PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4011611

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|--------------------|----------------|
| RAMKUMAR ILANGOVAN | 03/02/2016 |
| SAYANTAN DAS | 03/03/2016 |
| SHOUNAK KUNDU | 03/03/2016 |
| SWARUP CHATTERJEE | 03/07/2016 |

RECEIVING PARTY DATA

| Name: | TATA CONSULTANCY SERVICES LIMITED |
|-------------------|-----------------------------------|
| Street Address: | NIRMAL BUILDING, 9TH FLOOR |
| Internal Address: | NARIMAN POINT |
| City: | MUMBAI |
| State/Country: | INDIA |
| Postal Code: | 400021 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15230077 |

CORRESPONDENCE DATA

Fax Number: (202)408-4400

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: (202) 408-4000

Email: monica.freeman@finnegan.com

Correspondent Name: TATA CONSULTANCY SERVICES LTD/FINNEGAN

Address Line 1: 901 NEW YORK AVE., NW Address Line 4: WASHINGTON, D.C. 20001

| ATTORNEY DOCKET NUMBER: | 13178.0127-00000 |
|-------------------------|--|
| NAME OF SUBMITTER: | MONICA J. FREEMAN |
| SIGNATURE: | /monicajfreeman/ |
| DATE SIGNED: | 08/17/2016 |
| | This document serves as an Oath/Declaration (37 CFR 1.63). |

Total Attachments: 6

PATENT REEL: 039469 FRAME: 0378

503964956



PATENT REEL: 039469 FRAME: 0379

ASSIGNMENT AND DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION

| ASSIGNMENT: | | | |
|---|--|--|--|
| WHEREAS I/We, the below named inventor(s), (hereinafter referred to as Assignor(s)), have made an invention entitled: | | | |
| METHODS AND SYSTEMS FOR ANOMALY DETECTION | | | |
| for which I/WE executed an application for United States Letters Patent concurrently herewith; and | | | |
| WHEREAS, Tata Consultancy Services Limited a corporation of India whose post office address is Nirmal Building, 9th Floor, Nariman Point, Mumbai 400021, India | | | |
| (hereinafter referred to as Assignee), is desirous of securing the entire right, title, and interest in and to this invention in all countries throughout the world, and in and to the application for United States Letters Patent on this invention and the Letters Patent to be issued upon this application; | | | |
| NOW THEREFORE, be it known that, for good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I/We, as Assignor(s), have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my/our entire right, title, and interest in and to this invention and this application, and all divisions, and continuations thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues thereof, as well as all rights to claim priority on the basis of this application in any foreign country, and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, and all extensions, renewals, and reissues thereof; and I/We hereby authorize and request the Director of the United States Patent and Trademark Office and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment; | | | |
| AND, IME HEREBY covenant that I/We have the full right to convey the interest assigned by this Assignment, and I/We have not executed and will not execute any agreement in conflict with this Assignment: | | | |
| AND, I/WE HEREBY further covenant and agree that I/We will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to me/us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns. | | | |
| AND, I/WE HEREBY authorize and request that the attorneys having Power of Attorney in this application, insert here in parentheses (Application No, filed) the filing date and application number of said application when known. | | | |
| As a named inventor below, I hereby declare that: (1) This declaration is directed to the above-identified application; (2) the above-identified application was made or authorized to be made by me; (3) my residence and mailing address are as stated below next to my name; and (4) I believe I am an original inventor or an original joint inventor of a claimed invention in the application. I hereby acknowledge that any willful false statements made in this declaration are punishable by fine or imprisonment of not more than five (5) years, or both, under section 1001 of Title 18 of the United States Code. | | | |
| As a below named inventor, I have reviewed and understand the contents of the application, including the claims, and am aware of the duty to disclose to the US PTO all information known to me to be material to patentability as defined in 37C.F.R. § 1.56. | | | |
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PATENT REEL: 039469 FRAME: 0380

P-IDF-559033-001

Authorization To Permit Access To Application by Participating Offices:

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the above-identified patent application is filed access to the above-identified patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the Applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the above-identified application is filed to have access to the above-identified patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the above-identified patent application with respect to: 1) the above-identified patent application-as-filed; 2) any foreign application to which the above-identified patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the above-identified patent application, and 3) any U.S. application-as-filed from which benefit is sought in the above-identified patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing the Authorization to Permit Access to Application by Participating Offices.

IN TESTIMONY WHEREOF, I/We have hereunto set our hands.

| 1. FULL NAME OF SOLE OR FIRST ASSIGNOR | ASSIGNOR'S SIGNATURE | DATE |
|---|----------------------|--------------------|
| ILANGOVAN, Ramkumar | I. Pankun | 2/3/2016 |
| MAILING ADDRESS Tata Consultancy Services Limited, Digital Zone, No. 79, IT Highway; Karapakkam, Chennai -600096, Tamilnadu, India | | RESIDENCE India |
| FULL NAME OF SECOND ASSIGNOR, IF ANY DAS, Sayantan | ASSIGNOR'S SIGNATURE | DATE |
| MAILING ADDRESS Tata Consultancy Services Limited, Building 1B, Ecospace Plot - IIF/12, New Town, Rajarhat , Kolkata - 700156, West Sengal, India | | RESIDENCE India |
| 3 FULL NAME OF THIRD ASSIGNOR, IF ANY KUNDU, Shounak | ASSIGNOR'S SIGNATURE | DATE |
| MAILING ADDRESS Tata Consultancy Services Limited, Building 1B, Ecospace Plot - IIF/12, New Town, Rajarhaf , Kolkata - 700158, West Bengal, India | | RESIDENCE India |
| 4. FULL NAME OF FOURTH ASSIGNOR, IF ANY CHATTERJEE, Swarup | ASSIGNOR'S SIGNATURE | DATE |
| MAILING ADDRESS Tata Consultancy Services Limited, Building 18, Ecospace Plot - IIF/12, New Town, Rajarhat , Kolkata - 700156, West Bengal, India | | RESIDENCE India |

Page 2 of 2

P-IDF-559033-001

ASSIGNMENT AND DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION

ASSIGNMENT:

| WHEREAS I/We, the below named inventor(s | (hereinafter referred to as Assignor(s) | i), have made an invention entitled |
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| AAUEMENO NAAS' Dis Delom Daulan maannifa) (Danamanan rataman 10 as vassifundas)); naac macc an macumu annuen. |
|--|
| METHODS AND SYSTEMS FOR ANOMALY DETECTION |
| for which I/WE executed an application for United States Letters Patent concurrently herewith: and |
| WHEREAS, Tata Consultancy Services Limited |
| a corporation of <u>India</u> whose post office address is <u>Nirmal Building, 9th Floor, Nariman Point, Mumbai 400021, India</u> |
| (hereinafter referred to as Assignee), is desirous of securing the entire right, title, and interest in and to this invention in all countries throughout the world, and in and to the application for United States Letters Patent on this invention and the Letters Patent to be issued upon this application; |
| NOW THEREFORE, be it known that, for good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I/We, as Assignor(s), have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my/our entire right, title, and interest in and to this invention and this application, and all divisions, and continuations thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues thereof, as well as all rights to claim priority on the basis of this application in any foreign country, and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, and all extensions, renewals, and relassues thereof; and I/We hereby authorize and request the Director of the United States Patent and Trademark Office and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment; |
| AND, I/WE HEREBY covenant that I/We have the full right to convey the interest assigned by this Assignment, and I/We have not executed and will not execute any agreement in conflict with this Assignment; |
| ANO, IAVE HEREBY further covenant and agree that I/We will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to me/us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns. |
| AND, I/WE HEREBY authorize and request that the attorneys having Power of Attorney in this application, insert here in parentheses (Application No, filed) the filing date and application number of said application when known. |
| DECLARATION: As a named inventor below, I hereby declare that: (1) This declaration is directed to the above-identified application; (2) the above-identified application was made or authorized to be made by me; (3) my residence and mailing address are as stated below next to my name; and (4) I believe I am an original inventor or an original joint inventor of a claimed invention in the application. I hereby acknowledge that any willful false statements made in this declaration are punishable by fine or imprisonment of not more than five (5) years, or both, under section 1001 of Title 18 of the United States Code. |
| As a below named inventor, I have reviewed and understand the contents of the application, including the claims, and am aware of the duty to disclose to the US PTO all information known to me to be material to patentability as defined |

P-IDF-559033-001

in 37C.F.R. § 1.56.

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in accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the above-identified patent application with respect to: 1) the above-identified patent application-as-filed; 2) any foreign application to which the above-identified patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the above-identified patent application; and 3) any U.S. application-as-filed from which benefit is sought in the above-identified patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing the Authorization to Permit Access to Application by Participating Offices.

IN TESTIMONY WHEREOF, I/We have hereunto set our hands.

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|--|--|--|
| FULL NAME OF SOLE OR FIRST ASSIGNOR ILANGOVAN, Ramkumar | ASSIGNOR'S SIGNATURE | DATE |
| MAILING ACORESS | A | RESIDENCE |
| Tata Consultancy Services Limited, Digital Zone, No. 79, IT Highway; Karapakkam, Chennal -600096, Tamilnadu, | | India |
| India | | |
| 2. FULL NAME OF SECOND ASSIGNOR, IF ANY | ASSIGNOR'S SIGNATURE | DATE |
| DAS, Sayantan | Sayuntan Das | 3/3/2016 |
| MAILING ADDRESS | | RESIDENCE |
| Tata Consultancy Services Limited, Building 18, Ecospace | Plot - IIF/12 New Town, Rajarhat , Kolkata - 700156. | India |
| | a time and a committee and a c | |
| West Bengal, India | taran sanara sa | 20000000000000000000000000000000000000 |
| 3. FULL NAME OF THIRD ASSIGNOR, IF ANY | ASSIGNOR'S SIGNATURE | DATE |
| KUNDU, Shounak | Showak Kendu | 3/3/2016 |
| MAILING ADDRESS | | RESIDENCE |
| Tata Consultancy Services Limited, Building 1B, Ecospace | Plot - IIE/12 New Town, Rajarhat , Kolkata - 700156. | India |
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| | | . |
| West Bengal, India | | WATE |
| | ASSIGNOR'S SIGNATURE | DATE |
| West Bengal, India 4. FULL NAME OF FOURTH ASSIGNOR, IF ANY | | DATE |
| West Bengal, India | | |
| West Bengal, India 4. FULL NAME OF FOURTH ASSIGNOR, IF ANY CHATTERJEE, Swarup MAILINE ADDRESS | ASSIGNOR'S SIGNATURE | RESIDENCE |
| West Bengal, India 4. FULL NAME OF FOURTH ASSIGNOR, IF ANY CHATTERJEE, Swarup MAILINE ADDRESS | ASSIGNOR'S SIGNATURE | |
| West Bengal, India 4. FULL NAME OF FOURTH ASSIGNOP, IF ANY CHATTERJEE, Swarup | ASSIGNOR'S SIGNATURE | RESIDENCE |

P-IDF-559033-001

ASSIGNMENT AND DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION

| ASSIGNMENT: |
|--|
| WHEREAS I/We, the below named inventor(s), (hereinafter referred to as Assignor(s)), have made an invention entitled: |
| METHODS AND SYSTEMS FOR ANOMALY DETECTION |
| for which I/WE executed an application for United States Letters Patent concurrently herewith; and |
| WHEREAS, Tata Consultancy Services Limited a corporation of India |
| a corporation of India whose post office address is Nirmal Building, 9th Floor, Nariman Point, Mumbai 400021, India |
| (hereinafter referred to as Assignee), is desirous of securing the entire right, title, and interest in and to this invention in a countries throughout the world, and in and to the application for United States Letters Patent on this invention and the Letters Patent to be issued upon this application: |
| NOW THEREFORE, be it known that, for good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I/We, as Assignor(s), have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my/our entire right, title, and interest in and to this invention and this application, and all divisions, and continuations thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues thereof, as well as all rights to claim priority on the basis of this application in any foreign country, and all applications for Letters Patent which may hereafter be filled for this invention in any foreign country, and all extensions, renewals and reissues thereof; and I/We hereby authorize and request the Director of the United States Patent and Trademark Office and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment: |
| AND, I/WE HEREBY covenant that I/We have the full right to convey the interest assigned by this Assignment, and I/We have not executed and will not execute any agreement in conflict with this Assignment; |
| AND, I/WE HEREBY further covenant and agree that I/We will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to me/us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful caths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United State and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns. |
| AND, I/WE HEREBY authorize and request that the attorneys having Power of Attorney in this application, insert here in parentheses (Application No |
| DECLARATION: As a named inventor below, I hereby declare that: (1) This declaration is directed to the above-identified application: (2) the above-identified application was made or authorized to be made by me; (3) my residence and mailing address are as stated below next to my name; and (4) I believe I am an original inventor or an original joint inventor of a claimed invention in the application. I hereby acknowledge that any willful false statements made in this declaration are punishable by fine or imprisonment of not more than five (5) years, or both, under section 1001 of Title 18 of the United States Code. |
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Page 1 of 2

in 37C.F.R. § 1.56.

PATENT REEL: 039469 FRAME: 0384

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| FULL NAME OF SECOND ASSIGNOR, IF ANY DAS, Sayantan | ASSIGNOR'S SIGNATURE | DATE |
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| 3. FULL NAME OF THIRD ASSIGNOR, IF ANY KUNDU, Shounak | ASSIGNOR'S SIGNATURE | DATE |
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| 4. FULL NAME OF FOURTH ASSIGNOR, IF ANY CHATTERJEE, Swarup | ASSIGNOR'S SIGNATURE | 15878 Man 2016 |
| MAILING ADDRESS Tata Consultancy Services Limited, Building 1B, Ecospace West Bengal, India | Plot - IIF/12, New Town, Rajarhat , Kolkata - 700156, | RESIDENCE India |

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