PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
YADA ZHU	07/25/2019
YANG ZHANG	07/26/2019
PIN-YU CHEN	07/24/2019
KUMAR BHASKARAN	07/24/2019

RECEIVING PARTY DATA

Name:	INTERNATIONAL BUSINESS MACHINES CORPORATION
Street Address:	NEW ORCHARD ROAD
City:	ARMONK
State/Country:	NEW YORK
Postal Code:	10504

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16523314

CORRESPONDENCE DATA

Fax Number: (516)742-4366

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Correspondent Name: SCULLY, SCOTT, MURPHY & PRESSER, P.C.

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Address Line 2: SUITE 300

Address Line 4: GARDEN CITY, NEW YORK 11530

ATTORNEY DOOKET NUMBER	D004004407H000 (07400)	
ATTORNEY DOCKET NUMBER:	P201901107US02 (37490)	
NAME OF SUBMITTER:	EUNHEE PARK	
SIGNATURE:	/Eunhee Park/	
DATE SIGNED: 07/26/2019		
This document serves as an Oath/Declaration (37 CFR 1.63).		
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Total Attachments: 8

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Title of Invention: EXPLAINABLE MACHINE LEARNING BASED ON HETEROGENEOUS DATA

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As a below named and undersigned inventor, I hereby declare that:	
This declaration is directed to the attached application, or (if following box is checked):	
[] United States application or PCT international application numberf	iled on
The above-identified application was made or authorized to be made by me.	
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application	n.
I have reviewed and understand the contents of the application, including the claims.	
I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to be material to patentability as defined in 37 C.F.R. § 1.56.	to me
Whereas, I ("ASSIGNOR") have made certain inventions, improvements, and discoveries (herein referred the "Invention") disclosed in the above-identified patent application and further identified by the IBM Dock Number provided above in the header of this document;	

Whereas, International Business Machines Corporation (herein referred to as the "ASSIGNEE"), a corporation of New York having a place of business at Armonk, New York, desires to acquire, and I desire to grant to the ASSIGNEE, my entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

Now, therefore, for good and valuable consideration, the receipt and sufficiency thereof being hereby acknowledged, I hereby sell or have sold, assign or have assigned, and otherwise transfer or have transferred to the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the Invention, the above-identified United States patent application, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisions, continuations, reissues, reexaminations, renewals, extensions, counterparts, substitutes, and extensions thereof, and all rights of priority resulting from the filing of such applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the same to be held and enjoyed by the ASSIGNEE, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by me had this Assignment not been made; and I agree to execute any and all documents and instruments and perform all lawful acts reasonably related to recording this Assignment or perfecting title to the Invention and all related patents and applications, in the ASSIGNEE, its successors, legal representatives, and assigns, whenever requested by the ASSIGNEE, its successors, legal representatives, or assigns.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

Signature:		-/m)
(1) Legal Name of Inventor: Yada Zhu		\
Signature:	Date:	_
(2) Legal Name of Inventor: Yang Zhang		
Signature:	Date:	
(3) Legal Name of Inventor: Pin-Yu Chen		_
Signature:	Date:	_
(4) Legal Name of Inventor: Kumar Bhaskaran		

REEL: 049873 FRAME: 0556

Title of Invention: EXPLAINABLE MACHINE LEARNING BASED ON HETEROGENEOUS DATA

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Now, therefore, for good and valuable consideration, the receipt and sufficiency thereof being hereby acknowledged, I hereby sell or have sold, assign or have assigned, and otherwise transfer or have transferred to the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the Invention, the above-identified United States patent application, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisions, continuations, reissues, reexaminations, renewals, extensions, counterparts, substitutes, and extensions thereof, and all rights of priority resulting from the filing of such applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the same to be held and enjoyed by the ASSIGNEE, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by me had this Assignment not been made; and I agree to execute any and all documents and instruments and perform alllawful acts reasonably related to recording this Assignment or perfecting title to the Invention and all related patents and applications, in the ASSIGNEE, its successors, legal representatives, and assigns, whenever requested by the ASSIGNEE, its successors, legal representatives, or assigns.

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Signature:	Date:
(1) Legal Name of Inventor: Yada Zhu	
Signature: (2) Legal Name of Inventor: Yang Zhang	Date: <u>07 26 201 </u>
Signature:	Date:
(3) Legal Name of Inventor: Pin-Yu Chen	
Signature:	Date:

(4) Legal Name of Inventor: Kumar Bhaskaran

REEL: 049873 FRAME: 0558

Title of Invention: EXPLAINABLE MACHINE LEARNING BASED ON HETEROGENEOUS DATA

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Signature:	Date:July 24, 2019

(4) Legal Name of Inventor: Kumar Bhaskaran