

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT4795881

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
CONVEYING PARTY DATA		
	Name	Execution Date
	GOOGLE LLC	01/24/2018
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: 29		
Property Type	Number	
Application Number:	15721089	
PCT Number:	US2016035901	
PCT Number:	US2016061698	
PCT Number:	US2016064476	
PCT Number:	US2016066020	
PCT Number:	US2016061702	
PCT Number:	US2016061693	
PCT Number:	US2016061682	
PCT Number:	US2016061663	
PCT Number:	US2017014990	
PCT Number:	US2016069570	
PCT Number:	US2016069606	
PCT Number:	US2017016594	
PCT Number:	US2016069505	
PCT Number:	US2017016415	
PCT Number:	US2017033604	
PCT Number:	US2017033218	
PCT Number:	US2017033221	
PCT Number:	US2017033703	
PCT Number:	US2017033702	

PATENT

Property Type	Number
PCT Number:	US2016069589
PCT Number:	US2017033698
PCT Number:	US2017033697
PCT Number:	US2017042542
PCT Number:	US2017050320
PCT Number:	US2017050335
PCT Number:	US2017054528
PCT Number:	US2017055894
PCT Number:	US2017058046

CORRESPONDENCE DATA

Fax Number: (877)769-7945

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: +1 (650) 839-5164

Email: apsi@fr.com,penano@fr.com

Correspondent Name: MICHAEL PORTNOV

Address Line 1: FISH & RICHARDSON P.C.

Address Line 2: P.O.BOX 1022

Address Line 4: MINNEAPOLIS, MINNESOTA 55440-1022

ATTORNEY DOCKET NUMBER:	16113-DEEPMIND
NAME OF SUBMITTER:	EDWARD L. PENANO
SIGNATURE:	/EDWARD L. PENANO/
DATE SIGNED:	01/26/2018

Total Attachments: 7

source=Google LLCC to DeepMind Assignment executed 24JAN2018#page1.tif
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ASSIGNMENT

WHEREAS, Google LLC, is a corporation organized under the laws of the State of Delaware, having a place of business at 1600 Amphitheatre Parkway, Mountain View, CA 94043 ("ASSIGNOR").

WHEREAS, DeepMind Technologies Limited, a company organized under the laws of the United Kingdom, having a place of business at 5 New Street Square, London, EC4A 3TW United Kingdom, ("ASSIGNEE").

WHEREAS, ASSIGNOR is the owner of the entire right, title and interest in and to the patents and/or patent applications listed in the attached Schedule A ("PATENTS AND PATENT APPLICATIONS") and of all inventions that are disclosed in the PATENTS AND PATENT APPLICATIONS ("INVENTIONS").

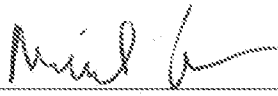
NOW, THEREFORE, in consideration of the good and valuable consideration received by ASSIGNOR from ASSIGNEE, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR hereby assigns and transfers to ASSIGNEE, its successors and assigns, the entire right, title and interest in and to the PATENTS AND PATENT APPLICATIONS and in and to the INVENTIONS, and all rights of enforcement thereto, including all rights to sue or recover for any past infringement thereof, and any and all choses in action related thereto, and further including the right to file and prosecute in its own name, wherever so permitted by law, patent applications, including corresponding and continuing 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; ASSIGNOR shall, when requested by ASSIGNEE, execute or cause to be executed all rightful oaths, assignments, and powers of attorney to the ASSIGNEE or to agents and legal representatives of the ASSIGNEE, and all other papers necessary and proper to carry out the intent and purpose of this Assignment; and ASSIGNOR further agrees:

a. to execute all papers 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 necessary or expedient; and

b. to perform all affirmative acts that may be necessary to obtain a grant of a valid patent to the 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.

IN WITNESS WHEREOF, ASSIGNOR has caused this Assignment to be executed by its duly authorized representative on this 18 day of January, 2018.

Google LLC

By: 
Michael Lee

Title: Authorized Signatory of Google LLC

Date: 1/18/18

State of California

County of _____

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 California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

(Seal)

Notary Public

Please see attached acknowledgment form.

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 Santa Clara)

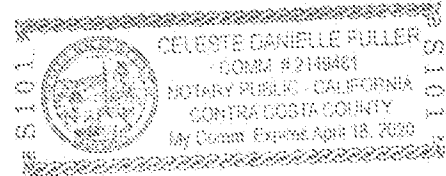
On January 24, 2018 before me, Celeste Danielle Fuller, Notary Public
(insert name and title of the officer)

personally appeared Michael Lee
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 Celeste Danielle Fuller (Seal)





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

DeepMind Technologies Limited

By: *Kenneth Yi*
Kenneth Yi

Title: Director of DeepMind Technologies Limited

Date: 4/23/18

State of California
County of _____

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 California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

(Seal)

Please see attached acknowledgment form.

Notary Public

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 Santa Clara

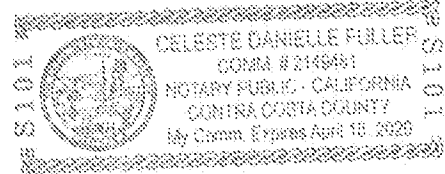
On January 24, 2018 before me, Celeste Danielle Fuller, Notary Public
(insert name and title of the officer)

personally appeared Kenneth H. Yi
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 Celeste Danielle Fuller (Seal)



SCHEDULE A

Attorney Docket No.	Client Ref.	Application Number	Filing Date	Title
16113-8360001	GP-200162-00-US-CIP	15/721,089	09/29/2017	GENERATING IMAGES USING NEURAL NETWORKS
16113-6939WO1	GP-24075-00-PCT	PCT/US2016/035901	11/11/2016	WHITENED NEURAL NETWORK LAYER
16113-6967WO1	GP-24300-00-PCT	PCT/US2016/061698	11/11/2016	ASYNCHRONOUS DEEP REINFORCEMENT LEARNING
16113-6984WO1	GP-24553-00-PCT	PCT/US2016/064476	1/25/2017	SELECTING ACTION SLATES
16113-7776WO1	GP-24796-00-PCT	PCT/US2016/066020	12/30/2016	AUGMENTING NEURAL NETWORKS WITH EXTERNAL MEMORY
16113-7819WO1	GP-24908-00-PCT	PCT/US2016/061702	12/30/2016	DUELING DEEP NEURAL NETWORKS
16113-7821WO1	GP-24925-00-PCT	PCT/US2016/061693	2/3/2017	TRAINING NEURAL NETWORKS USING A PRIORITIZED EXPERIENCE MEMORY
16113-7822WO1	GP-24926-00-PCT	PCT/US2016/061682	12/30/2016	NEURAL PROGRAMMING
16113-7823WO1	GP-24927-00-PCT	PCT/US2016/061663	2/3/2017	TRAINING NEURAL NETWORKS USING NORMALIZED TARGET OUTPUTS
16113-7857WO1	GP-200162-00-PCT	PCT/US2017/014990	5/19/2017	GENERATING IMAGES USING NEURAL NETWORKS
16113-7867WO1	GP-200213-00-PCT	PCT/US2016/069570	5/18/2017	AUGMENTING NEURAL NETWORKS WITH EXTERNAL MEMORY
16113-7868WO1	GP-200217-00-PCT	PCT/US2016/069606	5/18/2017	COMPRESSING IMAGES USING NEURAL NETWORKS
16113-7872WO1	GP-200225-00-PCT	PCT/US2017/016594	5/19/2017	GENERATIVE NEURAL NETWORKS
16113-7873WO1	GP-200226-00-PCT	PCT/US2016/069505	5/19/2017	ASSOCIATIVE LONG SHORT-TERM MEMORY NEURAL NETWORK LAYERS
16113-7874WO1	GP-200227-00-PCT	PCT/US2017/016415	12/30/2016	AUGMENTING NEURAL NETWORKS WITH SPARSELY-ACCESSED EXTERNAL MEMORY
16113-7961WO1	GP-200784-00-PCT	PCT/US2017/033604	5/19/2017	CLASSIFYING INPUT EXAMPLES USING A COMPARISON SET
16113-7964WO1	GP-200790-00-PCT	PCT/US2017/033218	5/19/2017	REINFORCEMENT LEARNING USING PSEUDO-COUNTS
16113-7966WO1	GP-200792-00-PCT	PCT/US2017/033221	7/18/2017	MODEL-FREE CONTROL FOR REINFORCEMENT LEARNING AGENTS
16113-7967WO1	GP-200794-00-PCT	PCT/US2017/033703	9/6/2017	TRAINING MACHINE LEARNING MODELS
16113-7969WO1	GP-200796-00-PCT	PCT/US2017/033702	9/6/2017	INTERACTION NETWORKS
16113-7970WO1	GP-200789-00-PCT	PCT/US2016/069589	9/29/2017	PROGRESSIVE NEURAL NETWORKS
16113-7974WO1	GP-200827-00-PCT	PCT/US2017/033698	11/11/2016	MEMORY-EFFICIENT BACKPROPAGATION THROUGH TIME
16113-7976WO1	GP-200833-00-PCT	PCT/US2017/033697	11/11/2016	TRAINING NEURAL NETWORKS USING SYNTHETIC GRADIENTS
16113-8015WO1	GP-200990-00-PCT	PCT/US2017/042542	1/25/2017	TRAINING MACHINE LEARNING MODELS ON MULTIPLE MACHINE LEARNING TASKS
16113-8041WO1	GP-201114-00-PCT	PCT/US2017/050320	12/30/2016	GENERATING AUDIO USING NEURAL NETWORKS

Attorney Docket No.	Client Ref.	Application Number	Filing Date	Title
16113-8041WO2	GP-201114-01-PCT	PCT/US2017/050335	12/30/2016	PROCESSING SEQUENCES USING CONVOLUTIONAL NEURAL NETWORKS
16113-8088WO1	GP-201344-00-PCT	PCT/US2017/054528	2/3/2017	GENERATING VIDEO FRAMES USING NEURAL NETWORKS
16113-8091WO1	GP-201378-00-PCT	PCT/US2017/055894	10/10/2017	NEURAL NETWORKS FOR SELECTING ACTIONS TO BE PERFORMED BY A ROBOTIC AGENT
16113-8103WO1	GP-201409-00-PCT	PCT/US2017/058046	10/24/2017	PROCESSING TEXT SEQUENCES USING NEURAL NETWORKS