### 505020490 07/25/2018

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5067238

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
SUDIPTA SENGUPTA	07/15/2018
POORNA CHAND SRINIVAS PERUMALLA	07/11/2018
DOMINIC RAJEEV DIVAKARUNI	07/11/2018
NAFEA BSHARA	07/11/2018
LEO PARKER DIRAC	07/24/2018
BRATIN SAHA	07/14/2018
MATTHEW JAMES WOOD	07/11/2018
ANDREA OLGIATI	07/11/2018
SWAMINATHAN SIVASUBRAMANIAN	07/11/2018

#### **RECEIVING PARTY DATA**

Name:	AMAZON TECHNOLOGIES, INC.
Street Address:	PO BOX 81226
City:	SEATTLE
State/Country:	WASHINGTON
Postal Code:	98108-1226

#### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	16020819

#### **CORRESPONDENCE DATA**

**Fax Number:** (408)675-0442

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.

using a fax number, if provided; if that is unsuccessful, it will be sent via US Ma

Phone: 408-675-0441 Email: suzy@ndwe.com

Correspondent Name: NICHOLSON DE VOS WEBSTER & ELLIOTT LLP

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ATTORNEY DOCKET NUMBER:	1030P45279US
NAME OF SUBMITTER:	DAVID F. NICHOLSON

PATENT 505020490 REEL: 046461 FRAME: 0521

SIGNATURE:	/David F. Nicholson/
DATE SIGNED:	07/25/2018
	This document serves as an Oath/Declaration (37 CFR 1.63).
Total Attachments: 13	·
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U.S. Patent Appln. No. <u>16/020,819</u> Attorney Docket No. <u>1030P45279US</u>

Filing Date <u>June 27, 2018</u> Client Docket No. <u>P45279-US</u>

#### PARTIES TO THE ASSIGNMENT

Assignor(s):

**Sudipta Sengupta** 410 Terry Avenue North Seattle, WA 98109-5210

**Poorna Chand Srinivas Perumalla** 410 Terry Avenue North

Seattle, WA 98109-5210

**Dominic Rajeev Divakaruni** 410 Terry Avenue North Seattle, WA 98109-5210

**Nafea Bshara** 410 Terry Avenue North Seattle, WA 98109-5210

**Leo Parker Dirac** 410 Terry Avenue North Seattle, WA 98109-5210

<u>Assignee:</u>

Amazon Technologies, Inc. PO Box 81226 Seattle, WA 98108-1226

**AGREEMENT** 

**Bratin Saha**410 Terry Avenue

410 Terry Avenue North Seattle, WA 98109-5210

**Matthew James Wood** 410 Terry Avenue North Seattle, WA 98109-5210

Andrea Olgiati 410 Terry Avenue North Seattle, WA 98109-5210

**Swaminathan Sivasubramanian** 410 Terry Avenue North Seattle, WA 98109-5210

WHEREAS, ASSIGNOR(S) (listed above) are inventor(s) of an invention entitled
"FAULT-TOLERANT ACCELERATOR BASED INFERENCE SERVICE" (Invention) for which a non-
provisional application for United States Letters Patent (Application):
$\boxtimes$ was filed on June 27, 2018 and accorded U.S. Application No. 16/020,819; or
will be filed concurrently with the submission of this executed PATENT ASSIGNMENT
for recordation.
ASSIGNOR(S) hereby authorizes and requests ASSIGNEE'S legal representatives of

Page 1 of 13

U.S. Patent Appln. No. 16/020,819

Attorney Docket No. 1030P45279US

Filing Date June 27, 2018

Client Docket No. P45279-US

Title of Invention: FAULT-TOLERANT ACCELERATOR BASED INFERENCE SERVICE

Inventors: Sudipta Sengupta, Poorna Chand Srinivas Perumalla, Dominic Rajeev Divakaruni, Nafea Bshara, Leo Parker Dirac, Bratin Saha, Matthew James Wood, Andrea Olgiati,

Swaminathan Sivasubramanian

Nicholson De Vos Webster & Elliott, LLP, associated with Customer No. 148241, to insert in the

header above and here in parentheses (U.S. Patent Application No. 16/020,819, filed June 27,

2018) this application's U.S. application number and filing date, when known.

WHEREAS, ASSIGNEE, a corporation of the State of Nevada, is desirous of acquiring the

entire right, title and interest in and to the Invention and in and to any letters patent that may be

granted therefor in the United States and in any and all foreign countries.

NOW, THEREFORE, in exchange for good and valuable consideration, the receipt of which

is hereby acknowledged, ASSIGNOR(S) hereby sell, assign and transfer unto ASSIGNEE its

successors and assigns, the entire right, title and interest in and to said Invention and any

improvements thereto, said Application and any and all letters patent which may be granted for

said Invention in the United States of America and its territorial possessions and in any and all

foreign countries, and in any and all provisional, divisions, reissues, re-examinations and

continuations thereof, including the right to file foreign applications directly in the name of

ASSIGNEE and to claim priority rights deriving from said Application to which said foreign

applications are entitled by virtue of international convention, treaty or otherwise, said Invention,

Application and all letters patent on said Invention to be held and enjoyed by ASSIGNEE and its

successors and assigns for their use and benefit and of their successors and assigns as fully and

entirely as the same would have been held and enjoyed by ASSIGNOR(S) had this assignment,

transfer and sale not been made. ASSIGNOR(S) hereby authorize and request the Commissioner

of Patents and Trademarks, as well as all other applicable patent offices throughout the world, to

Page 2 of 13

U.S. Patent Appln. No. 16/020,819

Attorney Docket No. 1030P45279US

Filing Date June 27, 2018

Client Docket No. P45279-US

Title of Invention: FAULT-TOLERANT ACCELERATOR BASED INFERENCE SERVICE

Inventors: Sudipta Sengupta, Poorna Chand Srinivas Perumalla, Dominic Rajeev Divakaruni, Nafea Bshara, Leo Parker Dirac, Bratin Saha, Matthew James Wood, Andrea Olgiati,

Swaminathan Sivasubramanian

issue all letters patent on said Invention to ASSIGNEE. ASSIGNOR(S) agree to execute all

instruments and documents required for the making and prosecution of applications for United

States and foreign letters patent on said Invention, for litigation regarding said letters patent, or

for the purpose of protecting title to said Invention or letters patent therefor.

AND ASSIGNOR(S) DOES HEREBY sell, assign, transfer, and convey to ASSIGNEE, its

successors, legal representatives, and assigns all claims for damages and all remedies arising out

of any violation of the rights assigned hereby that may have accrued prior to the date of

assignment to ASSIGNEE, or may accrue hereafter, including, but not limited to, the right to sue

for, collect, and retain damages for past infringements of said letters patent before or after

issuance.

AND ASSIGNOR(S) DOES HEREBY covenant and agree that ASSIGNOR(S) will communicate

to ASSIGNEE, its successors, legal representatives and assigns, any facts known to ASSIGNOR

respecting the Invention or said Application, and testify in any legal proceeding, assist in the

preparation of any other patent property relating to the Application and the Invention or any

improvements made thereto, sign/execute all lawful papers, provide all requested documents,

execute and make all rightful oaths and/or declarations in connection with the Application and

the Invention including any improvements made thereto, any patent applications filed therefrom,

and any continuing application filed from any of the aforementioned applications, and generally

do everything possible to aid ASSIGNEE, its successors, legal representatives and assigns, to obtain

Page 3 of 13

U.S. Patent Appln. No. <u>16/020,819</u> Attorney Docket No. <u>1030P45279US</u>

Filing Date June 27, 2018 Client Docket No. P45279-US

Title of Invention: FAULT-TOLERANT ACCELERATOR BASED INFERENCE SERVICE

Inventors: Sudipta Sengupta, Poorna Chand Srinivas Perumalla, Dominic Rajeev Divakaruni, Nafea Bshara, Leo Parker Dirac, Bratin Saha, Matthew James Wood, Andrea Olgiati, Swaminathan Sivasubramanian

and enforce proper patent protection for the Invention in all countries. These provisions are binding upon ASSIGNOR's heirs, legal representatives, administrators, and assigns.

U.S. Patent Appln. No. <u>16/020,819</u>	Attorney Docket No. <u>1030P45279US</u>
Filing Date <u>June 27, 2018</u>	Client Docket No. <u>P45279-US</u>
Title of Invention: <u>FAULT-TOLERANT ACCE</u>	LERATOR BASED INFERENCE SERVICE
• • • • •	and Srinivas Perumalla, Dominic Rajeev Divakaruni, aha, Matthew James Wood, Andrea Olgiati,
<u>DECLARATION</u>	
As a below named inventor, I hereby dec	lare that:
This declaration is directed to:	
$\hfill\Box$ the attached application; or	
United States Patent Applicat	ion number <u>16/020,819</u> filed on <u>June 27, 2018</u> ; or
PCT International Application	number filed on
The above-identified application was ma	de or authorized to be made by me.
I believe that I am the original inventor o application.	r an original joint inventor of a claimed Invention in the
I have reviewed and understand the cont	ents of the above-identified application, and
acknowledge the duty to disclose to the	US Patent & Trademark Office all information known to
me to be material to the patentability as	defined in 37 CFR 1.56.
	se statement made in this declaration is punishable
under 18 USC 1001 by fine or imprisonment	ent of not more than five (5) years, or both.
Docusigned by:  /Sudipta Surgupta/	
July 15, 2018	
Date	

U.S. Patent Appln. No. <u>16/020,819</u>	Attorney Docket No. <u>1030P45279US</u>
Filing Date <u>June 27, 2018</u>	Client Docket No. <u>P45279-US</u>
Title of Invention: FAULT-TOLERANT ACCE	LERATOR BASED INFERENCE SERVICE
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United States Patent Application	on number <u>16/020,819</u> filed on <u>June 27, 2018</u> ; or
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The above-identified application was made	le or authorized to be made by me.
I believe that I am the original inventor or	an original joint inventor of a claimed Invention in the
application.	
I have reviewed and understand the cont	ents of the above-identified application, and
acknowledge the duty to disclose to the U	JS Patent & Trademark Office all information known to
me to be material to the patentability as	defined in 37 CFR 1.56.
I hereby acknowledge that any willful fals	e statement made in this declaration is punishable
under 18 USC 1001 by fine or imprisonme	ent of not more than five (5) years, or both.
Docusigned by:  1/ Boona Chand Srinivas Perumalla	$\mathcal{M}$
Poorna Chand Srinivas Perumalla	
July 11, 2018	
Date	

U.S. Patent Appln. No. <u>16/020,819</u>	Attorney Docket No. <u>1030P45279US</u>
Filing Date June 27, 2018	Client Docket No. <u>P45279-US</u>
Title of Invention: FAULT-TOLERANT ACCE	LERATOR BASED INFERENCE SERVICE
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the attached application; or	
United States Patent Applicat	ion number <u>16/020,819</u> filed on <u>June 27, 2018</u> ; or
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I hereby acknowledge that any willful fals	se statement made in this declaration is punishable
under 18 USC 1001 by fine or imprisonme	ent of not more than five (5) years, or both.
Docusigned by:  Dominic Kajun Divakaruni/ 05DE49B692774F3	
Dominic Rajeev Divakaruni	
July 11, 2018	
Date	

U.S. Patent Appln. No. 16/020,819 Attorney Docket No. 1030P45279US Filing Date June 27, 2018 Client Docket No. P45279-US Title of Invention: FAULT-TOLERANT ACCELERATOR BASED INFERENCE SERVICE Inventors: Sudipta Sengupta, Poorna Chand Srinivas Perumalla, Dominic Rajeev Divakaruni, Nafea Bshara, Leo Parker Dirac, Bratin Saha, Matthew James Wood, Andrea Olgiati, Swaminathan Sivasubramanian **DECLARATION** As a below named inventor, I hereby declare that: This declaration is directed to: the attached application; or United States Patent Application number 16/020,819 filed on June 27, 2018; or PCT International Application number \_\_\_\_\_\_ filed on \_\_\_\_\_\_. The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed Invention in the application. I have reviewed and understand the contents of the above-identified application, and acknowledge the duty to disclose to the US Patent & Trademark Office all information known to me to be material to the patentability as defined in 37 CFR 1.56. I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both. -- A3B04C3B75D4457... Nafea Bshara July 11, 2018 Date

U.S. Patent Appln. No. 16/020,819 Attorney Docket No. 1030P45279US Filing Date June 27, 2018 Client Docket No. P45279-US Title of Invention: FAULT-TOLERANT ACCELERATOR BASED INFERENCE SERVICE Inventors: Sudipta Sengupta, Poorna Chand Srinivas Perumalla, Dominic Rajeev Divakaruni, Nafea Bshara, Leo Parker Dirac, Bratin Saha, Matthew James Wood, Andrea Olgiati, Swaminathan Sivasubramanian **DECLARATION** As a below named inventor, I hereby declare that: This declaration is directed to: the attached application; or United States Patent Application number 16/020,819 filed on June 27, 2018; or PCT International Application number \_\_\_\_\_\_ filed on \_\_\_\_\_\_. The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed Invention in the application. I have reviewed and understand the contents of the above-identified application, and acknowledge the duty to disclose to the US Patent & Trademark Office all information known to me to be material to the patentability as defined in 37 CFR 1.56. I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both. -- 718BDD9C7380417.. Leo Parker Dirac July 24, 2018 Date

U.S. Patent Appln. No. 16/020,819 Attorney Docket No. 1030P45279US Filing Date June 27, 2018 Client Docket No. P45279-US Title of Invention: FAULT-TOLERANT ACCELERATOR BASED INFERENCE SERVICE Inventors: Sudipta Sengupta, Poorna Chand Srinivas Perumalla, Dominic Rajeev Divakaruni, Nafea Bshara, Leo Parker Dirac, Bratin Saha, Matthew James Wood, Andrea Olgiati, Swaminathan Sivasubramanian **DECLARATION** As a below named inventor, I hereby declare that: This declaration is directed to: the attached application; or United States Patent Application number 16/020,819 filed on June 27, 2018; or PCT International Application number \_\_\_\_\_\_ filed on \_\_\_\_\_\_. The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed Invention in the application. I have reviewed and understand the contents of the above-identified application, and acknowledge the duty to disclose to the US Patent & Trademark Office all information known to me to be material to the patentability as defined in 37 CFR 1.56. I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both. -- 1021358430634E0.. **Bratin Saha** July 14, 2018 Date

U.S. Patent Appln. No. <u>16/020,819</u>	Attorney Docket No. <u>1030P45279US</u>
Filing Date June 27, 2018	Client Docket No. <u>P45279-US</u>
Title of Invention: FAULT-TOLERANT ACCE	LERATOR BASED INFERENCE SERVICE
	and Srinivas Perumalla, Dominic Rajeev Divakaruni, aha, Matthew James Wood, Andrea Olgiati,
<u>DECLARATION</u>	
As a below named inventor, I hereby dec	lare that:
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I hereby acknowledge that any willful fals	se statement made in this declaration is punishable
under 18 USC 1001 by fine or imprisonme	ent of not more than five (5) years, or both.
Docusigned by:  /Matthew James Wood/ EE40EDDFCA294D6	
Matthew James Wood	
July 11, 2018	
Date	

U.S. Patent Appln. No. <u>16/020,819</u>	Attorney Docket No. <u>1030P45279US</u>
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under 18 USC 1001 by fine or imprisonme	ent of not more than five (5) years, or both.
Docusigned by:  // Andra Olgiati/	
Andrea Olgiati	
July 11, 2018	
Date	

U.S. Patent Appln. No. 16/020,819 Attorney Docket No. 1030P45279US Filing Date June 27, 2018 Client Docket No. P45279-US Title of Invention: FAULT-TOLERANT ACCELERATOR BASED INFERENCE SERVICE Inventors: Sudipta Sengupta, Poorna Chand Srinivas Perumalla, Dominic Rajeev Divakaruni, Nafea Bshara, Leo Parker Dirac, Bratin Saha, Matthew James Wood, Andrea Olgiati, Swaminathan Sivasubramanian **DECLARATION** As a below named inventor, I hereby declare that: This declaration is directed to: the attached application; or United States Patent Application number 16/020,819 filed on June 27, 2018; or PCT International Application number \_\_\_\_\_\_ filed on \_\_\_\_\_\_. The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed Invention in the application. I have reviewed and understand the contents of the above-identified application, and acknowledge the duty to disclose to the US Patent & Trademark Office all information known to me to be material to the patentability as defined in 37 CFR 1.56. I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both. Swaminathan Sivasubramanian/ --- EFC9EEE53014494... Swaminathan Sivasubramanian July 11, 2018 Date

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