

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT5470984

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
XINYU MIN	09/07/2018
JEFFREY OIJIA OUYANG	01/25/2019
RECEIVING PARTY DATA	
Name:	EQUIFAX INC.
Street Address:	1550 PEACHTREE STREET, N.W.
City:	ATLANTA
State/Country:	GEORGIA
Postal Code:	30309
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	16331948
CORRESPONDENCE DATA	
Fax Number:	(404)541-3116
<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>	
Phone:	(404) 815-6500
Email:	JLOPEZ@KILPATRICKTOWNSEND.COM
Correspondent Name:	KILPATRICK TOWNSEND & STOCKTON LLP
Address Line 1:	1100 PEACHTREE STREET NE
Address Line 2:	SUITE 2800
Address Line 4:	ATLANTA, GEORGIA 30309
ATTORNEY DOCKET NUMBER:	096923-1129496
NAME OF SUBMITTER:	JOSE R. LOPEZ, JR. PARALEGAL
SIGNATURE:	/JOSE R. LOPEZ, JR./
DATE SIGNED:	04/12/2019
Total Attachments: 5	
source=Assignment#page1.tif	
source=Assignment#page2.tif	
source=Assignment#page3.tif	
source=Assignment#page4.tif	

**ASSIGNMENT OF INTELLECTUAL PROPERTY RIGHTS
IN PATENT APPLICATION**

Whereas we, the undersigned inventors (“Assignor”), have invented certain new and useful innovations as set forth in the international patent application entitled:

**UPDATING ATTRIBUTE DATA STRUCTURES TO INDICATE JOINT
RELATIONSHIPS AMONG ATTRIBUTES AND PREDICTIVE OUTPUTS FOR
TRAINING AUTOMATED MODELING SYSTEMS**

the specification of which was filed with the U.S. Receiving Office of the U.S. Patent & Trademark Office on September 8, 2016 and assigned application no. PCT/US2017/050672, which claims priority to U.S. Provisional Application No. 62/385,383 filed with the U.S. Patent & Trademark Office on September 9, 2016.

For one dollar (\$1.00) and other good and valuable consideration, the receipt and sufficiency of which we acknowledge, we:

1. Agree to assign, transfer, convey, and sell, hereby assign, transfer, convey, and sell and have assigned, transferred, conveyed, and sold to EQUIFAX INC., a Georgia corporation having a principal place of business at 1550 Peachtree Street, N.W., Atlanta, Georgia 30309 (“Assignee”), the entire right, title, and interest in and to:
 - (a) all intellectual property (including, without limitation, any innovation, information, invention, discovery, product, process, work or design) disclosed, embodied, shown, or claimed in the above-referenced patent application, implicitly or explicitly;
 - (b) the above-referenced patent application, the right to claim priority to the above-referenced patent application, all applications based in whole or in part upon the above-referenced patent application, including, without limitation, all applications that are a provisional, non-provisional, design, divisional, continuation, continuation-in-part, registration, utility model, industrial design, reissue, renewal, substitute, extension, reexamination, post-grant review, inter partes review, supplemental examination or non-U.S. patent application or application for other rights based in whole or in part on the above-referenced patent application;
 - (c) all patents (including, without limitation, all U.S. and non-U.S. patents, registrations, utility models, industrial designs, design patents, counterparts, continuations, continuations-in-part, divisionals, reissues, renewals, substitutes, extensions, reexaminations, post-grant reviews, inter partes reviews and supplemental examinations) that are granted or issued upon, or that claim priority to, any and all applications described in (b) of this paragraph or that disclose or claim intellectual property described in (a) of this paragraph, in whole or in part; and

Assignment of Intellectual Property Rights in Application

Patent Application Entitled: Updating Attribute Data Structures to Indicate Joint Relationships among Attributes and Predictive Outputs for Training Automated Modeling Systems

Attorney Docket No.: 096923-1060362

Page 2 of 4

- (d) all claims for damages by reason of past infringement of any rights under the applications or patents described in (a), (b) or (c) of this paragraph (including provisional rights to reasonable royalties pursuant to 35 U.S.C. §154(d)) and the right to sue for and collect such damages and royalties for Assignee's own use.
2. Authorize and request the U.S. Patent and Trademark Office or any other U.S. or non-U.S. agency to issue to the Assignee any and all patent(s), or other rights or documents, resulting from the intellectual property, patent application(s) and patents described in paragraph 1 of this Assignment.
 3. Agree to sign all papers and documents, including without limitation, applications, declarations, oaths and petitions, and, at the Assignee's expense, perform any other acts that are necessary in connection with prosecution of patent application(s) or intellectual property described in paragraph 1 of this Assignment and the enforcement of patent(s) or other rights resulting from such patent application(s) or intellectual property.
 4. Agree that the terms, covenants, and conditions of this Assignment shall inure to the benefit of the Assignee, its successors, assigns and other legal representative, and shall be binding upon us, as well as our heirs, legal representatives, and assigns.
 5. Promise and affirm that we have not entered, and will not enter, into any assignment, contract, or understanding that conflicts with this Assignment.

IN WITNESS WHEREOF, ASSIGNOR has duly executed the Assignment below.

Dated: 09/07/2018

Xinyu Min
Xinyu Min

STATE OF GEORGIA

COUNTY OF FORSYTH

Before me, a Notary Public in and for the State of GEORGIA, on this 7th day of September, 2018, personally appeared Xinyu Min, who being duly sworn, signed and acknowledged the foregoing Assignment as his free act and deed.

(Seal)

[Signature]
NOTARY PUBLIC

My Commission Expires: 8/9/2022

Attorney Docket No: 096923-1060362

**ASSIGNMENT OF INTELLECTUAL PROPERTY RIGHTS
IN PATENT APPLICATION**

Whereas we, the undersigned inventors ("Assignor"), have invented certain new and useful innovations as set forth in the international patent application entitled:

**UPDATING ATTRIBUTE DATA STRUCTURES TO INDICATE JOINT
RELATIONSHIPS AMONG ATTRIBUTES AND PREDICTIVE OUTPUTS FOR
TRAINING AUTOMATED MODELING SYSTEMS**

the specification of which was filed with the U.S. Receiving Office of the U.S. Patent & Trademark Office on September 8, 2016 and assigned application no. PCT/US2017/050672, which claims priority to U.S. Provisional Application No. 62/385,383 filed with the U.S. Patent & Trademark Office on September 9, 2016.

For one dollar (\$1.00) and other good and valuable consideration, the receipt and sufficiency of which we acknowledge, we:

1. Agree to assign, transfer, convey, and sell, hereby assign, transfer, convey, and sell and have assigned, transferred, conveyed, and sold to EQUIFAX INC., a Georgia corporation having a principal place of business at 1550 Peachtree Street, N.W., Atlanta, Georgia 30309 ("Assignee"), the entire right, title, and interest in and to:
 - (a) all intellectual property (including, without limitation, any innovation, information, invention, discovery, product, process, work or design) disclosed, embodied, shown, or claimed in the above-referenced patent application, implicitly or explicitly;
 - (b) the above-referenced patent application, the right to claim priority to the above-referenced patent application, all applications based in whole or in part upon the above-referenced patent application, including, without limitation, all applications that are a provisional, non-provisional, design, divisional, continuation, continuation-in-part, registration, utility model, industrial design, reissue, renewal, substitute, extension, reexamination, post-grant review, inter partes review, supplemental examination or non-U.S. patent application or application for other rights based in whole or in part on the above-referenced patent application;
 - (c) all patents (including, without limitation, all U.S. and non-U.S. patents, registrations, utility models, industrial designs, design patents, counterparts, continuations, continuations-in-part, divisionals, reissues, renewals, substitutes, extensions, reexaminations, post-grant reviews, inter partes reviews and supplemental examinations) that are granted or issued upon, or that claim priority to, any and all applications described in (b) of this paragraph or that disclose or claim intellectual property described in (a) of this paragraph, in whole or in part; and

Assignment of Intellectual Property Rights in Application

Patent Application Entitled: Updating Attribute Data Structures to Indicate Joint Relationships among Attributes and Predictive Outputs for Training Automated Modeling Systems

Attorney Docket No.: 096923-1060362

Page 3 of 4

Dated: 1/25/2019

DocuSigned by:

Jeffrey Qijia Ouyang

10217080131A4AA

Jeffrey Qijia Ouyang

Assignment of Intellectual Property Rights in Application

Patent Application Entitled: Updating Attribute Data Structures to Indicate Joint Relationships among Attributes and Predictive Outputs for Training Automated Modeling Systems

Attorney Docket No.: 096923-1060362

Page 4 of 4

ASSIGNEE hereby accepts receipt of the entire right, title and interest in and to this PATENT APPLICATION.

EQUIFAX, INC.

By: _____

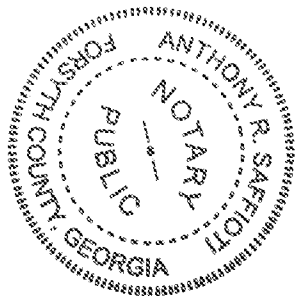
Title: _____

Date: _____

STATE OF GEORGIA
COUNTY OF FORSYTH

Before me, a Notary Public in and for the State of Georgia, on this 12th day of September, 2018, personally appeared ELIZABETH LESTER who being duly sworn, signed and acknowledged the foregoing Assignment as his free act and deed.

(Seal)



NOTARY PUBLIC

My Commission Expires: 8/9/22