

<b>PATENT ASSIGNMENT COVER SHEET</b>
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 Stylesheet Version v1.2

EPAS ID: PAT6431400

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT

**CONVEYING PARTY DATA**

Name	Execution Date
AVINASH SODANI	05/30/2019
ULF HANE BUTTE	05/21/2019
CHIA-HSIN CHEN	06/26/2019

**RECEIVING PARTY DATA**

<b>Name:</b>	MARVELL SEMICONDUCTOR, INC.
<b>Street Address:</b>	5488 MARVELL LANE
<b>City:</b>	SANTA CLARA
<b>State/Country:</b>	CALIFORNIA
<b>Postal Code:</b>	95054

**PROPERTY NUMBERS Total: 1**

Property Type	Number
<b>Application Number:</b>	16419994

**CORRESPONDENCE DATA**

**Fax Number:** (408)222-2755  
*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:** 408-222-2500  
**Email:** sherir@marvell.com  
**Correspondent Name:** KELVIN VIVIAN  
**Address Line 1:** 5488 MARVELL LANE  
**Address Line 4:** SANTA CLARA, CALIFORNIA 95054

<b>ATTORNEY DOCKET NUMBER:</b>	MP1293711
<b>NAME OF SUBMITTER:</b>	KELVIN VIVIAN
<b>SIGNATURE:</b>	/Kelvin Vivian/
<b>DATE SIGNED:</b>	12/04/2020

**Total Attachments: 6**

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## ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, each of us, the undersigned inventors,

**Avinash SODANI, Ulf HANE BUTTE, and Chia-Hsin CHEN**

who have created a certain invention for which one or more patent applications identified below (hereinafter called "the Patent Application(s)") that have been, or are to be, filed:

<u>Law Firm Case No.</u>	<u>Application No.</u>	<u>Filing Date</u>	<u>Title</u>
MP1293711	16/419,994	May 22, 2019	ARCHITECTURE TO SUPPORT TANH AND SIGMOID OPERATIONS FOR INFERENCE ACCELERATION IN MACHINE LEARNING
MP12803PR3	62/675,076	May 22, 2018	SYSTEMS AND METHODS FOR PROGRAMMABLE HARDWARE ARCHITECTURE FOR MACHINE LEARNING

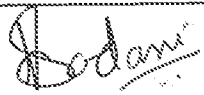
Does hereby sell, assign and transfer to Marvell Semiconductor, Inc., a corporation of California, having a place of business at 5488 Marvell Lane, Santa Clara, CA 95054, its successors, assigns, and legal representatives, the full and exclusive right to said invention and said Patent Application(s) and to any and all inventions described in said Patent Application(s), including applications for Letters Patent for the United States, its territorial possessions, and all foreign countries, and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States, its territorial possessions, and all foreign countries; to any and all Letters Patent which may be entitled to the benefit thereof in the United States, its territorial possessions, and all foreign countries; and in and to any and all continuations-in-part, continuations, divisions, substitutes, reissues, extensions thereof, and all other applications for Letters Patent relating thereto which have been or shall be filed in the United States, its territorial possessions, and/or any foreign countries, and all rights, together with all priority rights, under any of the international conventions, unions, agreements, acts, and treaties, including all future conventions, unions, agreements, acts, and treaties;

Authorizes and requests that the attorneys of record in any of said Patent Application(s) insert in this assignment the filing date(s) and application number(s) of said Patent Application(s) when officially known;

Agrees that Marvell Semiconductor, Inc., hereinafter referred to as Assignee, may apply for and receive Letters Patent for said invention and said inventions, hereinafter referred to as said invention, in its own name, in the United States, its territorial possessions, and all foreign countries; and that, when requested to carry out in good faith the intent and purpose of this assignment, at the expense of said Assignee, its successors, assigns and legal representatives, the undersigned inventors will execute all continuations-in-part, continuations, divisions, substitutes, reissues, extensions thereof, execute all rightful oaths, assignments, powers of attorney and other papers, testify in any legal or quasi legal proceedings; communicate to said Assignee, its successors, assigns or legal representatives all facts known to the undersigned inventors relating to said invention and the history thereof; and generally do everything possible which said Assignee, its successors, assigns, or legal representatives shall consider desirable for aiding in securing, maintaining and enforcing proper patent protection for said invention and for vesting title to said invention and all applications for patents on said invention in said Assignee, its successors, assigns, or legal representatives; and

Covenants with said Assignee, its successors, assigns, or legal representatives that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned inventors, and that full right to convey the same as herein expressed is possessed by the undersigned inventors.

IN TESTIMONY WHEREOF we have hereunto set our signatures on the date(s) indicated below.

Full Name of First Inventor: Avinash SODANI	
Inventor's Signature: 	Date: Month/Day/Year 05/30/19

Full Name of Second Inventor: UIF HANE BUTTE	
Inventor's Signature:	Date: Month/Day/Year

Full Name of Third Inventor: Chia-Hsin CHEN	
Inventor's Signature:	Date: Month/Day/Year

Assignee's undersigned representative is empowered to sign this certificate on behalf of Assignee. Assignee's undersigned representative Authorizes and requests that the attorneys of record in any of said Patent Application(s) insert in this assignment the filing date(s) and application number(s) of said Patent Application(s) when officially known.

Accepted on behalf of:

MARVELL SEMICONDUCTOR, INC.

By:  05/31/19

Name: Kelvin Vivian

Director, Assistant General Counsel, IP Development

Date \_\_\_\_\_

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Does hereby sell, assign and transfer to Marvell Semiconductor, Inc., a corporation of California, having a place of business at 5488 Marvell Lane, Santa Clara, CA 95054, its successors, assigns, and legal representatives, the full and exclusive right to said invention and said Patent Application(s) and to any and all inventions described in said Patent Application(s), including applications for Letters Patent for the United States, its territorial possessions, and all foreign countries, and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States, its territorial possessions, and all foreign countries; to any and all Letters Patent which may be entitled to the benefit thereof in the United States, its territorial possessions, and all foreign countries; and in and to any and all continuations-in-part, continuations, divisions, substitutes, reissues, extensions thereof, and all other applications for Letters Patent relating thereto which have been or shall be filed in the United States, its territorial possessions, and/or any foreign countries, and all rights, together with all priority rights, under any of the international conventions, unions, agreements, acts, and treaties, including all future conventions, unions, agreements, acts, and treaties;

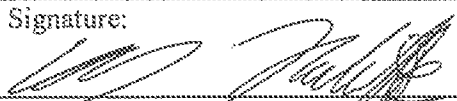
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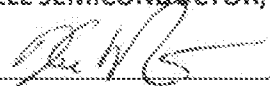
Full Name of First Inventor: Avinash SODANI	
Inventor's Signature:	Date: Month/Day/Year

Full Name of Second Inventor: UIF HANE BUTTE	
Inventor's Signature: 	Date: Month/Day/Year 05/21/2019

Full Name of Third Inventor: Chia-Hsin CHEN	
Inventor's Signature:	Date: Month/Day/Year

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Accepted on behalf of:  
MARVELL SEMICONDUCTOR, INC.

By:   
Kelvin M. Vivian

Title: Director, Assistant General Counsel, IP Development

Date: December 20, 2019

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Inventor's Signature:	Date: Month/Day/Year

Full Name of Second Inventor: UIF HANE BUTTE	
Inventor's Signature:	Date: Month/Day/Year

Full Name of Third Inventor: Chia-Hsin CHEN	
Inventor's Signature: <i>Chia-Hsin Chen</i>	Date: Month/Day/Year 06/26/19

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Accepted on behalf of:

MARVELL SEMICONDUCTOR, INC.

By: *[Signature]*

Name: Kelvin Vivian

Title: Director, Assistant General Counsel, IP Development

Date: DECEMBER 20, 2019