505035866 08/03/2018

### PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5082617

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
PHILIP ALEXANDER CUADRA	07/26/2018
CHRISTOPHER LAMB	12/15/2017
LACKY V. SHAH	01/08/2018

### **RECEIVING PARTY DATA**

Name:	NVIDIA CORPORATION	
Street Address: 2701 SAN TOMAS EXPRESSWAY		
City:	City: SANTA CLARA	
State/Country: CALIFORNIA		
Postal Code:	95050	

### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15594516

### **CORRESPONDENCE DATA**

**Fax Number:** (408)715-1201

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:** 408-715-1211

**Email:** rsmith@artegislaw.com, algdocketing@artegislaw.com

Correspondent Name: ARTEGIS LAW GROUP LLP/NVIDIA

Address Line 1: 710 LAKEWAY DRIVE

Address Line 2: SUITE 185

Address Line 4: SUNNYVALE, CALIFORNIA 94085

ATTORNEY DOCKET NUMBER:	NVDA/SC-11-0127-USC2
NAME OF SUBMITTER:	JOHN C. CAREY
SIGNATURE:	/John C. Carey/
DATE SIGNED:	08/03/2018

### **Total Attachments: 6**

source=NVDASC110127USC2\_Assignment#page1.tif source=NVDASC110127USC2\_Assignment#page2.tif source=NVDASC110127USC2\_Assignment#page3.tif

PATENT 505035866 REEL: 046552 FRAME: 0840

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Document Description: Oath or declaration filed

PTO/AIA/02 (07-13)

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# SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)

Title of Invention	SOFTWARE-ASSISTED IN	STRUCTION LEVEL	EXECUTION PREE	EMPTION	
p4	This statement is directed to:  The attached application,				
OR United S	OR United States application or PCT international application number			May 12, 2017	
LEGAL NA	ME of inventor to whom this sub	ostitute statement appl	ies:		
. –	Name (first and middle (if any)) and Fa lexander Cuadra	amily Name or Surname)			
Residence (e	except for a deceased or legally incapa	icitated inventor):			
<sub>city</sub> San	Francisco	<sub>State</sub> CA	Country US		
	Mailing Address (except for a deceased or legally incapacitated inventor):  2701 San Tomas Expressway				
<sub>city</sub> San	ta Clara	<sub>State</sub> CA	<sub>Zip</sub> 95050	Country US	
I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.					
The above-io	The above-identified application was made or authorized to be made by me.				
I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.					
Relationship to the inventor to whom this substitute statement applies:					
Le	Legal Representative (for deceased or legally incapacitated inventor only),				
Assignee,					
Pe	rson to whom the inventor is under an	obligation to assign,			
=	rson who otherwise shows a sufficient int Inventor.	proprietary interest in the n	natter (petition under 37 CF	FR 1.46 is required), or	

[Page 1 of 2]

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450, DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

### SUBSTITUTE STATEMENT

Circumstances permitting execution of this substitute statement:  Inventor is deceased, Inventor is under legal incapacity, Inventor cannot be found or reached after diligent effort, or Inventor has refused to execute the oath or declaration under 37 CFR 1.63.  If there are joint inventors, please check the appropriate box below:  An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.  OR An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) has not been submitted. Thus, a Substitute Statement Supplemental Sheet (PTO/AIA/11 or equivalent) naming the entire inventive entity and providing inventor information is attached. See 37 CFR 1.64(b).  WARNING:  etitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may ontribute to identify theft. Personal information such as social security numbers, bank account numbers, or credit card numbers ther than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO etitioners/applicants should consider redacting such personal information is included in documents submitted to the USPTO, etitioners/applicants should consider redacting such personal information is an explication of the optication (unless a non-publication request in compliance with 37 CFR 1.31(a) is made in the application of the optication (unless a non-publication request in compliance with 37 CFR 1.31(a) is made in the application of the optication (unless a non-publication request in compliance with 37 CFR 1.31(a) is made in the application of the optication of the application of the application of related in the application file and therefore are not publicity available.  RESON EXECUTING THIS SUBSTITUTE STATEMENT:  Date (Optional):
Inventor is under legal incapacity,  Inventor cannot be found or reached after diligent effort, or  Inventor has refused to execute the oath or declaration under 37 CFR 1.63.  If there are joint inventors, please check the appropriate box below:  An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.  OR  An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) has not been submitted. Thus, a Substitute Statement Supplemental Sheet (PTO/AIA/11 or equivalent) naming the entire inventive entity and providing inventor information is attached, See 37 CFR 1.64(b).  WARNING:  etitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may ontribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers ther than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, support a petition or an application guich personal information from the documents before submitting them to the SPTO. Petitioner/applicant sactivised that the record of a patent application from the documents before submitting them to the SPTO. Petitioner/applicant is advised that the record of a patent application is navailable to the public if the application of the optication (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application or issuance of a stent. Furthermore, the record from an abandoned application may also be available to the public if the application is fererenced in a published application or an issual patent (see 37 CFR 1.41). Checks and credit card authorization forms TO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.
Inventor cannot be found or reached after diligent effort, or  Inventor has refused to execute the oath or declaration under 37 CFR 1.63.  If there are joint inventors, please check the appropriate box below:  An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.  OR  An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) has not been submitted. Thus, a Substitute Statement Supplemental Sheet (PTO/AIA/11 or equivalent) naming the entire inventive entity and providing inventor information is attached. See 37 CFR 1.64(b).  WARNING:  etitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may ontribute to identify theft. Personal information such as social security numbers, bank account numbers, or credit card numbers then a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO support a petition or an application. If this type of personal information is included in documents submitted to the USPTO stitioners/applicants should consider redacting such personal information from the documents before submitting them to the SPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the polication (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a stent. Furthermore, the record from an abandoned application may also be available to the public if the application is ferenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms TO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.
Inventor has refused to execute the oath or declaration under 37 CFR 1.63.  If there are joint inventors, please check the appropriate box below:  An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.  OR  An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) has not been submitted. Thus, a Substitute Statement Supplemental Sheet (PTO/AIA/11 or equivalent) naming the entire inventive entity and providing inventor information is attached. See 37 CFR 1.64(b).  WARNING:  etitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may portribute to identify theft. Personal information such as social security numbers, bank account numbers, or credit card numbers then a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO support a petition or an application. If this type of personal information is included in documents submitted to the USPTO etitioners/applicant is advised that the record of a patent application is available to the public after publication of the splication (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application in ferenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms TO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.
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etitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may entribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, editioners/applicants should consider redacting such personal information from the documents before submitting them to the SPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the optication (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is inferenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms TO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.
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Timothy S. Teter. Senior Vice President, General Counsel and Secretary
ame: Date (Optional):
ignature:
PPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:
the applicant is a juristic entity, list the applicant name and the title of the signer:
NVIDIA Corporation  pplicant Name:
itle of Person Executing his Substitute Statement: Senior Vice President, General Counsel and Secretary
he signer, whose title is supplied above, is authorized to act on behalf of the applicant.
esidence of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent):
state CA Country US
lailing Address of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent)
701 San Tomas Expressway
ity Santa Clara State CA Zip 95050 Country US
ote: Use an additional PTO/AIA/02 form for each inventor who is deceased, legally incapacitated, cannot be found or reached fler diligent effort, or has refused to execute the oath or declaration under 37 CFR 1.63.

## ASSIGNMENT FOR APPLICATION FOR PATENT WITH DECLARATION STATEMENT

WHEREAS:

Mamac	and Addresses of Invento	rc ·
mames	and Addresses of invento	15.

1)	Philip Alexander CUADRA	2)	Christopher LAMB
	San Francisco, CA		Los Gatos, CA
3)	Lacky V. SHAH		
′	Los Altos Hills, CA		
	,		

(hereinafter referred to as Assignors), have invented a certain invention entitled:

### SOFTWARE-ASSISTED INSTRUCTION LEVEL EXECUTION PREEMPTION

enclosed herewith or for wh	ich application for Lette	rs Patent in the	United States was filed on	
May 12, 2017	under Serial No	15/594,516	; and	

WHEREAS, **NVIDIA CORPORATION.**, a Corporation of the State of Delaware, having a place of business at 2701 San Tomas Expressway, Santa Clara, California 95050 (hereinafter referred to as Assignee), is desirous of acquiring the entire right, title and interest in and to said application (hereinafter referred to as Application), and the invention disclosed therein (hereinafter referred to as Invention), and in and to all embodiments of the Invention, heretofore conceived, made or discovered by said Assignors, and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter referred to as Patents) thereon granted in any and all countries and groups of countries.

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Assignors to have been received in full from said Assignee:

- 1. Said Assignors hereby sell, assign, transfer and convey to Assignee the full and exclusive right, title and interest (a) in and to said Application and said Invention; (b) in and to all rights to apply for patents on said Invention in any and all countries pursuant to the International Convention for the Protection of Industrial Property or otherwise; (c) in and to any and all Applications filed and any and all Patents granted on said Invention in any and all countries and groups of countries, including each and every Application filed and each and every Patent granted on any application which is a conventional, division, substitution, or continuation of said Application; and (d) in and to each and every reissue or extension of any of said Patents.
- 2. Said Assignors hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest to said Invention herein conveyed in any and all countries and groups of countries. Such cooperation by said Assignors shall include prompt production of pertinent facts and documents, giving testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any of said applications; (c) for filing and prosecuting substitute, conventional, divisional, continuing or additional applications covering said Invention; (d) for filing and prosecuting applications for reissuance of any of said Patents; (e) for interference or other priority proceedings involving said Invention; and (f) for legal proceedings involving said Invention and any

application therefore and any Patents granted thereon, including without limitation opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that the expense incurred by said Assignors in providing such cooperation shall be paid for by said Assignee.

- 3. The term and covenants of this agreement shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Assignors, their respective heirs, legal representatives and assigns.
- 4. Said Assignors hereby warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.
- 5. In the event that the filing date and/or Application No. of said Invention are not entered at the time Assignors execute this document, and if such information is deemed necessary, Assignors hereby authorize and request the attorney/agent(s) of **Artegis Law Group**, **LLP**, to insert the filing date and/or Application No. of said application where needed.
- 6. This declaration is directed to the attached application, or (if following box is checked):

[X]	United States application	or PCT inte	rnational application n	umber
	15/594,516	filed on	May 12, 2017	

As a below named inventor, I hereby declare that:

The above-identified application was made or authorized to be made by me;

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application; and

I acknowledge that any willful false statement made in this declaration is punishable under section 1001 of title 18 by fine or imprisonment of not more than 5 years, or both.

IN WITNESS WHEREOF, the said Assignors have executed and delivered this instrument to said Assignee on the dates indicated below.

1)	(DATE)	
2)	12/15/2017 (DATE)	Philip Alexander CUADRA  Christophory AMP
3)	(DATE)	Christopher LAMB  Lacky V. SHAH

## ASSIGNMENT FOR APPLICATION FOR PATENT WITH DECLARATION STATEMENT

WHEREAS:

Names and Addresses of Inventors:	
-----------------------------------	--

1)	Philip Alexander CUADRA	2)	Christopher LAMB
	San Francisco, CA		Los Gatos, CA
3)	Lacky V. SHAH		
	Los Altos Hills, CA		
	,		

(hereinafter referred to as Assignors), have invented a certain invention entitled:

### SOFTWARE-ASSISTED INSTRUCTION LEVEL EXECUTION PREEMPTION

enclosed herewith or for which	ch application for Letters	Patent in the	United States was filed on
May 12, 2017	under Serial No.	15/594,516	; and

WHEREAS, **NVIDIA CORPORATION.**, a Corporation of the State of Delaware, having a place of business at 2701 San Tomas Expressway, Santa Clara, California 95050 (hereinafter referred to as Assignee), is desirous of acquiring the entire right, title and interest in and to said application (hereinafter referred to as Application), and the invention disclosed therein (hereinafter referred to as Invention), and in and to all embodiments of the Invention, heretofore conceived, made or discovered by said Assignors, and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter referred to as Patents) thereon granted in any and all countries and groups of countries.

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Assignors to have been received in full from said Assignee:

- 1. Said Assignors hereby sell, assign, transfer and convey to Assignee the full and exclusive right, title and interest (a) in and to said Application and said Invention; (b) in and to all rights to apply for patents on said Invention in any and all countries pursuant to the International Convention for the Protection of Industrial Property or otherwise; (c) in and to any and all Applications filed and any and all Patents granted on said Invention in any and all countries and groups of countries, including each and every Application filed and each and every Patent granted on any application which is a conventional, division, substitution, or continuation of said Application; and (d) in and to each and every reissue or extension of any of said Patents.
- 2. Said Assignors hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest to said Invention herein conveyed in any and all countries and groups of countries. Such cooperation by said Assignors shall include prompt production of pertinent facts and documents, giving testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any of said applications; (c) for filing and prosecuting substitute, conventional, divisional, continuing or additional applications covering said Invention; (d) for filing and prosecuting applications for reissuance of any of said Patents; (e) for interference or other priority proceedings involving said Invention; and (f) for legal proceedings involving said Invention and any

application therefore and any Patents granted thereon, including without limitation opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that the expense incurred by said Assignors in providing such cooperation shall be paid for by said Assignee.

- 3. The term and covenants of this agreement shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Assignors, their respective heirs, legal representatives and assigns.
- 4. Said Assignors hereby warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.
- 5. In the event that the filing date and/or Application No. of said Invention are not entered at the time Assignors execute this document, and if such information is deemed necessary, Assignors hereby authorize and request the attorney/agent(s) of **Artegis Law Group**, **LLP**, to insert the filing date and/or Application No. of said application where needed.
- 6. This declaration is directed to the attached application, or (if following box is checked):

[X]	United States application of	r PCT int	ternational application r	iumbei
	15/594,516	filed on	May 12, 2017	·

As a below named inventor, I hereby declare that:

The above-identified application was made or authorized to be made by me;

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application; and

I acknowledge that any willful false statement made in this declaration is punishable under section 1001 of title 18 by fine or imprisonment of not more than 5 years, or both.

IN WITNESS WHEREOF, the said Assignors have executed and delivered this instrument to said Assignee on the dates indicated below.

1)	(DATE)	Philip Alexander CUADRA	
2)	(DATE)	Christopher I AMB	
3)	1/Q   \8 (DATE)	Christopher LAMB  Lacky V. SHAH	

PATENT REEL: 046552 FRAME: 0847

**RECORDED: 08/03/2018**