

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT5019247

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
JUNPING ZHAO	04/17/2018
DRAGAN SAVIC	06/20/2018
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	EMC IP HOLDING COMPANY LLC
<b>Street Address:</b>	176 SOUTH STREET
<b>City:</b>	HOPKINTON
<b>State/Country:</b>	MASSACHUSETTS
<b>Postal Code:</b>	01748
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15956193
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(631)393-6271
<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>	631-393-6270
<b>Email:</b>	nyoffice@rml-law.com
<b>Correspondent Name:</b>	JOSEPH B. RYAN
<b>Address Line 1:</b>	48 SOUTH SERVICE ROAD, SUITE 100
<b>Address Line 2:</b>	RYAN, MASON & LEWIS, LLP
<b>Address Line 4:</b>	MELVILLE, NEW YORK 11747
<b>ATTORNEY DOCKET NUMBER:</b>	110552.01
<b>NAME OF SUBMITTER:</b>	JOSEPH B. RYAN
<b>SIGNATURE:</b>	/joseph b. ryan/
<b>DATE SIGNED:</b>	06/22/2018
<b>Total Attachments: 4</b>	
source=4414-928_ASM#page1.tif	
source=4414-928_ASM#page2.tif	
source=4414-928_ASM#page3.tif	
source=4414-928_ASM#page4.tif	

**ASSIGNMENT**

**WHEREAS**, we, Junping Zhao and Dragan Savic, have invented an invention comprising and/or embodying certain improvements or discoveries or both as described in an application for Letters Patent of the United States entitled **OPTIMIZATION OF CHECKPOINT OPERATIONS FOR DEEP LEARNING COMPUTING**, the specification of which:

- is being executed on even date herewith and is about to be filed in the United States Patent Office;
- was filed on April 18, 2018 as U.S. Application No. 15/956,193;
- was patented under U.S. Patent No. \_\_\_\_\_ on \_\_\_\_\_.

**WHEREAS**, EMC IP Holding Company LLC (hereinafter "ASSIGNEE"), a limited liability company organized and existing under the laws of the State of Delaware and having a usual place of business at 176 South Street, Hopkinton, Massachusetts 01748 desires to acquire an interest therein in accordance with agreements duly entered into with us;

**NOW, THEREFORE**, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue thereon; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey to ASSIGNEE all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein;

**AND**, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of substitution, reissue, divisional or continuation applications and preliminary or other statements and the

giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

**AND**, we do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

**IN TESTIMONY WHEREOF**, we have hereunto set our hands and affixed our seals as set forth below:

Date: April 17, 2018.

*Junping Zhao*

Inventor's Signature

Print full name of first inventor: Junping Zhao  
Residence: Beijing, China  
Citizenship: China  
Mailing Address: 18<sup>th</sup> Floor  
Block D, Tsinghua SciencePark No.1  
Zhong Guan Cun East Road  
Beijing, China 10084

I Fai Chen (name) whose residential address is

81F, Building 12, TSP, Zhongguamen East Road Beijing  
was personally present and did see Junping Zhao (name of person signing the assignment) who is personally known to me, execute the above assignment.

Fai Chen (signature of first witness)

Signed at 81F, TSP, Beijing (location of witness signature)

on this day Aug. 17. of 20 18. (date of signature)

I SANPING LI (name) whose residential address is

Beijing, China 10084  
was personally present and did see Junping Zhao (name of person signing the assignment) who is personally known to me, execute the above assignment.

*Sanping Li* (signature of second witness)

Signed at Tsinghua Tech Building D, Beijing, CN (location of witness signature)

on this day Apr 17th of 2018. (date of signature)

Date: JUNE 20, 2018

Dragan Savic  
Inventor's Signature

Print full name of second inventor: Dragan Savic  
Residence: Brookline, Massachusetts  
Citizenship: Canada  
Mailing Address: 62 Cypress Street  
Brookline, Massachusetts 02445

I KEN DIAMANTO (name) whose residential address is  
5953 CALHOUN AVE, SAN JOSE, CA 95123  
was personally present and did see Dragan Savic (name of person signing the assignment) who  
is personally known to me, execute the above assignment.

[Signature] (signature of first witness)  
Signed at 176 SOUTH ST. HOPKINTON, MA (location of witness signature)

on this day JUNE 20<sup>TH</sup> of 20 18. (date of signature)

I MN Robillard (name) whose residential address is  
59 Hemingway St Shelburne MA  
was personally present and did see Dragan Savic (name of person signing the assignment) who  
is personally known to me, execute the above assignment.

[Signature] (signature of second witness)  
Signed at 176 SOUTH ST Hopkinton MA (location of witness signature)

on this day 6/20 of 20 18. (date of signature)