PATENT ASSIGNMENT COVER SHEET
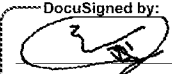
Electronic Version v1.1

Stylesheet Version v1.2

EPAS ID: PAT5956729

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
MOHSEN VAKILIAN	02/08/2020
HOSSEIN AHMADI	02/10/2020

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:	16672939

CORRESPONDENCE DATA

Fax Number: (908)654-0415

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: (908) 518-6338

Email: assignment@lernerdavid.com

Correspondent Name: LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK, LLP

Address Line 1: 20 COMMERCE DRIVE

Address Line 4: CRANFORD, NEW JERSEY 07016

ATTORNEY DOCKET NUMBER:	GOOGLE 3.0F-2738
NAME OF SUBMITTER:	MELINDA C. CORMIER
SIGNATURE:	/Melinda C. Cormier/
DATE SIGNED:	02/11/2020

Total Attachments: 2

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ASSIGNMENT OF PATENT APPLICATION	Docket Number (Optional) GOOGLE 3.0F-2738

WHEREAS, I, <u>Mohsen Vakilian</u> of <u>1600 Amphitheatre Parkway; Mountain View, California 94043</u>, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Multi-Pass Distributed Data Shuffle" (hereafter "Patent Application"),

[x]   WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on <u>November 4, 2019</u>, Application Number <u>16/672,939</u>, and

[ ]   WHEREAS (if the left box is checked), the Patent Application names the following inventors:
(and whereas I hereby authorize Lerner, David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Application No. _____, filed on _____] the application number and filing date of the application when known), and

WHEREAS, <u>Google LLC</u>, incorporated or otherwise formed in <u>Delaware</u> and having a place of business at <u>1600 Amphitheatre Parkway; Mountain View, CA 94043</u> (hereafter, the "assignee") is desirous of acquiring, or has acquired and is desirous of memorializing its acquisition further herein, the entire right, title and interest in same;

NOW, THEREFORE, for good and valuable consideration the receipt of which is hereby acknowledged, I agree as follows. I agree to assign, and hereby do assign, to the assignee my entire right, title and interest in and to the Assigned Applications in the United States of America and all other countries, where "Assigned Applications" means the Patent Application, including any and all inventions, discoveries and other subject matter described therein, any divisional, continuation, continuation-in-part, substitute, reissue, re-examination or other application claiming priority or benefit to the Patent Application pursuant to any law or treaty, and any patent issuing from the foregoing. I agree to assign, and hereby do assign, to assignee the right to claim such priority or benefit. I have not previously conveyed, nor am I aware of an obligation to convey, my rights in the Assigned Applications to a third party. I hereby authorize the U.S. Patent and Trademark Office, and any other governmental agency in the world, to issue to assignee all patents resulting from the Assigned Applications and to record assignee's ownership thereof. At assignee's reasonable request I agree, without further remuneration, to execute and deliver documents prepared at assignee's expense and to provide other cooperation, such as testimony, as may be reasonably required to evidence or protect assignee's rights in the Assigned Applications. Assignee may assign or transfer all or part of its rights set forth herein in its sole discretion. I agree that the assignee may affix its signature to this document as well as any other indicia of its acceptance of the provisions hereof. If any provision herein is unenforceable, the requirements of the provision shall remain to the full extent permissible by law and the offending portions thereof shall be deemed replaced, to the extent possible, with a provision most closely reflecting the purpose of the offending provision.

2/8/2020
_____
(Date)

DocuSigned by:
8683A0B1482E4B3...   (Signature)

6232134

ASSIGNMENT OF PATENT APPLICATION	Docket Number (Optional)
	GOOGLE 3.0F-2738

WHEREAS, I, Hossein Ahmadi of 1600 Amphitheatre Parkway; Mountain View, California 94043, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Multi-Pass Distributed Data Shuffle" (hereafter "Patent Application"),

[x]   WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on November 4, 2019, Application Number 16/672,939, and
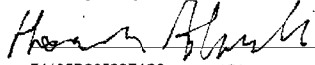
[ ]   WHEREAS (if the left box is checked), the Patent Application names the following inventors:
 (and whereas I hereby authorize Lerner, David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Application No. _____, filed on _____] the application number and filing date of the application when known), and

WHEREAS, Google LLC, incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway; Mountain View, CA 94043 (hereafter, the "assignee") is desirous of acquiring, or has acquired and is desirous of memorializing its acquisition further herein, the entire right, title and interest in same;

NOW, THEREFORE, for good and valuable consideration the receipt of which is hereby acknowledged, I agree as follows. I agree to assign, and hereby do assign, to the assignee my entire right, title and interest in and to the Assigned Applications in the United States of America and all other countries, where "Assigned Applications" means the Patent Application, including any and all inventions, discoveries and other subject matter described therein, any divisional, continuation, continuation-in-part, substitute, reissue, re-examination or other application claiming priority or benefit to the Patent Application pursuant to any law or treaty, and any patent issuing from the foregoing. I agree to assign, and hereby do assign, to assignee the right to claim such priority or benefit. I have not previously conveyed, nor am I aware of an obligation to convey, my rights in the Assigned Applications to a third party. I hereby authorize the U.S. Patent and Trademark Office, and any other governmental agency in the world, to issue to assignee all patents resulting from the Assigned Applications and to record assignee's ownership thereof. At assignee's reasonable request I agree, without further remuneration, to execute and deliver documents prepared at assignee's expense and to provide other cooperation, such as testimony, as may be reasonably required to evidence or protect assignee's rights in the Assigned Applications. Assignee may assign or transfer all or part of its rights set forth herein in its sole discretion. I agree that the assignee may affix its signature to this document as well as any other indicia of its acceptance of the provisions hereof. If any provision herein is unenforceable, the requirements of the provision shall remain to the full extent permissible by law and the offending portions thereof shall be deemed replaced, to the extent possible, with a provision most closely reflecting the purpose of the offending provision.

2/10/2020
_____
(Date)

DocuSigned by:
_____
74135D36532F4C3...   (Signature)