507829794 03/30/2023

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT7876929

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
XNOR.AI, INC.	03/23/2020

RECEIVING PARTY DATA

Name:	APPLE INC.
Street Address:	ONE APPLE PARK WAY
City:	CUPERTINO
State/Country:	CALIFORNIA
Postal Code:	95014

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16788261

CORRESPONDENCE DATA

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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.

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Address Line 4: COSTA MESA, CALIFORNIA 92626-7221

ATTORNEY DOCKET NUMBER:	045738.006838
NAME OF SUBMITTER:	MICHAEL G. DREZNES REG. NO. 59,965
SIGNATURE:	/Michael G. Dreznes/
DATE SIGNED:	03/30/2023

Total Attachments: 7

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ASSIGNMENT

This Assignment is made with by **Xnor.ai**, **Inc.**, a company duly organized under the laws of the State of Delaware and having an address at 936 N. 34th Street, Suite 400, Seattle, WA 98103 (hereinafter the "Assignor"):

WHEREAS, Assignor is the owner of all of the worldwide rights, title and interest in and to the patents and patent applications set forth on Schedule A hereto (hereinafter the "Listed Patents and Applications");

WHEREAS, **Apple Inc.**, a corporation duly organized under and pursuant to the laws of the State of California, and having a principal place of business at One Apple Park Way, Cupertino, California 95014 (hereinafter the "Assignee"), is desirous of acquiring the entire worldwide right, title and interest in and to said Listed Patents and Applications and the Assigned Patents and Applications (as defined below);

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, said Assignor has sold, assigned, transferred and conveyed, and by this Assignment does hereby sell, assign, transfer and convey, unto said Assignee, its successors, legal representatives and assigns, Assignor's entire worldwide right, title and interest in and to the above-mentioned Listed Patents and Applications, and in and to any and all (a) applications (including, but not limited to, provisional applications) and patents from or to which any Listed Patents and Applications claim priority (in whole or in part) or that share common priority (in whole or in part) with any Listed Patents and Applications, (b) divisionals, continuations, continuations-in-part and foreign counterparts of any of the foregoing, (c) patents granted for, on, or extending any of any of the foregoing, (d) other types of patents, including, but not limited to, design patents, utility models, or other types of patents that derive from, extend, or claim priority based on any of any of the foregoing, (e) reissues, reexaminations and extensions of any of the foregoing, and (f) inventions described in any of the foregoing (collectively, the "Assigned Patents and Applications"), together with all rights under international treaties relating to intellectual property, including, but not limited to, the Paris Convention for the Protection of Industrial Property and the Patent Cooperation Treaty, and to claim all rights of priority resulting from the filing of any of the foregoing, all of the foregoing to be held and enjoyed by said Assignee, for its own use and behalf and the use and behalf of its successors, legal representatives and assigns, to the full end of the term or terms of any and all Assigned Patents and Applications for which patents may be granted, as fully and entirely as the same would have been held and enjoyed by the Assignor, had this sale and assignment not been made. Assignor 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 Assigned Patents and Applications 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, present and future infringement of any of the said Assigned Patents and Applications before or after issuance. To the extent that Schedule A hereto contains any typographical or administrative error but it is clear which patent or patent application was intended to be included in the sale, assignment, transfer and conveyance under this Assignment, Assignor and Assignee each acknowledge and agree that the intended patent or patent application is hereby sold, assigned, transferred and conveyed, along with all other rights, privileges and claims enumerated above with respect to such intended patent or patent application.

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1869 President	falm Chief (P. Comuc)
Date: 3/27/20	Dec: 3:37-2020

SCHEDULE "A" to Assignment

Title	Model Selection Interface	Model Selection Interface	Generating a Customized	Machine-Learning Model to Perform	Tasks Using Artificial	Intelligence	Improving Image	Classification	through Label	Progression	Label Refinery:	Improving	ImageNet	Classification	through Label	Progression	Improving Image	Classification	through Label	Progression
Publication Date	11/7/2019					11/14/2019				10/24/2019										10/24/2019
Publication Number	US-2019-0340524					WO2019/217451				US-2019-0325269										WO2019/204824
Grant Date																				
Grant Number																				
Filing Date	5/6/2019	5/7/2018				5/7/2019				4/16/2019						4/20/2018				4/22/2019
Patent Application No.	16/404,023	62/667,991			PCT/11S2019/031	160				16/386,151						62/660,901			PCT/US2019/028	570
Type of Patent (e.g., Utility, Design, etc.)	Utility-ORG	Provisional				Utility-ORG				Utility-ORG						Provisional				Utility-ORG
Country Code	US	US				WO				US						US				WO

Country Code	Type of Patent (e.g., Utility, Design, etc.)	Patent Application No.	Filing Date	Grant Number	Grant Date	Publication Number	Publication Date	Title
SN	Utility-ORG	15/852,650	12/22/201 7	10,579,897	3/3/2020	US-2019-0102646 4/4/2019	4/4/2019	Image-Based Object Detection
SN	Utility-CON	16/751,141	1/23/2020					Image-Based Object Detection
NS	Provisional	62/566,744	10/2/2017					Image-Based Object Detection
SN	Utility-ORG	16/038,083	7/17/2018			US-2019-0026600	1/24/2019	Lookup-Based Convolutional Neural Network
SN	Provisional	62/534,401	7/19/2017					Lookup-Based Convolutional Neural Network
9	9dO-villi+II	16/677 357	11/1/2010					Fast Nearest Neighbor Search for Output Generation of Convolutional
3	Provisional	67/858 911	6102/2/2					Fast Nearest Neighbor Search for Output Generation of Convolutional
Sn Sn	Utility-PRI	16/452,441	6/25/2019					Optimizing Binary Convolutional Neural Networks

Country Code	Type of Patent (e.g., Utility, Design, etc.)	Patent Application No.	Filing Date	Grant Number	Grant Date	Publication Number	Publication Date	Title
SU	Utility-PRI	16/215,544	12/10/201 8					Digital Watermarking of Machine- Learning Models
US	Utility-PRI	16/215,540	12/10/201 8					Integrating Binary Inference Engines and Model Data for Efficiency of Inference Tasks
S	Utility-ORG	202010084948.5	2/10/2020					Customizable Chip for Al Applications
US	Utility-PRI	16/272,997	2/11/2019					Customizable Chip for Al Applications
WO	Utility-ORG	PCT/US2020/017 755	2/11/2020					Customizable Chip for Al Applications
US	Utility-PRI	16/539,430	8/13/2019					Detecting Fake Videos
SN	Provisional	62/804,744	2/12/2019					Use Cases for Compressed AI Model
								Integrating Fusion and Quantization in Building A Compressed Convolutional
NS	Utility-ORG							Model

Code	Type of Patent (e.g., Utility, Design, etc.)	Patent Application No.	Filing Date	Grant Number	Grant Date	Publication Number	Publication Date	Title
								Integrating Fusion
								and Quantization
								in Building A
								Compressed
								Convolutional
								Neural Network
US	Provisional	62/804,684	2/12/2019					Model
								Machine-Learning
								Tasks with Privacy
US	Utility-PRI	16/559,533	9/3/2019					Indications
								Detection of
								Moment of
US	Utility-PRI	16/547,352	8/21/2019					Perception
								Discovering Neural
NS	Provisional	62/855,642	5/31/2019					Wirings
								Butterfly
								Transform: An
								Efficient FFT Based
								Neural
								Architecture
NS	Provisional	62/857,003	6/4/2019					Design
								Varying Audio
								Visual
								Compression
								based on Al
								Detection or
								Classification
US	Utility-PRI	16/672,357	11/1/2019					Results

Country Code	Type of Patent Pate (e.g., Utility, No. Design, etc.)	Type of Patent Patent Application Filing Date (e.g., Utility, No. Design, etc.)	Filing Date	Grant Number	Grant Date	Publication Number	Publication Date	Title
SN	Provisional	62/929,706	11/1/2019					Object Detection Based on Pixel Differences

RECORDED: 03/30/2023