

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
Vincent Xue	09/30/2019
Justin Michael Jenson	09/30/2019
AMY E. KEATING	09/27/2019
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	MASSACHUSETTS INSTITUTE OF TECHNOLOGY
<b>Street Address:</b>	77 MASSACHUSETTS AVENUE
<b>City:</b>	CAMBRIDGE
<b>State/Country:</b>	MASSACHUSETTS
<b>Postal Code:</b>	02142-1324
<b>PROPERTY NUMBERS Total: 3</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16573881
<b>Application Number:</b>	62732518
<b>PCT Number:</b>	US1951410
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(877)769-7945
<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>	+1 (617) 956-5929
<b>Email:</b>	apsi@fr.com
<b>Correspondent Name:</b>	BETTINA M. LENGSFELD
<b>Address Line 1:</b>	FISH & RICHARDSON P.C.
<b>Address Line 2:</b>	P.O.BOX 1022
<b>Address Line 4:</b>	MINNEAPOLIS, MINNESOTA 55440-1022
<b>ATTORNEY DOCKET NUMBER:</b>	39076-0007001
<b>NAME OF SUBMITTER:</b>	CHRISTINE M. GRACE
<b>SIGNATURE:</b>	/Christine M. Grace/
<b>DATE SIGNED:</b>	12/09/2019
<b>Total Attachments: 5</b>	

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# ASSIGNMENT

For valuable consideration, the receipt of which we acknowledge, and intending to be bound legally, we, VINCENT XUE, JUSTIN MICHAEL JENSON, and AMY E. KEATING, each individually assigns to MASSACHUSETTS INSTITUTE OF TECHNOLOGY, a corporation formed under the laws of Massachusetts and having a principal place of business at 77 Massachusetts Avenue, Cambridge, MA 02142-1324, and its successors, transferees, and assignees (collectively the "Assignee"), all of our individual and joint right, title, and interest throughout the world in the invention(s) (the "Subject Matter") described in a patent application that names us as inventors, filed in the United States Patent and Trademark Office on September 17, 2018, as application 62/732,518; on September 17, 2019, as application 16/573,881; and on September 17, 2019, as application PCT/US2019/051410 (the "Application").

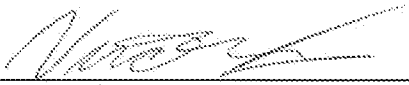
This Assignment assigns, in addition to the Subject Matter described in the Application, (a) the Application and all other applications that may be made for, and all patents, utility models, design registrations, and other rights of exclusion and inventors' certificates for, any of the Subject Matter (collectively the "Applications and Granted Rights") in every country or region and under every treaty or convention, (b) the right to claim priority based on and the benefit of the filing date of any of the Applications and Granted Rights under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other applicable treaties or conventions, and (c) the right to pursue, collect, and retain in the Assignee's name or otherwise, damages and any other remedies arising from any past, present, or future infringement of the Subject Matter, the Applications and Granted Rights, and any other rights assigned by this Assignment.

We authorize the Assignee to apply for and pursue protection for any or all of the Subject Matter, the Applications and Granted Rights, and any other rights assigned by this Assignment in all countries, regions, and territories of the world, in our names or in the Assignee's name.

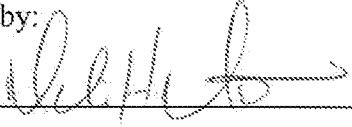
We represent and warrant that we have the right and power to make this Assignment and that we have not made and will not make any other assignment that conflicts with this Assignment.

We will communicate to the Assignee (or, at the request of the Assignee to other parties) all known facts in any form relating to the Subject Matter; will execute and provide all oaths and

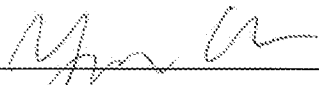
declarations, statements, testimony, assignments, powers of attorney, applications, and documents; and will perform all other lawful acts necessary or desirable to secure fully to the Assignee the rights, titles, and interests assigned by this Assignment. We each confirm that we were obligated to make this Assignment to our employer at the time of the filing of the Application.

  
 \_\_\_\_\_  
 Vincent Xue

Date: 9/30/2019

Witnessed by:  
 Signature:   
 \_\_\_\_\_  
 Print Name: Melissa H. Martin

Date: 9/30/2019

Signature:   
 \_\_\_\_\_  
 Print Name: Yoonjong Cha

Date: 9/30/2019

\_\_\_\_\_  
 Justin Michael Jenson

Date: \_\_\_\_\_

Witnessed by:  
 Signature: \_\_\_\_\_  
 \_\_\_\_\_  
 Print Name: \_\_\_\_\_

Date: \_\_\_\_\_

Signature: \_\_\_\_\_  
 \_\_\_\_\_  
 Print Name: \_\_\_\_\_

Date: \_\_\_\_\_

declarations, statements, testimony, assignments, powers of attorney, applications, and documents; and will perform all other lawful acts necessary or desirable to secure fully to the Assignee the rights, titles, and interests assigned by this Assignment. We each confirm that we were obligated to make this Assignment to our employer at the time of the filing of the Application.

\_\_\_\_\_  
 Vincent Xue Date: \_\_\_\_\_

Witnessed by:

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

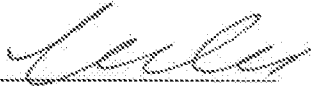
Print Name: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name: \_\_\_\_\_

  
 Justin Michael Jensen Date: 9/30/2019

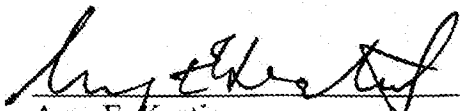
Witnessed by:

Signature:  Date: 9/30/2019

Print Name: Tuoli

Signature:  Date: 9/30/2019

Print Name: Fanghe Du

  
Amy E. Keating

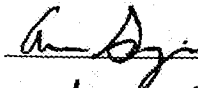
Date: 9.27.19

Witnessed by:

Signature: 

Date: 9-27-19

Print Name: Sebastian Swanson

Signature: 

Date: 9/27/19

Print Name: Annam Singer

The Assignee hereby acknowledges and accepts the foregoing assignment.

Assignee: MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Signature: Jonathan Hearn Date: 9/19/19

Name: Jonathan Hearn

Title: MIT Intellectual Property Officer

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