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PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
ZHE LIU	01/14/2019
JALAL U. MAHMUD	01/14/2019
ANBANG XU	01/15/2019
YUFAN GUO	01/11/2019
HAIBIN LIU	01/14/2019
RAMA KALYANI AKKIRAJU	01/26/2019

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:	16507953	

CORRESPONDENCE DATA

Fax Number: (972)731-2289

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.

Phone: 972-731-2288

Email: dallaspatents@dfw.conleyrose.com

GRANT RODOLPH C/O CONLEY ROSE, P.C. **Correspondent Name:**

5601 GRANITE PARKWAY Address Line 1:

Address Line 2: SUITE 500

Address Line 4: PLANO, TEXAS 75024

ATTORNEY DOCKET NUMBER:	P201803470US02
NAME OF SUBMITTER:	NAM H. HUYNH
SIGNATURE:	/Nam H. Huynh/
DATE SIGNED:	07/10/2019

Total Attachments: 12 source=P201803470US02 Signed Assignments Parent#page1.tif source=P201803470US02 Signed Assignments Parent#page2.tif source=P201803470US02 Signed Assignments Parent#page3.tif source=P201803470US02 Signed Assignments Parent#page4.tif source=P201803470US02 Signed Assignments Parent#page5.tif source=P201803470US02 Signed Assignments Parent#page6.tif source=P201803470US02 Signed Assignments Parent#page7.tif source=P201803470US02 Signed Assignments Parent#page8.tif source=P201803470US02 Signed Assignments Parent#page9.tif source=P201803470US02 Signed Assignments Parent#page10.tif source=P201803470US02 Signed Assignments Parent#page10.tif

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Title of Invention: System and Method for Fine-grained Affective States Understanding and Prediction

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):

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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.

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 me to be material to patentability as defined in 37 C.F.R. § 1.56.

Whereas, I ("ASSIGNOR") have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified patent application and further identified by the IBM Docket 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 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.

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(1) Legal Name of Inventor: Zhe Liu	
Signature:	Date:De(
(2) Legal Name of Inventor: Jalal U. Mahmud	
Signature:	Date: JAN 14, 2019
(3) Legal Name of Inventor: Anhang Xu	
Signature:	Date:
(4) Legal Name of Inventor: Yufan Guo	
Signature:	Date:

(5)	Legal Name of Inventor: Haibin Liu	
	Signature:	Date: 1/14/201
(6)	Legal Name of Inventor: Rama Kalyani Akkiraju	· ·
	Signature:	Date:

[IF MORE INVENTORS, ADDITIONAL SIGNATURE PAGE(S) FOLLOWS]

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(1) Legal Name of Inventor; Zhe Liu	
Signature:	Date:
(2) Legal Name of Inventor: Jalal U. Mahmud	
Signature:	Date:
(3) Legal Name of Inventor: Anbang Xu	
Signature:	Date:Jan 15 2019
(4) Legal Name of Inventor: Yufan Guo	
Signature:	Date:

(5)	Legal Name of Inventor: Haibin Liu	
	Signature:	Date:
(6)	Legal Name of Inventor: Rama Kalyani Akkiraju	
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Page 1 of 3

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	Signature:	Date:
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	Signature: Sing Shofan	Date: 1/11/2018

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518011~v1/3326-07400

Page 2 of 3

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	Signature:		Date:	
(6)	Legal Name of In	nventor: Rama Kalyani Akkiraju		
	Signature:	ATRamokelyami	Date:	6/2010

[IF MORE INVENTORS, ADDITIONAL SIGNATURE PAGE(S) FOLLOWS]

Page 3 of 3

RECORDED: 07/10/2019