504771626 02/09/2018

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
DONG YANG	02/07/2018
TAO XIONG	02/08/2018
DAGUANG XU	01/25/2018
SHAOHUA KEVIN ZHOU	01/26/2018
MINGQING CHEN	01/26/2018
ZHOUBING XU	01/27/2018
JIN-HYEONG PARK	01/26/2018
DORIN COMANICIU	01/26/2018

RECEIVING PARTY DATA

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Street Address:	40 LIBERTY BOULEVARD
City:	MALVERN
State/Country:	PENNSYLVANIA
Postal Code:	19355

PROPERTY NUMBERS Total: 2

Property Type	Number
Application Number:	15886873
Application Number:	62486641

CORRESPONDENCE DATA

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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.

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NAME OF SUBMITTER: ELIZABETH PATLA

PATENT 504771626 REEL: 044881 FRAME: 0402

SIGNATURE:	/Elizabeth Patla/
DATE SIGNED:	02/09/2018
Total Attachments: 7	
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ASSIGNMENT

For good and valuable consideration, I (We),

Dong Yang, residing at 57 Croyden Court, Somerset, NJ 08873, US, citizen of CN
Tao Xiong, residing at 2828 Damascus Ct. #C, Baltimore, MD 21209, US, citizen of CN
Daguang Xu, residing at 3 Bolton Circle, Princeton, NJ 08540, US, citizen of CN
Shaohua Kevin Zhou, residing at 94 Marion Drive, Plainsboro, NJ 08536, US, citizen of CN
Mingqing Chen, residing at 1213 Fox Run Drive, Plainsboro, NJ 08536, US, citizen of CN
Zhoubing Xu, residing at 4718 Quail Ridge Drive, Plainsboro, NJ 08536, US, citizen of CN
Jin-hyeong Park, residing at 78 Hoover Avenue, Princeton, NJ 08540, US, citizen of KR
Dorin Comaniciu, residing at 2 Stuart Lane West, Princeton Junction, NJ 08550, US, citizen of US

hereafter individually or collectively referred to as "Assignor(s)";

Hereby, (I) acknowledge having previously assigned, sold and transferred to **Siemens Medical Solutions USA**, **Inc.**, a corporation organized and existing under the laws of UNITED STATES OF AMERICA, having its principal place of business at 40 Liberty Blvd., Malvern, PA 19355, US, hereinafter "Assignee", its successors, assigns and legal representatives, or to a predecessor of Assignee, pursuant to (A)(i) the laws of UNITED STATES OF AMERICA or (ii) a Patent & Secrecy Agreement or similar legal document such as, without limitation, an employee agreement executed at the time of entering into the employment of, or executed as a condition of continuing employment with, the Assignee or a predecessor of the Assignee, the entire right, including any and all priority rights, title and interest, in and for the United States and all foreign countries, in and to any and all inventions or improvements which are disclosed in an invention disclosure and/or in the below-identified documents currently filed with this Assignment, already filed or granted for Letters Patent (in which case, any provision of the subject Assignment that is in conflict with or is in addition to any provision in the prior agreement(s) or assignment(s) then this Assignment shall govern, take precedence, and be of legal effect), or

(B)(i) to the extent such laws of UNITED STATES OF AMERICA or such Patent & Secrecy Agreement or similar legal document failed or fails, in whole or part, to have assigned, sold or transferred the entire right (including priority rights), title and interest, in and for the United States and all foreign countries, in and to all inventions or improvements which are disclosed in the below-identified application(s) or pending application(s) or granted Letters Patent, or (ii) if no such agreement(s) exist assigning, selling or transferring any such right (including priority rights), title or interest; then for good and valuable consideration, Assignor(s) now and hereby, effective Nunc Pro Tunc on the filing date of the below identified patent application(s), pending patent application(s) or granted Letter Patent(s), assign, sell and transfer(s) to Assignee, its successors, assigns and legal representatives, the entire right, (including all priority rights), title and interest in and for the United States and all foreign countries, in and to any and all inventions and/or improvements which are disclosed in the following identified; patent application(s), pending patent application(s) or granted Letter Patent(s)

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Patent Application Title: Deep Image-to-Image Recurrent Network with Shape Basis for Automatic Vertebra Labeling in Large-Scale 3D CT Volumes

Filing Date: February 2, 2018

Filing Number: 15/886,873

Internal Case Number(s): 2017P05096 US01

Patent Application Title: Deep Image-to-Image Recurrent Network with Shape

Basis for Automatic Vertebra Labeling in Large-Scale 3D CT Volumes

Filing Date: **08 Mar 2017**Filing Number: **62/468,641**

Internal Case Number(s): 2017P05096 US

and in and to said application(s) or granted patents and all applications claiming priority to said application or granted patent, including, without limitation, and all divisional, continuing, substitute, renewal, reissue, and all other applications for Letters Patent which have been or shall be filed in the United States and all foreign countries on any of the inventions and/or improvements; and in and to all original and reissued patents which have been or shall be filed in the United States and all foreign countries on the inventions and/or improvements;

(II) Agree that said Assignee may apply for and receive Letters Patent for said inventions and/or improvements in its own name; and that, when requested, without charge to but at the expense of said Assignee, its successors, assigns and legal representatives, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all said inventions and/or improvements; execute all rightful oaths, assignments, powers of attorney and other papers; communicate to said Assignee, its successors, assigns, and legal representatives, all facts known to the undersigned relating to said inventions and/or improvements and the history thereof; and generally do everything possible which said Assignee, its successors, assigns or legal representatives shall consider desirable for aiding in securing and maintaining proper patent protection for said inventions and/or improvements and for vesting title to said inventions and or improvements and all applications for patents and all patents on said inventions and/or improvements, in said Assignee, its successors, assigns and legal representatives; and

(III) Covenant with said Assignee, its successors, assigns and legal representatives that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

Santh	XJZ	
Witness Signature	Dong Yang	
Yan Chen printed name	02/07/2018 Date	

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Witness Signature	Two Xirny Tao Xiong
Ynanbo Wordy printed name	02/08/2018 Date
Witness Signature	Daguang Xu
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Witness Signature	Shaohua Kevin Zhou
printed name	Date
Witness Signature	Mingqing Chen
printed name	Date
Witness Signature	Zhoubing Xu
printed name	Date
Witness Signature	Jin-hyeong Park
printed name	Date

Docket No.: 2017P05096 US01 Page 3 of 4

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Witness Signature	Zhoubing Xu
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printed name	Date		
<u>Shanhui Sun</u>		Mingging Cla	err
Witness Signature		Mingqing Chen	
Shanfui Sun printed name	Date Jan 26, 2018	•	
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Witness Signature		Jin-hyeong Park	J
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Witness Signature		Dorin Comaniciu	
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Companies * Representative(s) Siemens Medical Solutions USA	nc.		
Signature(s):			
Name(s) <u>Cynthia G. Tym</u>	eson		

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Managing IP Counsel

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printed name

Dorin Comaniciu

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Companies Representative(s)

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2/9/2018

RECORDED: 02/09/2018