PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5287480

SUBMISSION TYPE:	NEW ASSIGNMENT		
NATURE OF CONVEYANCE:	ASSIGNMENT		

CONVEYING PARTY DATA

Name	Execution Date
TZU-MAO LI	08/24/2018
MARCO SALVI	08/27/2018
JAAKKO T. LEHTINEN	08/24/2018
AARON ELIOT LEFOHN	12/01/2018

RECEIVING PARTY DATA

Name:	NVIDIA CORPORATION		
Street Address:	ess: 2788 SAN TOMAS EXPRESSWAY		
City:	SANTA CLARA		
State/Country:	CALIFORNIA		
Postal Code:	95051		

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16113884

CORRESPONDENCE DATA

Fax Number: (408)971-4660

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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Email: emma@zilkakotab.com
Correspondent Name: ZILKA-KOTAB, PC
Address Line 1: 1155 N. 1ST ST.
Address Line 2: SUITE 105

Address Line 4: SAN JOSE, CALIFORNIA 95112

NVIDP1187/17-KI-0185-US02			
STEPHANIE L. WINNER			
/Stephanie L. Winner/			
12/17/2018			
This document serves as an Oath/Declaration (37 CFR 1.63).			

Total Attachments: 4

PATENT REEL: 047798 FRAME: 0914

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PATENT REEL: 047798 FRAME: 0915

COMBINED DECLARATION (37 C.F.R. 1.63) AND ASSIGNMENT FOR UTILITY APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.B. 1.76) Title of Invention: A DIFFERENTIABLE RENDERING PIPELINE FOR INVERSE GRAPHICS

As a below name	1 and undersigned inventor, I b	ereby declare that:			
The declaration is	directed to the attached applic	cation, or (if following box is check	(ed).		
[United State	tes application of PCT interna	tional application number	, filed out		
The appropriate milit	ed application was made or as	nhorized to be made by me.			
r will and that I am i	be original inventor or an oni	ginal joint inventor of a claimed in	ivention in the application.		
	Lam anismed and understan	d the contents of the above-identi	fied application, incursing	72.11	
I acknowledge the d	uty to disclose information w	which is material to the patentabili	ty of this apparation in ac	Caran	
and the second second second	as Mantifical DV the Michael	ed certain new and useful improv Docket Number provided above			
For enod and valuable	e consideration, the receipt	and sufficiency of which is herel	oy acknowledged. I the ut	igetziäden m.	entor herroy
Corporation, 2788 San title and interest in any materials granted upon	n Tomas Expressway, Same y and all improvements and the information which is di	ation, a Delaware Corporation la Clara, Californio 5051, (herei inventions disclared in, applications of the above referenced	ution(s) based upon, and application.	Patent(s) (mc)	namg torergu
division(s) continuabe	n(s), substitues(s) or teres	Patents to issue any and all Lett ue(s) thereof to the ASSIGNER			
necessary in connection applications based there 4) Agree that the terms and other legal represent assigns.	on, and/or the enforcements, covenants and condition ative, and shall be binding	nd, entirely at the ASSIGNEE' aid application, as well as any at of patents resulting from such soft this assignment shall inugupon the inventor(s), as well	th applications. re to the benefit of the interest of the inventor's hairs	Assignee, its , legal repres	successors, assigns entatives and
with this assignment.		and will not enter into any a			
I hereby acknowledge tha imprisonment of not more	t any willful false statem than five (5) years, or b	ent made in this declaration oth.	is punishable under ¹⁸	(U.S.C. 100	1 by tine or
Signed on the date indicate	ed beside my signature				
Legal Name of Invent	ar: <u>Tzu-Mao Li</u>	71.77		8/	24/20
Signature:	<u> </u>		Date:		

		Page 1 of 1			

PATENT REEL: 047798 FRAME: 0916

COMBINED DECLARATION (37 C.F.R. 1.63) AND ASSIGNMENT FOR UTILITY APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76)

Title of Invention: A DIFFERENTIABLE RENDERING PIPELI	<u>INE FOR INVERSE GRAPHICS</u>
As a below named and undersigned inventor, I hereby declare that:	
This declaration is directed to the attached application, or (if following	ng box is checked):
[] United States application or PCT international application nu	
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	of a claimed invention in the application.
I hereby state that I have reviewed and understand the contents of the	e above-identified application, including the claims.
I acknowledge the duty to disclose information which is material to t CFR § 1.56.	he patentability of this application in accordance with Title 37,
Whereas, I the undersigned inventor have invented certain new and u application and further identified by the Attorney Docket Number pro-	
For good and valuable consideration, the receipt and sufficiency of w	which is hereby acknowledged, I the undersigned inventor hereb
1) Sell, assign and transfer to <u>NVIDIA Corporation</u> , a Delaware Corporation, 2788 San Tomas Expressway, Santa Clara, California 9 title and interest in any and all improvements and inventions disclose patents) granted upon the information which is disclosed in the above	5051, (hereinafter referred to as "ASSIGNEE"), the entire right d in, application(s) based upon, and Patent(s) (including foreign
2) Authorize and request the Commissioner of Patents to issue any division(s), continuation(s), substitutes(s) or reissue(s) thereof to the	and all Letters Patents resulting from said application or any ASSIGNEE.
3) Agree to execute all papers and documents and, entirely at the A necessary in connection with the prosecution of said application, as was applications based thereon, and/or the enforcement of patents resulting	vell as any derivative and applications thereof, foreign
4) Agree that the terms, covenants and conditions of this assignment and other legal representative, and shall be binding upon the inventor assigns.	nt shall inure to the benefit of the Assignee, its successors, assign (s), as well as the inventor's heirs, legal representatives and
5) Warrant and represent that I have not entered, and will not enter with this assignment.	into any assignment, contract, or understanding that conflicts
I hereby acknowledge that any willful false statement made in this de imprisonment of not more than five (5) years, or both.	claration is punishable under 18 U.S.C. 1001 by fine or
Signed on the date indicated beside my signature.	
Legal Name of Inventor: Marco Salvi	
Signature: Mores feez	Date: 8/27/2015
v	

COMBINED DECLARATION (37 C.F.R. 1.63) AND ASSIGNMENT FOR UTILITY APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76)

Title of Invention: A DIFFERENTIABLE RENDERING PIPELINE FOR INVERSE GRAPHICS As a below named and undersigned inventor, I hereby declare that: This declaration is directed to the attached application, or (if following box is checked): United States application or PCT international application number ________, filed on ______ 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. I hereby state that I have reviewed and understand the contents of the above-identified application, including the claims. I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37. CFR § 1.56. Whereas, I the undersigned inventor have invented certain new and useful improvements as set forth in the above-identified patent application and further identified by the Attorney Docket Number provided above in the header of this document. For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I the undersigned inventor hereby: 1) Sell, assign and transfer to NVIDIA Corporation, a Delaware Corporation having a place of business at c/o NVIDIA Corporation, 2788 San Tomas Expressway, Santa Clara, California 95051, (hereinafter referred to as "ASSIGNEE"), the entire right, title and interest in any and all improvements and inventions disclosed in, application(s) based upon, and Patent(s) (including foreign patents) granted upon the information which is disclosed in the above referenced application. 2) Authorize and request the Commissioner of Patents to issue any and all Letters Patents resulting from said application or any division(s), continuation(s), substitutes(s) or reissue(s) thereof to the ASSIGNEE. 3) Agree to execute all papers and documents and, entirely at the ASSIGNEE's expense, perform any acts which are reasonably necessary in connection with the prosecution of said application, as well as any derivative and applications thereof, foreign applications based thereon, and/or the enforcement of patents resulting from such applications. 4) Agree that the terms, covenants and conditions of this assignment shall inure to the benefit of the Assignee, its successors, assigns and other legal representative, and shall be binding upon the inventor(s), as well as the inventor's heirs, legal representatives and assigns. 5) Warrant and represent that I have not entered, and will not enter into any assignment, contract, or understanding that conflicts with this assignment, I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both. Signed on the date indicated beside my signature. Legal Name of Inventor: Jaakko T. Lehrinen

Page 1 of 1

COMBINED DECLARATION (37 C.F.R. 1.63) AND ASSIGNMENT FOR UTILITY APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76)

Title of Invention: A DIFFERENTIABLE RENDERING PIPELINE FOR INVERSE GRAPHICS

As a below named and undersigned inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

[X] United States application or PCT international application number 16/113,884, filed on August 27, 2018.

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.

I hereby state that I have reviewed and understand the contents of the above-identified application, including the claims,

I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, CFR § 1.56.

Whereas, I the undersigned inventor have invented certain new and useful improvements as set forth in the above-identified patent application and further identified by the Attorney Docket Number provided above in the header of this document.

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I the undersigned inventor hereby:

- 1) Sell, assign and transfer to NVIDIA Corporation, a Delaware Corporation having a place of business at c/o NVIDIA Corporation, 2788 San Tomas Expressway, Santa Clara, California 95051, (hereinafter referred to as "ASSIGNEE"), the entire right, title and interest in any and all improvements and inventions disclosed in, application(s) based upon, and Patent(s) (including foreign patents) granted upon the information which is disclosed in the above referenced application.
- 2) Authorize and request the Commissioner of Patents to issue any and all Letters Patents resulting from said application or any division(s), continuation(s), substitutes(s) or reissue(s) thereof to the ASSIGNEE.
- 3) Agree to execute all papers and documents and, entirely at the ASSIGNEE's expense, perform any acts which are reasonably necessary in connection with the prosecution of said application, as well as any derivative and applications thereof, foreign applications based thereon, and/or the enforcement of patents resulting from such applications.
- 4) Agree that the terms, covenants and conditions of this assignment shall inure to the benefit of the Assignee, its successors, assigns and other legal representative, and shall be binding upon the inventor(s), as well as the inventor's heirs, legal representatives and assigns.
- 5) Warrant and represent that I have not entered, and will not enter into any assignment, contract, or understanding that conflicts with this assignment.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Signed on the date indicated beside my signature.

Legal Name of Inv	ventor: Aar	on Eliot Lefol	m ,			
Signature:	7/6	A.A	-23,445	7	Destar	15/1/sm18
./161:010t.	//	<u> </u>		Communication of the second	Date:	

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PATENT REEL: 047798 FRAME: 0919