature  | Date   |
| Ji He   | 何  |
| Printed Name in English   | Printed Name in Native Language<br>(if other than English) |



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MS Docket No.: 358263.01Attorney Docket No.: MS1- 6305US

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| Jianshu Chen  | 陈建树  |
| Printed Name in English   | Printed Name in Native Language<br>(if other than English) |