

## 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>
THE TRUSTEES OF COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK	02/17/2017
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	SONY CORPORATION
<b>Street Address:</b>	1-7-1 KONAN, MINATO-KU
<b>City:</b>	TOKYO
<b>State/Country:</b>	JAPAN
<b>PROPERTY NUMBERS Total: 2</b>	
<b>Property Type</b>	<b>Number</b>
<b>Patent Number:</b>	9100514
<b>Patent Number:</b>	8934034
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(312)419-9440
<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>	312 380 6497
<b>Email:</b>	pvizitiu@deninemeyer-law.com
<b>Correspondent Name:</b>	ROXANA A. SULLIVAN
<b>Address Line 1:</b>	2 NORTH RIVERSIDE PLAZA, SUITE 1500
<b>Address Line 4:</b>	CHICAGO, ILLINOIS 60606
<b>ATTORNEY DOCKET NUMBER:</b>	30100-103246PT
<b>NAME OF SUBMITTER:</b>	ROXANA A. SULLIVAN
<b>SIGNATURE:</b>	/ras/
<b>DATE SIGNED:</b>	06/22/2017
<b>Total Attachments: 4</b>	
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## ASSIGNMENT OF PATENT

U.S. Patent Nos.: 9100514; 8934034

For good and valuable consideration in hand paid, the receipt and sufficiency whereof are hereby acknowledged, **THE TRUSTEES OF COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK**, a private, nonsectarian, nonprofit institution of higher education organized under the laws of New York, having an address at **412 Low Memorial Library, 535 West 116th Street, Mail Code 4308, New York, NY 10027, United States of America**


(Assignor), hereby sells, assigns, transfers and sets over to **Sony Corporation** a corporation organized under the laws of Japan, having an address at **1-7-1 Konan, Minato-ku, Tokyo, Japan**

(Assignee) and to the successors and assigns of Assignee, the entire right, title and interest in the invention of the undersigned disclosed in U.S. Patent No. **9100514**, entitled "METHODS AND SYSTEMS FOR CODED ROLLING SHUTTER"; and U.S. Patent No. **8934034**, entitled "GENERALIZED ASSORTED PIXEL CAMERA SYSTEMS AND METHODS" ; THEREOF, and in said patents and any and all other applications, both United States and foreign, which the undersigned may have filed and/or may file, either solely or jointly with others, on said inventions in any United States or foreign patent application claiming priority from, or claiming the same invention as, any or all of the applications upon which said U.S. Patents issued, and in any and all Letters Patent or industrial models of the United States and foreign countries which may be obtained on any of said applications and in any reissue or extension of such patents, for the full term or terms for which said Patent, Patents or Industrial Design are or may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by Assignor had this assignment and sale not been made; together with all claims for damages by reason of past infringement of any or all of said Patents with the right to sue for and collect the same.

Assignor further covenants that Assignee will, upon its request and at the expense of Assignee, be provided promptly with all pertinent facts and documents relating to said inventions and said Letters Patents and legal equivalents as may be known and accessible to Assignor and will promptly execute or have executed, to the best of its ability, and deliver to Assignee or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, or issue any and all of said applications, said inventions and said letters patent and foreign equivalents thereof which may be necessary or desirable to carry out the purposes thereof.

**THE TRUSTEES OF COLUMBIA  
UNIVERSITY IN THE CITY OF NEW YORK**

2/17/12  
Date

  
By: Orr Herskowitz  
Executive Director  
(Assignor) VP of Intellectual Property  
And Technology Transfer  
Columbia Technology Ventures

# COLUMBIA UNIVERSITY

IN THE CITY OF NEW YORK

OFFICE OF THE SECRETARY

## CERTIFICATE OF THE SECRETARY

At a meeting of the Trustees of Columbia University in the City of New York, held at the IBM Executive Conference Center in Palisades, New York, on the fifth day of March two thousand and five, the following action was taken:

### Extract from the Minutes

RESOLVED, that subject to the requirements of the By-laws and the Statutes and such other restrictions as the Trustees may impose from time to time, the Trustees hereby authorize the officers listed below to execute in the name of and on behalf of the University all contracts, leases, deeds, assignments, agreements, orders or other instruments subject to the prescriptions set forth below:

#### **The Senior Executive Vice President**

The Senior Executive Vice President of the University shall be authorized to execute in the name of and on behalf of the University all contracts, leases, deeds, assignments, agreements, orders or other instruments other than contracts, agreements and other documents related to faculty and academic affiliation matters. Such authority shall be delegable to other officers without further approval.

RESOLVED, further that, all delegations of authority pursuant to the above resolutions shall be made in writing, subject to annual renewal and to such other restrictions as the delegating officer believes appropriate. All such delegations shall promptly be reported in writing to the Secretary of the University. To the extent any officer receives a delegation of authority from an officer authorized above to delegate such authority and not directly from the Trustees, any further delegation shall be approved by the senior officer who initially delegated such authority. Only the President, the Provost and any Executive Vice President or Vice President may delegate authority.

RESOLVED, further that, the resolutions set forth above shall take effect on April 1, 2005.

(continued)

Extract from the Minutes  
March 5, 2005  
Page two

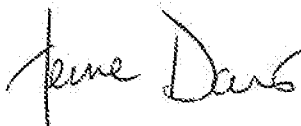
RESOLVED, further that, effective July 1, 2005 all previous resolutions granting signature authority shall expire and all officers previously authorized under the Statutes or by resolution of the Trustees to execute any documents in the name of and on behalf of the University shall not after such date be so authorized except as provided above or by specific delegation made in accordance with the above resolutions. Nothing in these resolutions shall affect the validity of any action taken by an authorized officer prior to July 1, 2005.

RESOLVED, further that, the President, the Provost and the Senior Executive Vice President and such other officers as they may designate are hereby authorized and instructed to take such actions as may be required or desirable to implement the resolutions set forth above.

These resolutions remains in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand this thirteenth day of March 2008.

THE TRUSTEES OF COLUMBIA UNIVERSITY  
IN THE CITY OF NEW YORK

A handwritten signature in cursive script, appearing to read "Jerome Davis".

Jerome Davis  
Secretary of the University

A TRUE COPY

COLUMBIA UNIVERSITY  
IN THE CITY OF NEW YORK

OFFICE OF THE SENIOR EXECUTIVE VICE PRESIDENT

As of July 1, 2016

Mr. Orin Herskowitz  
Executive Director, Columbia Technology Ventures  
Vice President of Intellectual Property and Technology Transfer  
Columbia University  
80 Claremont Avenue, MC 9606  
New York, NY 10027

Re: Renewal of Delegation of Authority to Sign Documents on behalf of Columbia University

Dear Orin:

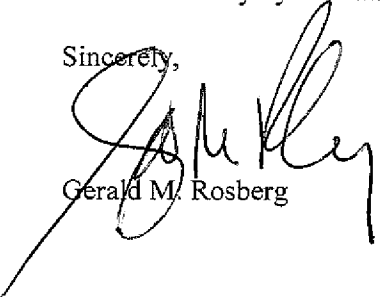
This letter will confirm that your authority to sign in the name of and on behalf of Columbia University certain contracts, agreements, documents and other instruments between the University and third parties (collectively, "External Documents") as described in the letter dated July 10, 2007 and most recently renewed by letter dated as of July 1, 2015 has been renewed for the period July 1, 2016 through June 30, 2017. This letter does not address your authority to sign internal authorizations and approvals (DAF).

This authorization is subject to approval of any transaction as required by the University Statutes and Bylaws, any other restrictions imposed by the Trustees, and such additional requirements as set forth in this letter or as I or the President of the University may prescribe from time to time in writing or otherwise.

You may sub-delegate this authority to other responsible members of your staff. If there is further sub-delegation from you regarding the authority described in the letter dated July 10, 2007 it must be made in writing subject to my written approval. It will be necessary for you to renew such sub-delegation annually in writing, approved by me.

This delegation shall remain in full force and effect for the above specified period unless revoked by me or my successor in writing, by action of the University Trustees, the University President or automatically by termination of your employment.

Sincerely,



Gerald M. Rosberg

cc: Jerome Davis, Secretary  
Jane Booth, General Counsel  
Barbara Hough, Vice President, Controller and Treasurer