PATENT ASSIGNMENT COVER SHEET

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

CONVEYING PARTY DATA

| Name | Execution Date |
|-----------------------|----------------|
| DINESH SAHEBLAL GUPTA | 08/30/2020 |
| DEEPAK VERMA | 08/28/2020 |
| JIAXUAN LU | 08/28/2020 |

RECEIVING PARTY DATA

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| City: | SEATTLE | |
| State/Country: | WASHINGTON | |
| Postal Code: | 98108-1226 | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 17008998 |

CORRESPONDENCE DATA

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| ATTORNEY DOCKET NUMBER: | 101058.001026 | |
|-------------------------|--|--|
| NAME OF SUBMITTER: | JOANNE GALLAGHER | |
| SIGNATURE: | /Joanne Gallagher/ | |
| DATE SIGNED: | 09/01/2020 | |
| | This document serves as an Oath/Declaration (37 CFR 1.63). | |

Total Attachments: 6

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PATENT 506231120 REEL: 053657 FRAME: 0869

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U.S. Patent Appln. No. <u>17/008,998</u> Filing Date <u>09/01/202</u>0 Attorney Docket No. 101058.001026 Client Docket No. P69544-US01

PARTIES TO THE ASSIGNMENT

Assignor(s):

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Deepak Verma 410 Terry Avenue North Seattle, WA 98109-5210

Jiaxuan Lu 410 Terry Avenue North Seattle, WA 98109-5210

Assignee:

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

<u>AGREEMENT</u>

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U.S. Patent Appln. No. <u>17/008,998</u>

Filing Date <u>09/01/2020</u>

Attorney Docket No. 101058.001026

Client Docket No. P69544-US01

Title of Invention: INTRA-SHARD PARALLELIZATION OF DATA STREAM PROCESSING USING VIRTUAL SHARDS

Inventors: Dinesh Saheblal Gupta, Deepak Verma, Jiaxuan Lu,

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

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.

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U.S. Patent Appln. No. 17/008,998

Filing Date <u>09/01/2020</u>

Attorney Docket No. 101058.001026

Client Docket No. P69544-US01

Title of Invention: INTRA-SHARD PARALLELIZATION OF DATA STREAM PROCESSING USING

VIRTUAL SHARDS

Inventors: Dinesh Saheblal Gupta, Deepak Verma, Jiaxuan Lu,

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

and enforce proper patent protection for the Invention in all countries. These provisions are

binding upon ASSIGNOR's heirs, legal representatives, administrators, and assigns.

Page 3 of 6

| Inventors: Dinesh Saheblal Gupta, Deepak Verma, Jiaxuan Lu, DECLARATION As a below named inventor, I hereby declare that: This declaration is directed to: the attached application; or United States Patent Application number filed on; 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. | U.S. Patent Appln. No. <u>17/008,998</u> Filing Date <u>09/01/202</u> 0 | Attorney Docket No. 101058.001026 Client Docket No. P69544-US01 | | | |
|--|--|--|--|--|--|
| DECLARATION As a below named inventor, I hereby declare that: This declaration is directed to: the attached application; or United States Patent Application number filed on; or PCT International Application number filed on; 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. Docusigned by: Direction of the patentability of | Title of Invention: INTRA-SHARD PARALLELIZATION OF INTRUAL SHARDS | DATA STREAM PROCESSING USING | | | |
| As a below named inventor, I hereby declare that: This declaration is directed to: | Inventors: Dinesh Saheblal Gupta, Deepak Verma, Jiaxu | an Lu, | | | |
| | DECLARATION As a below named inventor, I hereby declare that: | | | | |
| United States Patent Application number | This declaration is directed to: | | | | |
| PCT International Application number | igstyle igstyle igstyle the attached application; or | | | | |
| 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. Documentable Laufal Contents Dinesh Sahebial Gupta August 30, 2020 | United States Patent Application number | filed on; or | | | |
| 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. Dinesh Saheblal Gupta August 30, 2020 | PCT International Application number | filed on | | | |
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| 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. Dinastic Salubal Gupta August 30, 2020 | I believe that I am the original inventor or an original jo | int inventor of a claimed Invention in the | | | |
| 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. Dinustry Sauda Gupta August 30, 2020 | application. | | | | |
| 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. Dinustry Sauda Gupta August 30, 2020 | | | | | |
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| 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. Discussioned by: Older Sale Mal Gupta August 30, 2020 | acknowledge the duty to disclose to the US Patent & Tr | rademark Office all information known to | | | |
| under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both. Divide Salubla Gupta August 30, 2020 | me to be material to the patentability as defined in 37 CFR 1.56. | | | | |
| under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both. Divide Salubla Gupta August 30, 2020 | | | | | |
| Dinesh Saheblal Gupta August 30, 2020 | I hereby acknowledge that any willful false statement made in this declaration is punishable | | | | |
| Dinesh Saheblal Gupta August 30, 2020 | under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both. | | | | |
| Dinesh Saheblal Gupta August 30, 2020 | | | | | |
| Dinesh Saheblal Gupta August 30, 2020 | DocuSigned by: | | | | |
| August 30, 2020 | | | | | |
| | Dinesh Sahebiai Gupta | | | | |
| Date | August 30, 2020 | | | | |
| | Date | | | | |

U.S. Patent Appln. No. 17/008,998 Attorney Docket No. 101058.001026 Client Docket No. P69544-US01 Filing Date <u>09/01/2020</u> Title of Invention: INTRA-SHARD PARALLELIZATION OF DATA STREAM PROCESSING USING **VIRTUAL SHARDS** Inventors: Dinesh Saheblal Gupta, Deepak Verma, Jiaxuan Lu, **DECLARATION** As a below named inventor, I hereby declare that: This declaration is directed to: the attached application; or United States Patent Application number ______ filed on _____; 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. DocuSigned by: ---60A74B9D7840413.. Deepak Verma August 28, 2020 Date

U.S. Patent Appln. No. <u>17/008,998</u> Attorney Docket No. 101058.001026 Client Docket No. P69544-US01 Filing Date <u>09/01/2020</u> Title of Invention: INTRA-SHARD PARALLELIZATION OF DATA STREAM PROCESSING USING VIRTUAL SHARDS Inventors: Dinesh Saheblal Gupta, Deepak Verma, Jiaxuan Lu, **DECLARATION** As a below named inventor, I hereby declare that: This declaration is directed to: the attached application; or United States Patent Application number filed on ; 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. DocuSigned by: Jiaxuan Lu August 28, 2020 Date

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