### PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3164209

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	

#### **CONVEYING PARTY DATA**

Name	Execution Date
DAKSHI AGRAWAL	12/29/2014
RASHED Z. BHATTI	12/29/2014
FRANCIS N. PARR	12/29/2014

### **RECEIVING PARTY DATA**

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Street Address:	NEW ORCHARD ROAD	
City:	ARMONK	
State/Country:	NEW YORK	
Postal Code:	10504	

### **PROPERTY NUMBERS Total: 1**

Property Type	Number	
Application Number:	14584516	

### CORRESPONDENCE DATA

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using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

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Address Line 2: 17304 PRESTON ROAD, SUITE 200

Address Line 4: DALLAS, TEXAS 75252

ATTORNEY DOCKET NUMBER: YOR920140308US1	
NAME OF SUBMITTER: STEPHEN J. WALDER, JR.	
SIGNATURE:	/Stephen J. Walder, Jr./
DATE SIGNED:	12/29/2014
This document serves as an Oath/Declaration (37 CFR 1.63).	

### **Total Attachments: 6**

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**PATENT** REEL: 034594 FRAME: 0667 503117601

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> PATENT REEL: 034594 FRAME: 0668

## DECLARATION (37 C.F.R. 1.63) FOR UTILITY PATENT APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76) AND ASSIGNMENT

# Title of Invention: RAPID SEARCHING AND MATCHING OF DATA TO A DYNAMIC SET OF SIGNATURES FACILITATING PARALLEL PROCESSING AND HARDWARE ACCELERATION

As a below named 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 number
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

Whereas, the undersigned inventor(s) has/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, a corporation of New York having a place of business at Armonk, New York (herein referred to as "IBM"), desires to acquire, and each undersigned inventor desires to grant to IBM, the 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, each undersigned inventor ("ASSIGNOR") hereby sells or has sold, assigns or has assigned, and otherwise transfers or has transferred to IBM (the "ASSIGNEE"), its successors, legal representatives, and assigns, the 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, each undersigned inventor hereby authorizes and requests 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 IBM, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by IBM, 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 the undersigned had this Assignment not been made; and each undersigned inventor agrees 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

Page 1 of 2

### IBALDOCKET NUMBER: VOR920140308USI

tions in societies, legal representatives, and assigns, whenever requested by IBM, its successors, legal representatives, or assign

is ach under signed inventor acknowledges their prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to IBM and is unaware of any reason why they may not have the full and an encumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and has not executed, and will not execute, any document or instrument in conflict herewith. Each undersigned inventor also hereby grants IBM, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification (including, but not limited to, patent Application Number) which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of New York, and any disputes will be resolved in a New York state court of federal court sited in New York.

Energy acknowledge that any wrilful talse 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

(1) Legal Name	of Inventor: Dak	shi Agrawat				
Signature	Dakhi	Agrawa	L	D	me <u>12/29</u>	/2019
Dilaga Nane	of Inventor: Rash	ied Z. Bhatti				
Seniore					***	
(3) Legal Natio	Francisco Fran	ecs N. Parr				
Samue						

REEL: 034594 FRAME: 0670

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United States application or PCT international application number
filed on
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I have reviewed and understand the contents of the application, including the claims.
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Now, therefore, for good and valuable consideration, the receipt and sufficiency thereof being hereby acknowledged, each undersigned inventor ("ASSIGNOR") hereby sells or has sold, assigns or has assigned, and otherwise transfers or has transferred to IBM (the "ASSIGNEE"), its successors, legal representatives, and assigns, the 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, each undersigned inventor hereby authorizes and requests 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 IBM, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by IBM, 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 the undersigned had this Assignment not been made; and each undersigned inventor agrees 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

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Each undersigned inventor acknowledges their prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to IBM and is unaware of any reason why they may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and has not executed, and will not execute, any document or instrument in conflict herewith. Each undersigned inventor also hereby grants IBM, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification (including, but not limited to, patent Application Number) which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of New York, and any disputes will be resolved in a New York state court or federal court sited in New York.

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.

(1)	Legal Name of Inventor: Dakshi Agrawal	
	Signature:	Date:
(2)	Legal Name of Inventor: Rashed Z. Phatti	s
	Signature: Zafev	Date: 12/29/201
(3)	Legal Name of Inventor: Francis N. Parr	
	Signature:	Date:

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RECORDED: 12/29/2014

113	Legal reduc of inventor. Lansan Agrawat	
	Signature:	Date:
(2)	Legal Name of Inventor: Rashed Z. Bhatti	
	Signature:	_Date:
(3)	Legal Name of Inventor: Francis N. Parr	
	Signature: Rullaul	Data: 29th Dag 200 11

Page 2 of 2