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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
JAYAVARDHANA RAMA GUBBI LAKSHMINARASIMHA	07/09/2018
KARTHIK SEEMAKURTHY	07/09/2018
SANDEEP NK	07/06/2018
ASHLEY VARGHESE	07/09/2018
SHAILESH SHANKAR DESHPANDE	07/10/2018
MARIASWAMY GIRISH CHANDRA	07/09/2018
BALAMURALIDHAR PURUSHOTHAMAN	07/09/2018
ANGSHUL MAJUMDAR	07/09/2018

RECEIVING PARTY DATA

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Street Address:	NIRMAL BUILDING	
Internal Address:	9TH FLOOR, NARIMAN POINT	
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State/Country:	INDIA	
Postal Code:	400021	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16504196

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	13178.0494-00000
NAME OF SUBMITTER:	KIMBERLY SLAZER

PATENT 505559199 REEL: 049677 FRAME: 0644

SIGNATURE:	/Kimberly Slazer/
DATE SIGNED:	07/05/2019
Total Attachments: 9	
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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:

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, Maharashtra, India

Method and system for solving inverse problems in image processing using Deep Dictionary Learning (DDL)

(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, 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 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 the	hat 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 in 37C.F.R. § 1.56.

[IDF-1027729-017-IN]

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.

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

FULL NAME OF SOLE OR FIRST ASSIGNOR GUBBI LAKSHMINARASIMHA, Jayavardhana Rama	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis, S Village, Bangalore - 560066, Karnataka, India	SEZ "H" Block, No. 152 (Sy No. 147,157 & 158), Hoody	
2. FULL NAME OF SECOND ASSIGNOR, IF ANY SEEMAKURTHY, Karthik	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis, S Village, Bangalore - 560066, Karnataka, India	SEZ "H" Block, No. 152 (Sy No. 147,157 & 158), Hoody	RESIDENCE India
3. FULL NAME OF THIRD ASSIGNOR, IF ANY NK, Sandeep	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis, S Village, Bangalore - 560066, Karnataka, India	SEZ "H" Block, No. 152 (Sy No. 147,157 & 158), Hoody	RESIDENCE India
4. FULL NAME OF FOURTH ASSIGNOR, IF ANY VARGHESE, Ashley	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis, S Village, Bangalore - 560066, Karnataka, India	SEZ "H" Block, No. 152 (Sy No. 147,157 & 158), Hoody	
5. FULL NAME OF FIFTH ASSIGNOR, IF ANY DESHPANDE, Shailesh Shankar	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis, S Village, Bangalore - 560066, Karnataka, India	SEZ "H" Block, No. 152 (Sy No. 147,157 & 158), Hoody	RESIDENCE India
6. FULL NAME OF SIXTH ASSIGNOR, IF ANY CHANDRA, Mariaswamy Girish	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis, SEZ "H" Block, No. 152 (Sy No. 147,157 & 158), Hoody Village, Bangalore - 560066, Karnataka , India		RESIDENCE India
7. FULL NAME OF SEVENTH ASSIGNOR, IF ANY PURUSHOTHAMAN, Balamuralidhar	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis, S Village, Bangalore - 560066, Karnataka, India	SEZ "H" Block, No. 152 (Sy No. 147,157 & 158), Hoody	

[IDF-1027729-017-IN]

8. FULL NAME OF EIGHT ASSIGNOR, IF ANY MAJUMDAR, Angshul	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Indraprastha Institute of Information Technology, Okhla Industrial Estate, Phase III, Near Govind Puri Metro Station, New Delhi - 110020, India		RESIDENCE India

[IDF-1027729-017-IN]

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

FULL NAME OF SOLE OR FIRST ASSIGNOR	ASSIGNOR'S SIGNATURE	DATE
GUBBI LAKSHMINARASIMHA, Jayavardhana Rama	Jan V CE	9/7/2018
MAILING ADDRESS	STRUCTURE IN THE SECONOMINA SERVICE OF A SECONOMINA	
Tata Consultancy Services Limited, Gopalan Global Axis, S Village, Bangalore - 560066, Karnataka, India	EEZ TH B:00K, NO. 152 (59 NO. 147, 157 & 156), HOODY	
2. FULL NAME OF SECOND ASSIGNOR, IF ANY	ASSIGNOR'S SIGNATURE	DATE
SEEMAKURTHY, Karthik		
MAILING ADDRESS		RESIDENCE
Tata Consultancy Services Limited, Gopalan Global Axis, S Village, Bangalore - 560066, Karnataka , India	SEZ "H" Block, No. 152 (Sy No. 147,157 & 158), Hoody	India
3. FULL NAME OF THIRD ASSIGNOR, IF ANY	ASSIGNOR'S SIGNATURE	DATE
NK, Sandeep		
MAILING ADDRESS		RESIDENCE
Tata Consultancy Services Limited, Gopalan Global Axis, S Village, Bangalore - 560066, Karnataka , India	SEZ "H" Block, No. 152 (Sy No. 147,157 & 158), Hoody	India
4. FULL NAME OF FOURTH ASSIGNOR, IF ANY	ASSIGNOR'S SIGNATURE	DATE
VARGHESE, Ashley		
MAILING ADDRESS	NET 1819 Div. J. Al., 450 (Ov. No. 447 457 0 450) Heads.	
Tata Consultancy Services Limited, Gopalan Global Axis, S Village, Bangalore - 560066, Karnataka , India	5EZ H BIOCK, NO. 152 (SY NO. 147, 157 & 156), HOUGY	
5. FULL NAME OF FIFTH ASSIGNOR, IF ANY	ASSIGNOR'S SIGNATURE	DATE
DESHPANDE, Shallesh Shankar		
MAILING ADDRESS		RESIDENCE
Tata Consultancy Services Limited, Gopalan Global Axis, S Village, Bangalore - 560066, Karnataka , India	SEZ "H" Block, No. 152 (Sy No. 147,157 & 158), Hoody	Indía
6. FULL NAME OF SIXTH ASSIGNOR, IF ANY	ASSIGNOR'S SIGNATURE	DATE
Chandra, Mariaswamy Girish		3/7/2018
MAILING ADDRESS	DETENTION OF A REAL AFOA (CO. N 447 4672 B SEOV Monday	RESIDENCE India
Tata Consultancy Services Limited, Gopalan Global Axis, Village, Bangalore - 560066, Karnataka , India	SEZ "H" BIOCK, NO. 152 (5) NO. 147,157 & 156), HOUGY	minia
7. FULL NAME OF SEVENTH ASSIGNOR, IF ANY	ASSIGNOR'S SIGNATURE	DATE
PURUSHOTHAMAN, Balamuralidhar	CM/	09-501-2018
MAILING ADDRESS	257 M M Dioak No. 150 (St. No. 147 157 8 159) Goody	
Tata Consultancy Services Limited, Gopalan Giobal Axis, Village, Bangalore - 560066, Karnataka , India	5EZ. P. DIUCK, NO. TOZ (BY NO. 147, 197 & 198), HOUGY	

[IDF-1027729-017-IN]

8. FULL NAME OF EIGHT ASSIGNOR, IF ANY MA,IUMDAR, Angshul	ASSIGNOR'S SIGNATURE	DATE 09-JULY-2018
MAILING ADDRESS Indraprastha Institute of Information Technology, Okhla I New Delhi - 110020, India	ndustrial Estate, Phase III, Near Govind Pun Metro Station,	RESIDENCE India

[IDF-1027729-017-IN]

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

FULL NAME OF SOLE OR FIRST ASSIGNOR GUBBI LAKSHMINARASIMHA, Jayavardhana Rama	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis Village, Bangalore - 560066, Karnataka , India	, SEZ "H" Block, No. 152 (Sy No. 147,157 & 158), Hoody	
FULL NAME OF SECOND ASSIGNOR, IF ANY SEEMAKURTHY, Karthik	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis Village, Bangalore - 560086, Karnataka , India	, SEZ "H" Block, No. 152 (Sy No. 147,157 & 158), Hoody	RESIDENCE India
3. FULL NAME OF THIRD ASSIGNOR, IF ANY NK, Sandeep	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis Village, Bangalore - 560066, Karnataka , India	s, SEZ "H" Block, No. 152 (Sy No. 147,157 & 158), Hoody	RESIDENCE India
4. FULL NAME OF FOURTH ASSIGNOR, IF ANY VARGHESE, Ashley	ASSIGNOR'S SIGNATURE	DATE O9_ Jul-2018
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis Village, Bangalore - 560066, Karnataka , India	, SEZ "H" Block, No. 152 (Sy No. 147,157 & 158), Hoody	
5. FULL NAME OF FIFTH ASSIGNOR, IF ANY DESHPANDE, Shailesh Shankar	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis Village, Bangalore - 560066, Karnataka , India	s, SEZ "H" Block, No. 152 (Sy No. 147,157 & 158), Hoody	RESIDENCE India
FULL NAME OF SIXTH ASSIGNOR, IF ANY Chandra, Mariaswamy Girish	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis, SEZ "H" Block, No. 152 (Sy No. 147,157 & 158), Hoody Village, Bangalore - 560066, Kamataka , India		RESIDENCE India
7. FULL NAME OF SEVENTH ASSIGNOR, IF ANY PURUSHOTHAMAN, Balamuralidhar	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis Village, Bangalore - 560066, Karnataka , India	s, SEZ "H" Block, No. 152 (Sy No. 147,157 & 158), Hoody	

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IN TESTIMONY WHEREOF, IWe have hereunto set our hands.

1. FULL NAME OF SOLE OR FIRST ASSIGNOR GUBBI LAKSHMINARASIMHA, Jayavardhana Ram a	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis, 5 Village, Bangalore - \$60066, Karnatiska, India		
2. FULL NAME OF SECOND ASSIGNOR, IF ANY SEEMAKURTHY, Karihik	ASSIGNORS SIGNATURE	04-3014-3018
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis, 5 Village, Bangalore - 560086, Kamataka , India	RESIDENCE India	
3. FULL NAME OF THIRD ASSIGNOR, IF ANY NK. Sandeep	ASSIGNOR'S SIGNATURE	DATE
MAILING ACIORESS Tata Consultancy Services Limited, Gopalan Gisbal Axis, SEZ "H" Block, No. 162 (Sy No. 147,157 & 158), Hoody Village, Bangalore - 560066, Karnataka , India		RESIDENCE India
4. FULL NAME OF FOURTH ASSIGNOR, IF ANY VARGHESE, Ashley	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis, t Village, Bangalore - 560086, Karnataka , India	3EZ "H" Block, No. 162 (Sy No. 147,157 & 158). Hoody	7
5. FULL NAME OF FIFTH ASSISNOR, IF ANY DESHPANDE, Shailesh Shankar	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis, SEZ "H" Block, No. 162 (Sy No. 147,157 & 158). Hoody Village, Bangalore - 560066, Kernataka Jindia		RESIDENCE India
E FULL NAME OF SIXTH ASSIGNOR, IF ANY Chandra, Mariaswamy Girish	ASSIGNOR'S SIGNATURE	CATE
MAILING ADDRESS Tata Consultancy Services Limited, Gopsian Global Axis, SEZ "H" Block, No. 152 (Sy No. 147,157 & 156), Hoody Village, Bangalore - 560066, Karnataka , India		RESIDENCE India
7. FULL NAME OF SEVENTH ASSIGNOR, IF ANY PURUSHOTHAMAN, Balamuralidhar	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis, 5 Village, Bangalore - 560068, Kernetaka , India	3EZ "H" Black, No. 152 (Sy No. 147,157 & 156). Hoody	

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

T FIRE NAME OF SIGE OR FIRST ASSIGNOR GUBBI LARSHMINARASINHA, Ibyasarthana Rama	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Taua Consultancy Services Limited, Gupalen Global Asia, 1 Village, Bangalore - 560066, Karnetaka, India		
I FULL NAME OF SECOND ASSENCE IF ANY SEEMARUPTHY Kartin	ASSIGNOR'S SIGNATURE	DATE
MAILINIS ADDRESS Tata Consultancy Services Limited, Copatan Clobal Axis, SEZ "H" Bluck, No. 152 (Sy No. 147.157 & 158), Hoody Village, Bangalore - 56086, Kamalaka, India		RESIDENCE India
FOLL NAME OF THIRD ASSESSOR IF ANY NK Sanderp	ASSISSIONS SIGNATURE	06- Jul- 2018
MAILING ACORESS Take Consulating Services Lambed, Copalen Global Alos, SEZ "H" Block, No. 152 (Sy No. 147,197 & 159), Hoody Visage, Bangagore, 560006, Kamataka, India		RESIDENCE India
4 FULL NAME OF POURTH ASSISTANT, IF ANY VARIGHESE Assey	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Tata Consultancy Services Limited Copalan Global Arts 1 Village Bangsons S60066 Kamataka India		
CULL NAME OF FIFTH ASSIGNOR IF ANY DESHPANCE Student Sharkar	ASSIGNOR'S SIGNATURE	DATE
MAILING ADDRESS Tata Consistancy Services Limited Copalan Gobel Ave. S Vilage, Bangalore, 560000, Kamataka, India		RESIDENCE India
6 FOLL NAME OF SIXTH ASSISTAGE & ANY Charles Microscomy Girish	ASSIGNOR'S SIGNATURE	DATE
Meta PAC ACIDNESS Tatle Consultating Services Lemmed, Gopalan Giobal Acid. S Village Bongalova, SA0068, Kansalaka, Joseph	SEZ "H" Block No. 152 (Sy No. 147 157 & 158), Houdy	RESIDENCE India
FULL NAME OF SEVENTHAS SIGNOR IF ANY PONCEHOTHAMAN, Balancountries	ASSIGNOR'S SIGNATURE	CA11
NATURE ADDRESS Tala Conscions y Services Limited Gogalar Signal Arcs S Stoge Bergalore 560004 Kamataka Inda	EZ 'H' Bock No. 152 (Sy fa o 147 157 6 158) Hoody	

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MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis, SEZ "H" Block, No. 152 (Sy No. 147,157 & 158), Hoody Village, Bangalore - 560066, Kamataka , India				
5. FULL NAME OF FIFTH ASSIGNOR, IF ANY DESHPANDE, Shailesh Shankar	ASSIGNOR'S SIGNATURE	Jal 10, 2018		
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis, S Village, Bangalore - 560066, Karnataka , India	RESIDENCE India			
6. FULL NAME OF SIXTH ASSIGNOR, IF ANY Chandra, Mariaswamy Girish	ASSIGNOR'S SIGNATURE	DATE		
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis, SEZ "H" Block, No. 152 (Sy No. 147,157 & 158), Hoody Village, Bangalore - 560066, Karnataka , India		RESIDENCE India		
7. FULL NAME OF SEVENTH ASSIGNOR, IF ANY PURUSHOTHAMAN, Balamuralidhar	ASSIGNOR'S SIGNATURE	DATE		
MAILING ADDRESS Tata Consultancy Services Limited, Gopalan Global Axis, SEZ "H" Block, No. 152 (Sy No. 147,157 & 158), Hoody Village, Bangalore - 560066, Kamataka , India				

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