

PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT5766211

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
SUMAN ROY	09/19/2019
AYAN SENGUPTA	09/19/2019
SIDDHARTHA ASTHANA	09/19/2019
GAURAV RANJAN	09/19/2019
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PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	16599588
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ATTORNEY DOCKET NUMBER:	054642/531179
NAME OF SUBMITTER:	POOYA SHOGHI
SIGNATURE:	/Pooya Shoghi/
DATE SIGNED:	10/11/2019
Total Attachments: 6	
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ASSIGNMENT - WORLDWIDE

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor ("Assignor") hereby sells and assigns, unto

**Optum Technology, Inc.
11000 Optum Circle
Eden Prairie, MN 55344**

("Assignee"), and its successors and assigns, Assignor's entire worldwide right, title, and interest in and to all inventions, improvements, and discoveries (collectively, the "Inventions") set forth in the application received concurrently herewith, referred to by the Attorney Docket Number provided herewith, and titled:

"NATURAL LANGUAGE PROCESSING USING JOINT SENTIMENT-TOPIC MODELING",

as well as in and to: (a) all improvements and modifications to any of the Inventions, (b) the above-identified patent application(s) (if any) and all other patent applications, patents, utility models, design registrations, other rights of exclusion, and inventors' certificates in every country or region setting forth (i) any or all of the Inventions, or (ii) any improvements or modifications to any or all of the Inventions, including all continuation, divisional, continuation-in-part (to the extent based upon prior Inventions), renewal, substitute, nonprovisional, and Convention applications based in whole or in part upon said Inventions or upon said applications, and any and all Letters Patent and reissues, reexaminations, and extensions of Letters Patent granted for said Inventions or upon said applications (the items referenced in (b) collectively being referred to hereinafter as the "Applications and Granted Rights"), (c) every priority right that is or may be predicated upon or arise from any of the Inventions or the Applications and Granted Rights, and (d) the right to pursue, collect, and retain in Assignee's name or otherwise, damages and any other remedies arising from any past, present, or future infringement of the Inventions, the Applications and Granted Rights, and any other rights assigned by this Assignment;

Assignee being hereby authorized to file patent applications in any or all countries on any or all of the Inventions in the name of Assignor or in the name of Assignee or otherwise as Assignee may deem advisable, under the Paris Convention and/or Patent Cooperation Treaty or otherwise; the Commissioner of Patents of the United States Patent and Trademark Office (and officials of other countries whose duty it is to issue patents) being hereby authorized to issue or transfer all Letters Patent to Assignee in accordance with this Assignment;

this Assignment being under covenant, not only that full power to make the same is held by Assignor, but also that such assigned right is not encumbered by any grant, license, or other right previously given, and that Assignor will do all acts reasonably serving to ensure that the Inventions and the Applications and Granted Rights shall be held and enjoyed by Assignee as fully and entirely as the same could have been held and enjoyed by Assignor if this Assignment had not been made, and particularly to execute and deliver to Assignee all lawful documents including petitions, specifications, oaths, assignments, invention disclaimers, declarations, and lawful

affidavits in form and substance which may be requested by Assignee, to furnish Assignee with all facts relating to any of the Inventions or the history thereof and any and all documents, photographs, models, samples or other physical exhibits which may embody any of the Inventions, and to testify in any proceedings relating to any of the Inventions or the Applications and Granted Rights.

Assignor hereby grants Assignee, its successors, legal representatives, and assigns the right to insert in this Assignment any further identification (including, but not limited to Attorney Docket Number, and patent application serial number, date, and other information) that may be necessary or desirable for valid recordation of this Assignment.

This Assignment is deemed to be effective at least as early as the earliest filing date listed above and/or associated with any of the Inventions. To the extent that Assignor has previously assigned, to Assignee, any right, title, or interest in the Inventions or the Applications and Granted Rights, this document shall be interpreted as confirming the validity of such prior assignment(s).

/ Suman Roy /
Suman Roy

9/19/2019
Date

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/ Ayan Sengupta /
Ayan Sengupta

9/19/2019
Date

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/ Siddhartha Asthana /
Siddhartha Asthana

9/19/2019
Date

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/ Gaurav Ranjan /
Gaurav Ranjan

9/19/2019
Date