

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT8106882

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|---|-----------------------------------|-----------------------|
| SUBMISSION TYPE: | NEW ASSIGNMENT | |
| NATURE OF CONVEYANCE: | ASSIGNMENT | |
| CONVEYING PARTY DATA | | |
| | Name | Execution Date |
| | GOOGLE LLC | 10/29/2019 |
| RECEIVING PARTY DATA | | |
| Name: | DEEPMIND TECHNOLOGIES LIMITED | |
| Street Address: | 5 NEW STREET SQUARE | |
| City: | LONDON | |
| State/Country: | UNITED KINGDOM | |
| Postal Code: | EC4A 3TW | |
| PROPERTY NUMBERS Total: 1 | | |
| | Property Type | Number |
| | Application Number: | 18094308 |
| CORRESPONDENCE DATA | | |
| Fax Number: | (877)769-7945 | |
| <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> | | |
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| Email: | apsi@fr.com | |
| Correspondent Name: | SHIHONG LI | |
| Address Line 1: | FISH & RICHARDSON P.C. | |
| Address Line 2: | P.O.BOX 1022 | |
| Address Line 4: | MINNEAPOLIS, MINNESOTA 55440-1022 | |
| ATTORNEY DOCKET NUMBER: | 45288-8439002 | |
| NAME OF SUBMITTER: | MELISSA ALEXANDER | |
| SIGNATURE: | /Melissa Alexander/ | |
| DATE SIGNED: | 08/10/2023 | |
| Total Attachments: 6 | | |
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| source=2#page5.tif | | |

ASSIGNMENT

WHEREAS, Google LLC, a company organized under the laws of the State of Delaware, having a place of business at 1600 Amphitheatre Parkway, Mountain View, CA 94043, USA ("ASSIGNOR"), owns right, title and interest in and to the patents and/or patent applications listed in the attached Schedule A ("PATENTS AND PATENT APPLICATIONS").

WHEREAS, DeepMind Technologies Limited, a company organized under the laws of England and Wales, having a place of business at 5 New Street Square, London, EC4A 3TW United Kingdom ("ASSIGNEE"), desires to obtain all of Assignor's right, title and interest in and to the PATENTS AND PATENT APPLICATIONS.

NOW, THEREFORE, in consideration of the good and valuable consideration received by ASSIGNOR from ASSIGNEE, the receipt and sufficiency of which is hereby acknowledged, ASSIGNOR hereby assigns and transfers to ASSIGNEE all of ASSIGNOR'S right, title and interest in and to the PATENTS AND PATENT APPLICATIONS, and all rights of enforcement thereto, including all rights to sue or recover for the past infringement thereof, and further including the right to file and prosecute in its own name, wherever so permitted by law, patent applications, including corresponding applications, based on any of the PATENTS AND PATENT APPLICATIONS, and to claim priority to any of the PATENTS AND PATENT APPLICATIONS pursuant to the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes. ASSIGNEE may apply for and receive patents in its own name wherever so permitted by law and ASSIGNOR shall, when reasonably requested by ASSIGNEE, execute or cause to be executed all rightful oaths, assignments, and powers of attorney to ASSIGNEE or to agents and legal representatives of ASSIGNEE, and all other papers reasonably necessary and proper to carry out the intent and purpose of this Assignment, and ASSIGNOR further agrees:

a. to execute all papers reasonably necessary in connection with the PATENTS AND PATENT APPLICATIONS, and any continuing, divisional, reissue, reexamination or other corresponding application thereof and to execute any separate Assignment in connection with such application as ASSIGNEE may deem reasonably necessary; and

b. to perform all affirmative acts which may be reasonably necessary to obtain a grant of a valid patent to ASSIGNEE on any of the PATENTS AND PATENT APPLICATIONS and on any continuation, division, reissue or reexamination of any of the PATENTS AND PATENT APPLICATIONS.

ASSIGNOR retains no ownership rights in the patent applications, the patents, the inventions, and the rights transferred to ASSIGNEE hereunder.

IN WITNESS WHEREOF, ASSIGNOR has caused this Assignment to be executed by its duly authorized representative on this 29 day of October, 2019.

Google LLC

By: [Signature]

Michael C. Lee

Title: Authorized Signatory

Date: 10-29-2019

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

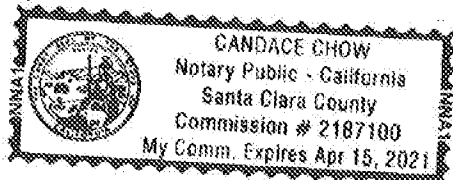
County of Santa Clara

On Oct. 29, 2019, before me personally appeared Michael C. Lee, 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/she executed the same in his/her authorized capacity, and that by his/her 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.

(Seal)



[Signature]
Notary Public

ASSIGNEE hereby accepts receipt of the entire right, title and interest in and to the PATENTS AND PATENT APPLICATIONS.

DeepMind Technologies Limited

By: [Signature]

Name: Kenneth H. Yi

Title: DIRECTOR

Date: October 30, 2019

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 _____

County of _____

SEE ATTACHED

On _____, before me personally appeared _____, 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/she executed the same in his/her authorized capacity, and that by his/her 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 _____ that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

(Seal)

Notary Public

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

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 SANTA CLARA)

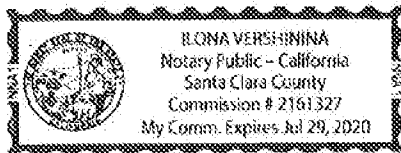
On October 30, 2019 before me, ILONA V. VERSHININA
Date Here Insert Name and Title of the Officer

personally appeared KENNETH H. Yi
Name(s) of Signer(s)

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 Ilona V. Vershinina
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: _____ Document Date: _____

Number of Pages: _____ Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

☐ Corporate Officer — Title(s): _____

☐ Partner — ☐ Limited ☐ General

☐ Individual ☐ Attorney in Fact

☐ Trustee ☐ Guardian or Conservator

☐ Other: _____

Signer Is Representing: _____

Signer's Name: _____

☐ Corporate Officer — Title(s): _____

☐ Partner — ☐ Limited ☐ General

☐ Individual ☐ Attorney in Fact

☐ Trustee ☐ Guardian or Conservator

☐ Other: _____

Signer Is Representing: _____

SCHEDULE A

SCHEDULE A

| Title | Serial Number | Filing Date | Patent Number | Publication Number | Jurisdiction |
|--|-------------------|-------------|------------------|--------------------|--------------|
| AUGMENTING NEURAL NETWORKS WITH HIERARCHICAL EXTERNAL MEMORY | 201680081167 | 12/30/2016 | | | CN |
| MULTI-TASK NEURAL NETWORKS WITH TASK SPECIFIC PATHS | CN201880005904.X | 1/30/2017 | | CN110158578A | CN |
| AUGMENTING NEURAL NETWORKS WITH HIERARCHICAL EXTERNAL MEMORY | EP16828904.9 | 12/30/2016 | | EP3411835 | EP |
| MULTI-TASK NEURAL NETWORKS WITH TASK SPECIFIC PATHS | EP18705269.1 | 1/30/2018 | | EP3545472 | EP |
| OPTIMIZING DATA CENTER CONTROLS USING NEURAL NETWORKS | DE20172000308 | 1/19/2017 | DE202017000308U1 | DE202017000308 | DE |
| OPTIMIZING DATA CENTER CONTROLS USING NEURAL NETWORKS | 202017100267 | 1/19/2017 | | | DE |
| SAMPLE EFFICIENT ADAPTIVE TEXT-TO-SPEECH | 20180100486 | 10/26/2018 | | | GR |
| AUGMENTING NEURAL NETWORKS WITH HIERARCHICAL EXTERNAL MEMORY | PCT/US2016/069571 | 12/30/2016 | | WO2017136081A1 | WO |
| MULTI-TASK NEURAL NETWORKS WITH TASK SPECIFIC PATHS | PCT/US2018/016024 | 1/30/2018 | | | WO |
| CONTIGUOUS SPARSITY PATTERN NEURAL NETWORKS | PCT/US2019/017495 | 2/11/2019 | | WO2019/157442 | WO |
| PARALLEL PROCESSING FOR SIGNAL GENERATION NEURAL NETWORKS | PCT/US2017/057663 | 10/20/2017 | | WO2019/078890 | WO |
| PARALLEL EXECUTION OF GATED ACTIVATION UNIT OPERATIONS | PCT/US2017/057611 | 10/20/2017 | | WO2019/078885 | WO |
| DYNAMIC PLACEMENT OF COMPUTATION SUB-GRAPHS | PCT/US2018/015896 | 1/30/2018 | | | WO |
| IMAGE GENERATION USING SUBSCALING AND DEPTH UP-SCALING | PCT/US2019/053666 | 9/27/2019 | | | WO |
| AUGMENTING NEURAL NETWORKS WITH HIERARCHICAL EXTERNAL MEMORY | 62/291,942 | 2/5/2016 | | | US |
| AUGMENTING NEURAL NETWORKS WITH HIERARCHICAL EXTERNAL MEMORY | US15/396,000 | 12/30/2016 | | US20170228643 | US |
| OPTIMIZING DATA CENTER CONTROLS USING NEURAL NETWORKS | 62/364,821 | 7/20/2016 | | | US |
| OPTIMIZING DATA CENTER CONTROLS USING NEURAL NETWORKS | 15/410,547 | 1/19/2017 | | US20180204116 | US |
| MULTI-TASK NEURAL NETWORKS | 62/452,276 | 1/30/2017 | | | US |
| MULTI-TASK NEURAL NETWORKS WITH TASK-SPECIFIC PATHS | US16/526,240 | 7/30/2019 | | | US |
| CONTIGUOUS SPARSITY PATTERN NEURAL NETWORKS | 62/628,882 | 2/9/2018 | | | US |
| PARALLEL PROCESSING FOR SIGNAL GENERATION NEURAL NETWORKS | 16/093,682 | 10/20/2017 | | | US |
| SAMPLE EFFICIENT ADAPTIVE TEXT-TO-SPEECH | US16/666,043 | 10/28/2019 | | | US |
| IMAGE GENERATION USING SUBSCALING AND DEPTH UP-SCALING | 62/737,814 | 9/27/2018 | | | US |
| IMAGE GENERATION USING SUBSCALING AND DEPTH UP-SCALING | US16/586,848 | 9/27/2019 | | | US |
| ACTION SELECTION USING INTERACTION HISTORY GRAPHS | US62/796,025 | 1/23/2019 | | | US |
| REPRESENTATION LEARNING FOR SEQUENCE ALIGNMENT | 62/770,595 | 11/21/2018 | | | US |
| SPEECH SYNTHESIS UTILIZING AUDIO WAVEFORM DIFFERENCE SIGNAL(S) | PCT/US2019/033104 | 5/15/2019 | | | WO |
| SPEECH SYNTHESIS UTILIZING AUDIO WAVEFORM DIFFERENCE SIGNAL(S) | 62/848,314 | 5/15/2019 | | | US |