505553681 07/02/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5600482

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
WEIXIN LU	01/28/2019
YAO ZHOU	01/28/2019
GUOWEI WAN	01/28/2019
SHENHUA HOU	01/28/2019
SHIYU SONG	01/28/2019

RECEIVING PARTY DATA

Name:	BAIDU USA LLC
Street Address:	1841 PAGE MILL ROAD SUITE 200
City:	PALO ALTO
State/Country:	CALIFORNIA
Postal Code:	94304
Name:	BAIDU.COM TIMES TECHNOLOGY (BEIJING) CO. LTD.
Name: Street Address:	BAIDU.COM TIMES TECHNOLOGY (BEIJING) CO. LTD. 2/F A2 ZHONGGUANCUN SOFTWARE PARK 17TH BLDG. NO. 8 DONGBEWANG WEST RD., HAIDAN DISTRICT
	2/F A2 ZHONGGUANCUN SOFTWARE PARK 17TH BLDG. NO. 8

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16337391

CORRESPONDENCE DATA

Fax Number:

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.

Email: samra.amdemichael@wbd-us.com, bstzkgsreport@wbd-us.com,

ipdocketing@wbd-us.com

Correspondent Name: WOMBLE BOND DICKINSON (US) LLP
Address Line 1: 1841 PAGE MILL ROAD SUITE 200
Address Line 4: PALO ALTO, CALIFORNIA 94304

ATTORNEY DOCKET NUMBER: 9922P263

NAME OF SUBMITTER: SAMRA AMDEMICHAEL

PATENT 505553681 REEL: 049648 FRAME: 0132

SIGNATURE: /Samra Amdemichael/	
DATE SIGNED: 07/02/2019	
Total Attachments: 4	
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PATENT REEL: 049648 FRAME: 0133

ASSIGNMENT OF PATENT APPLICATION

Attorney Docket No.: 209922.0294.0 (P263)

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I/we, the undersigned,

WEIXIN LU, YAO ZHOU, GUOWEI WAN, SHENHUA HOU, SHIYU SONG,

hereby sell, assign, and transfer to

Baidu USA LLC and Baidu.com Times Technology (Beijing) Co., Ltd.

both limited liability companies in California and China, having a principal place of business at 1195 Bordeaux Dr., Sunnyvale, CA 94089 and 2/F A2 Zhongguancun Software Park 17th Building, No. 8, Dongbeiwang West Road, Haidian District, Beijing, China, respectively, ("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions or improvements that are disclosed in the application (provisional or non-provisional) for the United States patent which for the non-provisional application may have a declaration executed by the undersigned prior hereto or concurrently herewith and which application (provisional or non-provisional) is entitled

LIDAR LOCALIZATION USING RNN AND LSTM FOR TEMPORAL SMOOTHNESS IN AUTONOMOUS DRIVING VEHICLES

said patent application also identified as follows (when known):

[l/we hereby authorize an	attorney or agent for	said Assignee to inse	ert below the application
number and filing date of	said patent application	n when known.]	

Office Otates Faterit Application Numbermicamica	United States Patent Application Number	filed
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and in and to said application (provisional or non-provisional) and all provisional applications, non-provisional applications, utility applications, design applications, divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications that have been or shall be filed in the United States and all foreign countries on any of said inventions or improvements; and in and to all original patents, reissued patents, reexamination certificates, and extensions, that have been or shall be issued in the United States and all foreign countries on said inventions or improvements; and in and to all rights of priority resulting from the filing of said United States application:

agree that said Assignee may apply for and receive a patent or patents for said inventions 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 provisional applications, non-provisional applications, utility applications, design applications, divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications on any and all said inventions or improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and representatives all facts known to the undersigned relating to said inventions or improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or representatives in securing and maintaining proper patent protection for said inventions or improvements and for vesting title to said inventions or improvements, and all applications for patents

PATENT REEL: 049648 FRAME: 0134 and all patents on said inventions or improvements, in said Assignee, its successors, assigns, and legal representatives; and

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.

Each Inventor: Please Sign and Date Below:

2&/o/, 20 <u>19</u> Date	Weizin Lu Signature WEIXIN LU Printed/Typed Name
, 20 <u>/9</u> Date	Signature YAO ZHOU Printed/Typed Name
	Guowei Wan Signature GUOWEI WAN
	Printed/Typed Name Signature SHENHUA HOU Printed/Typed Name
, 20 Date	Signature SHIYU SONG Printed/Typed Name

Assignment Document Return Address: WOMBLE BOND DICKINSON (US) LLP Attn: IP Docketing P.O. Box 7037 Atlanta, GA 30357-0037 (408) 341-3000

ASSIGNMENT OF PATENT APPLICATION

Attorney Docket No.: 209922.0294.0 (P263)

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I/we, the undersigned,

WEIXIN LU, YAO ZHOU, GUOWEI WAN, SHENHUA HOU, SHIYU SONG,

hereby sell, assign, and transfer to

Baidu USA LLC and Baidu.com Times Technology (Beijing) Co., Ltd.

both limited liability companies in California and China, having a principal place of business at 1195 Bordeaux Dr., Sunnyvale, CA 94089 and 2/F A2 Zhongguancun Software Park 17th Building, No. 8, Dongbeiwang West Road, Haidian District, Beijing, China, respectively, ("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions or improvements that are disclosed in the application (provisional or non-provisional) for the United States patent which for the non-provisional application may have a declaration executed by the undersigned prior hereto or concurrently herewith and which application (provisional or non-provisional) is entitled

LIDAR LOCALIZATION USING RNN AND LSTM FOR TEMPORAL SMOOTHNESS IN AUTONOMOUS DRIVING VEHICLES

said r	patent	application	also	identified	as	follows	(when	known)) :
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[I/we hereby authorize an attorney or agent for said Assignee to insert below the application	on
number and filing date of said patent application when known.]	

United States Patent Application Number	filed

and in and to said application (provisional or non-provisional) and all provisional applications, non-provisional applications, utility applications, design applications, divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications that have been or shall be filed in the United States and all foreign countries on any of said inventions or improvements; and in and to all original patents, reissued patents, reexamination certificates, and extensions, that have been or shall be issued in the United States and all foreign countries on said inventions or improvements; and in and to all rights of priority resulting from the filing of said United States application;

agree that said Assignee may apply for and receive a patent or patents for said inventions 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 provisional applications, non-provisional applications, utility applications, design applications, divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications on any and all said inventions or improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and representatives all facts known to the undersigned relating to said inventions or improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or representatives in securing and maintaining proper patent protection for said inventions or improvements and for vesting title to said inventions or improvements, and all applications for patents

209922.0294.0 (P263)

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and all patents on said inventions or improvements, in said Assignee, its successors, assigns, and legal representatives; and

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.

Each Inventor: Please Sign and Date Below:		
	. 20	
Date	nec / · · · · · · · · · · · · · · · · · ·	Signature WEIXIN LU
	00	Printed/Typed Name
Date	_, 20	Signature YAO ZHOU
		Printed/Typed Name
Date	, 20	Signature
		GUOWEI WAN Printed/Typed Name
 Date	, 20	Signature
		SHENHUA HOU Printed/Typed Name
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01/29	, 20 19	348
Date		Signature SHIYU SONG

Assignment Document Return Address: WOMBLE BOND DICKINSON (US) LLP Attn: IP Docketing P.O. Box 7037 Atlanta, GA 30357-0037 (408) 341-3000

209922.0294.0 (P263)

RECORDED: 07/02/2019

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Printed/Typed Name