504887279 04/26/2018

PATENT ASSIGNMENT COVER SHEET

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

CONVEYING PARTY DATA

| Name | Execution Date |
|------------------|----------------|
| BORIS DADACHEV | 04/23/2018 |
| KISHORE PAPINENI | 04/24/2018 |

RECEIVING PARTY DATA

| Name: | GOOGLE LLC |
|-----------------|---------------------------|
| Street Address: | 1600 AMPHITHEATRE PARKWAY |
| City: | MOUNTAIN VIEW |
| State/Country: | CALIFORNIA |
| Postal Code: | 94043 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15963412 |

CORRESPONDENCE DATA

Fax Number: (864)233-7342

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: 864-271-1592

Email: docketing@dority-manning.com

Correspondent Name: DORITY & MANNING P.A. AND GOOGLE LLC

Address Line 1: POST OFFICE BOX 1449

Address Line 4: GREENVILLE, SOUTH CAROLINA 29602-1449

| ATTORNEY DOCKET NUMBER: | GGL-1486 |
|-------------------------|--------------------|
| NAME OF SUBMITTER: | JOSEPH J. PROBST |
| SIGNATURE: | /Joseph J. Probst/ |
| DATE SIGNED: | 04/26/2018 |

Total Attachments: 2

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PATENT 504887279 REEL: 045646 FRAME: 0231

ATTORNEY DOCKET NUMBER: GGL-1486

JOINT INVENTION ASSIGNMENT OF WORLDWIDE RIGHTS

WHEREAS, we, Boris Dadachev, a citizen of France, residing in Jersey City, New Jersey; and Kishore Papineni, a citizen of India, residing in Carmel, New York, as assignors, have made an invention entitled

"MACHINE LEARNING TO IDENTIFY OPINIONS IN DOCUMENTS"
as described in a patent application, the specification of which:

| X | is attached hereto. | |
|---|---------------------|--------------------------------|
| | was filed on | as U.S. Application Serial No. |
| | was filed on | as PCT Application Serial No |

WHEREAS, Google LLC, 1600 Amphitheatre Parkway, Mountain View, California 94043, 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 patent application on this invention and any Letters Patent to be issued upon this patent application;

NOW, THEREFORE, be it known that for good and valuable consideration the receipt of which from assignee is hereby acknowledged, we, as assignors, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the assignee, its lawful successors and assigns, our entire right, title, and interest in and to this invention and this patent application, and all divisions, and continuations thereof, and all Letters Patent which may be granted thereon, and all reissues thereof, and all rights to claim priority on the basis of such applications, and all applications for Letters Patent which may hereafter be filed for this invention in any country and all Letters Patent which may be granted on this invention in any country, and all extensions, renewals, and reissues thereof, and all rights to sue and recover for past, present, and future infringement thereof, and we hereby authorize and request the Commissioner for Patents of the United States and any official of any other 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 we hereby authorize the assignee, its successors and assigns, and the attorney(s) of record in applications as described above to modify this Assignment, subsequent to its execution, to more specifically identify the applications as described above.

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AND, WE HEREBY covenant that we have the full right to convey the interest assigned by this Assignment, and we have not executed, and will not execute any agreement in conflict with this Assignment;

AND, WE HEREBY further covenant and agree that we will, without further consideration, communicate with assignee, its successors and assigns, any facts known to 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 of this invention in said assignee, its successors and 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 other country, it being understood that any expense incident to the execution of such papers shall be borne by the assignee, its successors and assigns.

IN WITNESS WHEREOF, the Assignors have executed this document on the date indicated below:

| Docusigned by: | | 4/23/2018 | |
|---------------------------------|------------------|-----------|--|
| CC48D95588F84FF DocuSigned by: | Boris Dadachev | Date | |
| PKVm | | 4/24/2018 | |
| FCDC8CF881084A4 | Kishore Papineni | Date | |