

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT6343398

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
MATTHEW EDMUND TAYLOR	07/30/2019
BILAL KARTAL	07/30/2019
PABLO FRANCISCO HERNANDEZ LEAL	07/30/2019
NATHAN DOUGLAS	07/31/2019
DIANNA YIM	07/31/2019
FRANK MAURER	07/30/2019
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	ROYAL BANK OF CANADA
<b>Street Address:</b>	200 BAY STREET, ROYAL BANK PLAZA
<b>Internal Address:</b>	6TH FLOOR, SOUTH TOWER
<b>City:</b>	TORONTO, ON
<b>State/Country:</b>	CANADA
<b>Postal Code:</b>	M5J 2J5
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16944420
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(416)216-3930
<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>	416-216-4000
<b>Email:</b>	dockettor@nortonrosefulbright.com
<b>Correspondent Name:</b>	NORTON ROSE FULBRIGHT CANADA LLP
<b>Address Line 1:</b>	1, PLACE VILLE MARIE
<b>Address Line 4:</b>	MONTREAL, QC, CANADA H3B 1R1
<b>ATTORNEY DOCKET NUMBER:</b>	05007268-204US
<b>NAME OF SUBMITTER:</b>	JEFFREY J. KANG
<b>SIGNATURE:</b>	/Jeffrey Kang/
<b>DATE SIGNED:</b>	10/09/2020

**Total Attachments: 9**

source=Assignment\_204USPR#page1.tif

source=Assignment\_204USPR#page2.tif

source=Assignment\_204USPR#page3.tif

source=Assignment\_204USPR#page4.tif

source=Assignment\_204USPR#page5.tif

source=Assignment\_204USPR#page6.tif

source=Assignment\_204USPR#page7.tif

source=Assignment\_204USPR#page8.tif

source=Assignment\_204USPR#page9.tif

**ASSIGNMENT (Worldwide)**

WHEREAS,

- (1) **Matthew Edmund TAYLOR** of Edmonton, AB, Canada;
- (2) **Bilal KARTAL** of Edmonton, AB, Canada;
- (3) **Pablo Francisco HERNANDEZ LEAL** of Edmonton, AB, Canada;
- (4) **Nathan DOUGLAS** of Calgary, AB, Canada;
- (5) **Dianna YIM** of Calgary, AB, Canada;
- (6) **Frank MAURER** of Calgary, AB, Canada;

hereinafter referred to, separately and collectively, as "ASSIGNORS", and whose full post office address is c/o Royal Bank of Canada, 6<sup>th</sup> Floor, North Wing, 1 Place Ville Marie, Montreal, Quebec, H3C 3A9, Canada, have made an invention relating to and entitled:

**DEVICES AND METHODS FOR REINFORCEMENT LEARNING VISUALIZATION USING IMMERSIVE ENVIRONMENTS**

hereinafter referred to as the Invention, which Invention is described for example in the appended draft patent application (which may have been provided to Assignors prior to execution of this Assignment), which Invention is to be filed as one or more applications for Letters Patent hereinafter referred to as the Applications;

AND WHEREAS, **ROYAL BANK OF CANADA**, a Canadian Chartered Bank hereinafter referred to as Assignee, whose full post office address is 6<sup>th</sup> Floor, North Wing, 1 Place Ville Marie, Montreal, Quebec H3C 3A9, Canada, desires among other things to acquire Assignors' entire right, title, interest and benefit for United States, Canada and all other countries and jurisdictions in and to the Invention and Application, or to confirm the ownership of such right, title, interest and benefit by Assignee;

NOW THEREFORE, in consideration of the sum of Five Dollars (\$5.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignors hereby confirm that they have sold, assigned, transferred and set over to Assignee and, for greater certainty, do hereby sell, assign, transfer and set over to Assignee, and to Assignee's successors, assigns, nominees or other legal representatives, their entire right, title, interest, property and benefit in and for United States, Canada and all other countries and jurisdictions in and to the Invention, together with their entire right, title, interest, property and benefit in and to the Application, and any previously- or subsequently-filed applications corresponding or otherwise relating thereto in any country or jurisdiction, including any and all

corresponding applications whether in the form of divisions, continuations, re-examinations, re-issues, extensions and other non-provisional applications, and national phases thereof, any and all Letters Patent and Registrations that may issue, be granted or result therefrom for the Invention, and any and all rights of priority resulting from the filing of the above-identified application, the said corresponding applications and any previously- or subsequently-filed applications in respect of the Invention under international conventions, treaties or otherwise, the same to be held and enjoyed as fully and exclusively as the same would have been held and enjoyed by Assignors had this sale, assignment, transfer and setting over not been made;

AND ASSIGNORS, on behalf of themselves and their heirs, executors and administrators, do hereby covenant and agree to do all such lawful acts and things and to execute and deliver without further consideration such further lawful assignments, instruments, assurances, applications and other documents as may reasonably be required by said Assignee, or by its successors, assigns, nominees, or other legal representatives, to obtain each said Letters Patent and Registrations of the United States and all other countries and jurisdictions for the Invention and vest or secure the same in Assignee, and in Assignee's successors, assigns, nominees or other legal representatives;

AND ASSIGNORS do hereby authorize any official whose duty it is to grant patents or registrations, to grant each said Letters Patent and Registration for the Invention to the Assignee, and to Assignee's successors, assigns, nominees or other legal representatives;

AND ASSIGNORS, on behalf of themselves and their heirs, executors and administrators, do hereby authorize said Assignee, its successors, assigns, nominees or other legal representatives, including its Patent Agents, Norton Rose Fulbright Canada LLP, to amend the present assignment document to insert or correct the filing date, serial number or other identifying information of the Application as may be needed to record same.

ASSIGNORS UNDERSTAND AND AGREE that the attorneys and agents of the law firm of Norton Rose Fulbright Canada LLP do not personally represent Assignors or Assignors' legal interests, but instead represent the interests of Assignee. Since Norton Rose Fulbright Canada LLP cannot provide legal advice to Assignors with respect to this Assignment, Assignors acknowledge their right to seek their own independent legal counsel.

THIS ASSIGNMENT may be executed in counterparts, all of which shall be considered one and the same agreement. This Assignment shall be effective to transfer an Assignors' entire right, title, interest, property, and benefit to Assignee upon execution of this Assignment by such Assignors, regardless of whether any other Assignor executes this Agreement.

IN WITNESS WHEREOF, Assignors have hereunto signed their names on the day and year set forth below.

DATED this 30 day of July, 2019.

**Matthew Edmund TAYLOR**

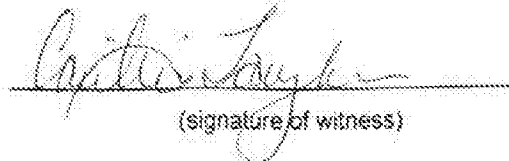


**STATEMENT OF WITNESS**

I, Carlton Taylor, state that I was personally present and did see  
(name of witness)

Matthew Edmund TAYLOR, who is personally known to me to be the person  
(name of inventor)

named in the above assignment, duly execute the same on the day and year set forth above.

  
(signature of witness)

DATED this 30th day of July, 2019.

**Bilal KARTAL**

Bilal Kartal

**STATEMENT OF WITNESS**

I, Nidhi HEGDE, state that I was personally present and did see  
(name of witness)

Bilal KARTAL who is personally known to me to be the person  
(name of inventor)

named in the above assignment, duly execute the same on the day and year set forth above.

Nidhi Hegde  
(signature of witness)

DATED this 30 day of July, 2019.

**Pablo Francisco HERNANDEZ LEAL**

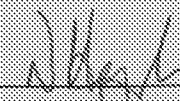
  
\_\_\_\_\_

**STATEMENT OF WITNESS**

I, Nidhi Hegde, state that I was personally present and did see  
(name of witness)

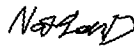
Pablo Francisco HERNANDEZ LEAL, who is personally known to me to be the person  
(name of inventor)

named in the above assignment, duly execute the same on the day and year set forth above.

  
\_\_\_\_\_  
(signature of witness)

DATED this 31 day of July, 2019.

**Nathan DOUGLAS**

  
\_\_\_\_\_

**STATEMENT OF WITNESS**

I, Dianna Yim, state that I was personally present and did see  
(name of witness)

Nathan DOUGLAS, who is personally known to me to be the person  
(name of inventor)

named in the above assignment, duly execute the same on the day and year set forth above.

  
\_\_\_\_\_

(signature of witness)



DATED this 31 day of July, 2019.

**Dianna YIM**

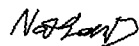


**STATEMENT OF WITNESS**

I, Nathan Douglas, state that I was personally present and did see  
(name of witness)

Dianna YIM, who is personally known to me to be the person  
(name of inventor)

named in the above assignment, duly execute the same on the day and year set forth above.



(signature of witness)

DATED this 30 day of July, 2019.

**Frank MAURER**

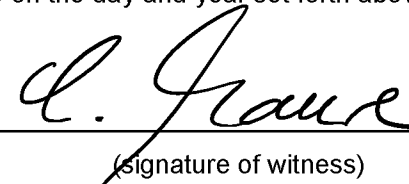
  
\_\_\_\_\_

**STATEMENT OF WITNESS**

I, Claudia Maurer, state that I was personally present and did see  
(name of witness)

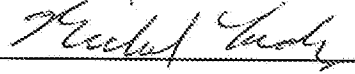
Frank MAURER, who is personally known to me to be the person  
(name of inventor)

named in the above assignment, duly execute the same on the day and year set forth above.

  
\_\_\_\_\_  
(signature of witness)

DATED this 1 day of August, 2019.

ROYAL BANK OF CANADA



Michael Ladanyi

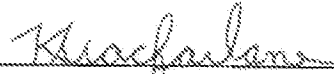
Senior Counsel

**STATEMENT OF WITNESS**

I, Kathleen Macfarlane, state that I was personally present and did see  
(name of witness)

Michael Ladanyi, who is personally known to me to be the person  
(name of signatory)

named in the above assignment, duly execute the same on the day and year set forth above.



(signature of witness)