

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT6417252

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
MOSTAFA TOFIGHBAKHS	03/27/2019
SHRABONI JANA	03/26/2019
BOGDAN UNGUREANU	03/26/2019
DEVA-DATTA SHARMA	03/26/2019
RITTIK JANA	03/27/2019
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	AT&T INTELLECTUAL PROPERTY I, L.P.
<b>Street Address:</b>	754 PEACHTREE ST. NE
<b>Internal Address:</b>	SUITE 7C
<b>City:</b>	ATLANTA
<b>State/Country:</b>	GEORGIA
<b>Postal Code:</b>	30308
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	17102892
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(216)696-8731
<i>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.</i>	
<b>Phone:</b>	2166968730
<b>Email:</b>	epas@thepatentattorneys.com
<b>Correspondent Name:</b>	AT&T LEGAL DEPARTMENT - AT&W
<b>Address Line 1:</b>	ONE AT&T WAY
<b>Address Line 2:</b>	ROOM 2A 212
<b>Address Line 4:</b>	BEDMINSTER, NEW JERSEY 07921
<b>ATTORNEY DOCKET NUMBER:</b>	2018-1274CON/ATTWP1185USA
<b>NAME OF SUBMITTER:</b>	BRAXTON K. DAVIS
<b>SIGNATURE:</b>	/Braxton K. Davis/
<b>DATE SIGNED:</b>	11/24/2020

**Total Attachments: 12**

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ASSIGNMENT

WHEREAS **I. Mostafa Tofighbakhsh** residing at **7933 Belknap Dr. Cupertino, CA 95014**, hereafter referred to as Assignor, am listed as an inventor on a patent application entitled **"BEAM PROVISIONING FOR SENSORY DATA COLLECTION FOR 5G OR OTHER NEXT GENERATION NETWORKS,"** having AT&T Docket No. **2018-1274**, the patent application to be filed in the United States Patent & Trademark Office, or which was filed as U.S. Patent Application Serial No. 16/367,648 on March 28, 2019; and

WHEREAS, **AT&T INTELLECTUAL PROPERTY I, L.P.**, a Partnership organized and existing under the laws of Nevada and having an address at **675 W. Peachtree Street, Suite 4000, Atlanta, GA 30308** (hereinafter referred to as Assignee), desires to acquire the entire right, title and interest for the United States of America and elsewhere throughout the world in and to said invention and the patent application identified above, including any and all divisions and continuations thereof and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues and prolongations thereto;

NOW THEREFORE, be it known that for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I, as Assignor, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my entire right, title, and interest in and to this invention and this non-provisional application, and all divisions, substitutions, and continuations thereof; and all Letters Patent of the United States which may be granted thereon, and all reexaminations and reissues thereof; and all rights to claim priority on the basis of the above provisional application (if any), as well as all rights to claim priority on the basis of this application; and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, including certificates of inventions, utility models, industrial design protection, design patent protection, and other governmental grants or issuances; and all extensions, renewals, prolongations, and reissues thereof; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term and terms for all such patents;

AND, I HEREBY authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any foreign 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, I HEREBY covenant that I have the full right to convey the interest assigned by this Assignment, and I have not executed and will not execute any assignment, sale, license, agreement, or encumbrance in conflict with this Assignment;

AND, I HEREBY further covenant and agree, for the Assignor and the Assignor's legal representatives, that I will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention; assist the Assignee in the prosecution of the patent application identified above; assist in the making and prosecution of any other patent applications that the Assignee may elect to make covering the invention identified above; testify in any interference, litigation, or other 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 to this invention in said Assignee, its successors or assigns; execute all divisional, continuation, and reissue applications; make all rightful oaths and generally do everything possible to aid Assignee, to obtain and enforce proper patent protection

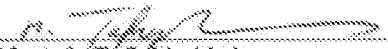
for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee; and hereby instruct, and further covenant and agree to bind our heirs, legal representatives, and assigns, to do same, without compensation, but at the expense of Assignee or its representatives.

AND, I HEREBY consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of **AT&T INTELLECTUAL PROPERTY I, L.P.** to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

This Assignment may be executed in any number of counterparts, each of which when so executed and delivered shall be deemed an original, and such counterparts together shall constitute one and the same instrument. A facsimile copy of this Assignment, or any form of an electronic copy of this Assignment, including the signature pages hereto, shall be deemed to be an original.

I hereby authorize and request Amin, Turocy & Watson, LLP to insert the filing date and application number of said application when known.

IN TESTIMONY WHEREOF, I have hereunto set my hand this 27 day of March, 2019.

  
Mostafa Tofighbakhsh

State of \_\_\_\_\_)

County of \_\_\_\_\_)

On this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, before me a Notary Public in and for the above County and State, personally appeared \_\_\_\_\_, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_

## CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

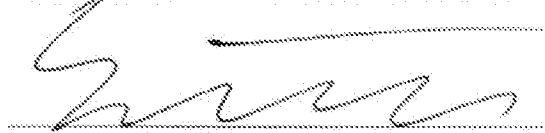
County of San Mateo

On 3 / 27 / 2018 before me, Soheil Michael Taherian, Notary Public, personally appeared

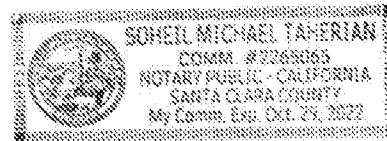
Mostafa Tolighbakhsh

who proved to me on the basis of satisfactory evidence to be the person whose name is/ subscribed to the within instrument and acknowledged to me that he/ executed the same in his/ authorized capacity(ies), and that by his/ signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument. I certify under Penalty of Perjury under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS MY HAND AND OFFICIAL SEAL.



Signature of Notary Public



(Notary Seal)

### OPTIONAL INFORMATION

The acknowledgment contained within this document is in accordance with California law. Any certificate of acknowledgment performed within the State of California shall use the preceding wording pursuant to Civil Code section 1189. An acknowledgment cannot be affixed to a document sent by mail or otherwise delivered to a notary public, including electronic means, whereby the signer did not personally appear before the notary public, even if the signer is known by the notary public. In addition, the correct notarial wording can only be signed and sealed by a notary public. The seal and signature cannot be affixed to a document without the correct notarial wording.

#### DESCRIPTION OF ATTACHED DOCUMENT

(Title of document)

Number of Pages (Including acknowledgment)

Document Date

#### CAPACITY CLAIMED BY SIGNER

Individual

Corporate Officer

Partner

Attorney-In-Fact

Trustee

Other

ASSIGNMENT

WHEREAS I, **Shraboni Jana** residing at **1636 Fountain Springs Circle, Danville, CA 94526**, hereafter referred to as Assignor, am listed as an inventor on a patent application entitled “**BEAM PROVISIONING FOR SENSORY DATA COLLECTION FOR 5G OR OTHER NEXT GENERATION NETWORKS,**” having AT&T Docket No. **2018-1274**, the patent application to be filed in the United States Patent & Trademark Office, or which was filed as U.S. Patent Application Serial No. 16/367,648 on March 28, 2019; and

WHEREAS, **AT&T INTELLECTUAL PROPERTY I, L.P.**, a Partnership organized and existing under the laws of Nevada and having an address at 675 W. Peachtree Street, Suite 4000, Atlanta, GA 30308 (hereinafter referred to as Assignee), desires to acquire the entire right, title and interest for the United States of America and elsewhere throughout the world in and to said invention and the patent application identified above, including any and all divisions and continuations thereof and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues and prolongations thereto;

NOW THEREFORE, be it known that for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I, as Assignor, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my entire right, title, and interest in and to this invention and this non-provisional application, and all divisions, substitutions, and continuations thereof; and all Letters Patent of the United States which may be granted thereon, and all reexaminations and reissues thereof; and all rights to claim priority on the basis of the above provisional application (if any), as well as all rights to claim priority on the basis of this application; and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, including certificates of inventions, utility models, industrial design protection, design patent protection, and other governmental grants or issuances; and all extensions, renewals, prolongations, and reissues thereof; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term and terms for all such patents;

AND, I HEREBY authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any foreign 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, I HEREBY covenant that I have the full right to convey the interest assigned by this Assignment, and I have not executed and will not execute any assignment, sale, license, agreement, or encumbrance in conflict with this Assignment;

AND, I HEREBY further covenant and agree, for the Assignor and the Assignor's legal representatives, that I will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention; assist the Assignee in the prosecution of the patent application identified above; assist in the making and prosecution of any other patent applications that the Assignee may elect to make covering the invention identified above; testify in any interference, litigation, or other 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 to this invention in said Assignee, its successors or assigns; execute all divisional, continuation, and reissue applications; make all rightful oaths and generally do everything possible to aid Assignee, to obtain and enforce proper patent protection

for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee; and hereby instruct, and further covenant and agree to bind our heirs, legal representatives, and assigns, to do same, without compensation, but at the expense of Assignee or its representatives.

AND, I HEREBY consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of **AT&T INTELLECTUAL PROPERTY I, L.P.** to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

This Assignment may be executed in any number of counterparts, each of which when so executed and delivered shall be deemed an original, and such counterparts together shall constitute one and the same instrument. A facsimile copy of this Assignment, or any form of an electronic copy of this Assignment, including the signature pages hereto, shall be deemed to be an original.

I hereby authorize and request Amin, Turocy & Watson, LLP to insert the filing date and application number of said application when known.

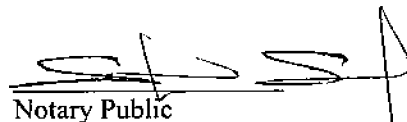
IN TESTIMONY WHEREOF, I have hereunto set my hand this 26 day of MARCH, 2019.

  
Shraboni Jana

State of California )

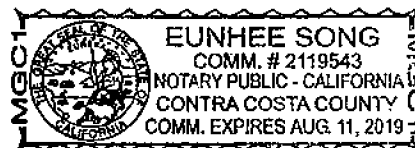
County of Contra Costa )

On this 26 day of March, 2019, before me a Notary Public in and for the above County and State, personally appeared Shraboni Jana, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.

  
Notary Public

My Commission Expires: 08/11/2019

Page 2 of 2



ASSIGNMENT

WHEREAS I, **Bogdan Ungureanu** residing at **2 Prospect Street, Holmdel, NJ 07733**, hereafter referred to as Assignor, am listed as an inventor on a patent application entitled “**BEAM PROVISIONING FOR SENSORY DATA COLLECTION FOR 5G OR OTHER NEXT GENERATION NETWORKS,**” having AT&T Docket No. **2018-1274**, the patent application to be filed in the United States Patent & Trademark Office, or which was filed as U.S. Patent Application Serial No. 16/367,648 on March 28, 2019; and

WHEREAS, **AT&T INTELLECTUAL PROPERTY I, L.P.**, a Partnership organized and existing under the laws of Nevada and having an address at 675 W. Peachtree Street, Suite 4000, Atlanta, GA 30308 (hereinafter referred to as Assignee), desires to acquire the entire right, title and interest for the United States of America and elsewhere throughout the world in and to said invention and the patent application identified above, including any and all divisions and continuations thereof and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues and prolongations thereto;

NOW THEREFORE, be it known that for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I, as Assignor, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my entire right, title, and interest in and to this invention and this non-provisional application, and all divisions, substitutions, and continuations thereof; and all Letters Patent of the United States which may be granted thereon, and all reexaminations and reissues thereof; and all rights to claim priority on the basis of the above provisional application (if any), as well as all rights to claim priority on the basis of this application; and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, including certificates of inventions, utility models, industrial design protection, design patent protection, and other governmental grants or issuances; and all extensions, renewals, prolongations, and reissues thereof; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term and terms for all such patents;

AND, I HEREBY authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any foreign 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, I HEREBY covenant that I have the full right to convey the interest assigned by this Assignment, and I have not executed and will not execute any assignment, sale, license, agreement, or encumbrance in conflict with this Assignment;

AND, I HEREBY further covenant and agree, for the Assignor and the Assignor's legal representatives, that I will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention; assist the Assignee in the prosecution of the patent application identified above; assist in the making and prosecution of any other patent applications that the Assignee may elect to make covering the invention identified above; testify in any interference, litigation, or other 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 to this invention in said Assignee, its successors or assigns; execute all divisional, continuation, and reissue applications; make all rightful oaths and generally do everything possible to aid Assignee, to obtain and enforce proper patent protection



for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee; and hereby instruct, and further covenant and agree to bind our heirs, legal representatives, and assigns, to do same, without compensation, but at the expense of Assignee or its representatives.

AND, I HEREBY consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of **AT&T INTELLECTUAL PROPERTY I, L.P.** to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

This Assignment may be executed in any number of counterparts, each of which when so executed and delivered shall be deemed an original, and such counterparts together shall constitute one and the same instrument. A facsimile copy of this Assignment, or any form of an electronic copy of this Assignment, including the signature pages hereto, shall be deemed to be an original.

I hereby authorize and request Amin, Turocy & Watson, LLP to insert the filing date and application number of said application when known.

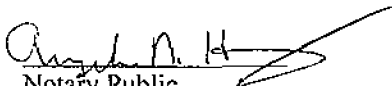
IN TESTIMONY WHEREOF, I have hereunto set my hand this 26 day of March, 2019.

  
Bogdan Ungureanu

State of New Jersey  
Monmouth )

County of Monmouth )

On this 26 day of March, 2019, before me a Notary Public in and for the above County and State, personally appeared Bogdan Ungureanu, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.

  
Notary Public

My Commission Expires: Jan. 13, 2022

## ASSIGNMENT

WHEREAS I, **Deva-Datta Sharma** residing at **521 Kingsbridge Ct., San Ramon, CA 94583**, hereafter referred to as Assignor, am listed as an inventor on a patent application entitled **"BEAM PROVISIONING FOR SENSORY DATA COLLECTION FOR 5G OR OTHER NEXT GENERATION NETWORKS,"** having AT&T Docket No. **2018-1274**, the patent application to be filed in the United States Patent & Trademark Office, or which was filed as U.S. Patent Application Serial No. 16/367,648 on March 28, 2019; and

WHEREAS, **AT&T INTELLECTUAL PROPERTY I, L.P.**, a Partnership organized and existing under the laws of Nevada and having an address at 675 W. Peachtree Street, Suite 4000, Atlanta, GA 30308 (hereinafter referred to as Assignee), desires to acquire the entire right, title and interest for the United States of America and elsewhere throughout the world in and to said invention and the patent application identified above, including any and all divisions and continuations thereof and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues and prolongations thereto;

NOW THEREFORE, be it known that for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I, as Assignor, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my entire right, title, and interest in and to this invention and this non-provisional application, and all divisions, substitutions, and continuations thereof; and all Letters Patent of the United States which may be granted thereon, and all reexaminations and reissues thereof; and all rights to claim priority on the basis of the above provisional application (if any), as well as all rights to claim priority on the basis of this application; and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, including certificates of inventions, utility models, industrial design protection, design patent protection, and other governmental grants or issuances; and all extensions, renewals, prolongations, and reissues thereof; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term and terms for all such patents;

AND, I HEREBY authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any foreign 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, I HEREBY covenant that I have the full right to convey the interest assigned by this Assignment, and I have not executed and will not execute any assignment, sale, license, agreement, or encumbrance in conflict with this Assignment;

AND, I HEREBY further covenant and agree, for the Assignor and the Assignor's legal representatives, that I will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention; assist the Assignee in the prosecution of the patent application identified above; assist in the making and prosecution of any other patent applications that the Assignee may elect to make covering the invention identified above; testify in any interference, litigation, or other 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 to this invention in said Assignee, its successors or assigns; execute all divisional, continuation, and reissue applications; make all rightful oaths and generally do everything possible to aid Assignee, to obtain and enforce proper patent protection

for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee; and hereby instruct, and further covenant and agree to bind our heirs, legal representatives, and assigns, to do same, without compensation, but at the expense of Assignee or its representatives.

AND, I HEREBY consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of **AT&T INTELLECTUAL PROPERTY I, L.P.** to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

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I hereby authorize and request Amin, Turocy & Watson, LLP to insert the filing date and application number of said application when known.

IN TESTIMONY WHEREOF, I have hereunto set my hand this 26<sup>th</sup> day of March, 2019.

Deva Datta Sharma  
Deva-Datta Sharma

State of \_\_\_\_\_ )

County of \_\_\_\_\_ )

On this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, before me a Notary Public in and for the above County and State, personally appeared \_\_\_\_\_, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.

(See Attached)

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_

## ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

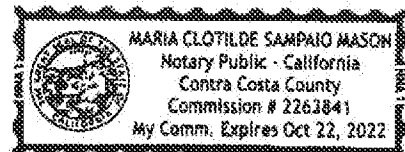
County of Contra Costa

On 03/26/2019 before me, MARIA CLOTILDE SAMPAIO MASON, NOTARY PUBLIC  
(insert name and title of the officer)

personally appeared DEVA - DATTA SHARMA  
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Signature [Signature] (Seal)

ASSIGNMENT

WHEREAS I, **Rittwik Jana** residing at **1 Peachtree Drive, Montville, NJ 07045**, hereafter referred to as Assignor, am listed as an inventor on a patent application entitled **"BEAM PROVISIONING FOR SENSORY DATA COLLECTION FOR 5G OR OTHER NEXT GENERATION NETWORKS,"** having AT&T Docket No. **2018-1274**, the patent application to be filed in the United States Patent & Trademark Office, or which was filed as U.S. Patent Application Serial No. 16/367,648 on March 28, 2019; and

WHEREAS, **AT&T INTELLECTUAL PROPERTY I, L.P.**, a Partnership organized and existing under the laws of Nevada and having an address at **675 W. Peachtree Street, Suite 4000, Atlanta, GA 30308** (hereinafter referred to as Assignee), desires to acquire the entire right, title and interest for the United States of America and elsewhere throughout the world in and to said invention and the patent application identified above, including any and all divisions and continuations thereof and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues and prolongations thereto;

NOW THEREFORE, be it known that for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I, as Assignor, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my entire right, title, and interest in and to this invention and this non-provisional application, and all divisions, substitutions, and continuations thereof; and all Letters Patent of the United States which may be granted thereon, and all reexaminations and reissues thereof; and all rights to claim priority on the basis of the above provisional application (if any), as well as all rights to claim priority on the basis of this application; and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, including certificates of inventions, utility models, industrial design protection, design patent protection, and other governmental grants or issuances; and all extensions, renewals, prolongations, and reissues thereof; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term and terms for all such patents;

AND, I HEREBY authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any foreign 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, I HEREBY covenant that I have the full right to convey the interest assigned by this Assignment, and I have not executed and will not execute any assignment, sale, license, agreement, or encumbrance in conflict with this Assignment;

AND, I HEREBY further covenant and agree, for the Assignor and the Assignor's legal representatives, that I will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention; assist the Assignee in the prosecution of the patent application identified above; assist in the making and prosecution of any other patent applications that the Assignee may elect to make covering the invention identified above; testify in any interference, litigation, or other 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 to this invention in said Assignee, its successors or assigns; execute all divisional, continuation, and reissue applications; make all rightful oaths and generally do everything possible to aid Assignee, to obtain and enforce proper patent protection

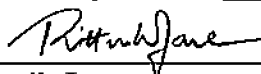
for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee; and hereby instruct, and further covenant and agree to bind our heirs, legal representatives, and assigns, to do same, without compensation, but at the expense of Assignee or its representatives.

AND, I HEREBY consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of **AT&T INTELLECTUAL PROPERTY I, L.P.** to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

This Assignment may be executed in any number of counterparts, each of which when so executed and delivered shall be deemed an original, and such counterparts together shall constitute one and the same instrument. A facsimile copy of this Assignment, or any form of an electronic copy of this Assignment, including the signature pages hereto, shall be deemed to be an original.

I hereby authorize and request Amin, Turocy & Watson, LLP to insert the filing date and application number of said application when known.

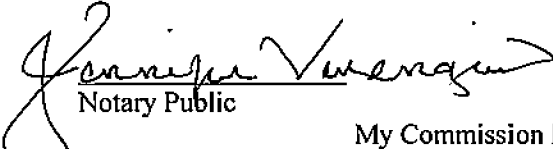
IN TESTIMONY WHEREOF, I have hereunto set my hand this 27 day of March, 2019.

  
\_\_\_\_\_  
Rittwik Jana

State of New Jersey )

County of Somerset )

On this 27 day of March, 2019, before me a Notary Public in and for the above County and State, personally appeared in person, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.

  
\_\_\_\_\_  
Notary Public

**JENNIFER VERRENGIA**  
**NOTARY PUBLIC OF NEW JERSEY**  
**Comm. # 50095312**  
**My Commission Expires 12/11/2023**

My Commission Expires: \_\_\_\_\_