

<b>PATENT ASSIGNMENT COVER SHEET</b>
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EPAS ID: PAT5301228

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
EVOLUTION ROBOTICS, INC.	05/22/2013
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	iRobot Corporation
<b>Street Address:</b>	8 Crosby Drive
<b>City:</b>	Bedford
<b>State/Country:</b>	MASSACHUSETTS
<b>Postal Code:</b>	01730
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15642226
<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>	(617) 542-5070
<b>Email:</b>	jhr@fr.com
<b>Correspondent Name:</b>	REX I. HUANG
<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>	09945-0280004
<b>NAME OF SUBMITTER:</b>	REX I. HUANG
<b>SIGNATURE:</b>	/Rex I. Huang/
<b>DATE SIGNED:</b>	12/27/2018
<b>Total Attachments: 8</b>	
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ASSIGNMENT

WHEREAS, Evolution Robotics, Inc., a Delaware corporation having offices at 1055 E. Colorado Blvd., #340, Pasadena, CA 91106 (hereinafter "ASSIGNOR"), represents and warrants that it is the sole owner of the entire right, title, and interest to certain new and useful improvements for which ASSIGNOR has United States and foreign issued Letters Patents and applications for Letters Patents in the United States and other countries, as listed in Appendix A (hereinafter "the Patents and Patent Applications");

WHEREAS, iRobot Corporation, a Delaware corporation having offices at 8 Crosby Drive Bedford, MA 01730 (hereinafter "ASSIGNEE") desires to purchase the entire right, title, and interest in and to the inventions disclosed in the Patents and Patent Applications;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) to ASSIGNOR, and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby further acknowledges that it has sold, assigned, and transferred, and by these presents does hereby sell, assign, and transfer, unto ASSIGNEE, its successors, legal representatives, and assigns, the entire right, title, and interest throughout the world in, to, and under the said improvements, and the said Patents and Patent Applications and all Patents that may be granted thereon, and all provisional applications relating thereto, and all divisions, continuations, reissues, reexaminations, renewals, and extensions thereof, and all rights of priority under International Conventions and applications for Letters Patent that may hereafter be filed for said improvements or for the said Patents and Patent Applications in any country or countries foreign to the United States; and ASSIGNOR hereby authorizes and requests the Commissioner of Patents of the United States, and any Official of any country foreign to the United States, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patents for said improvements and all Letters Patents resulting from the Patents and Patent Applications to ASSIGNEE, its successors, legal representatives, and assigns, in accordance with the terms of this Agreement.

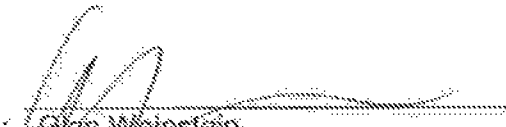
ASSIGNOR does hereby sell, assign, transfer, and convey to ASSIGNEE, its successors, legal representatives, and assigns all claims for damages and all remedies arising out of any violation of the rights assigned hereby that may have accrued prior to the date of assignment to ASSIGNEE, or may accrue hereafter, including, but not limited to, the right to sue for, collect, and retain damages for past infringements of the Letters Patents before or after issuance;

ASSIGNOR hereby covenants and agrees that it will communicate to ASSIGNEE, its successors, legal representatives, and assigns any facts known to ASSIGNOR respecting the Patents and Patent Applications immediately upon becoming aware of those facts, and that it will testify in any legal proceeding involving any of the Patents and Patent Applications, will sign all lawful papers, execute all divisional, continuing, and reissue applications, make all rightful oaths, and will generally do everything possible to aid ASSIGNEE, its successors, legal representatives, and assigns to obtain and enforce the Patents and Patent Applications in all countries.

IN WITNESS WHEREOF, Assignor has caused this Assignment to be signed in Assignor's name, with this Assignment effective as to Assignor as of the date of execution thereof.

FOR ASSIGNOR:  
EVOLUTION ROBOTICS, INC.

FOR ASSIGNEE:  
IROBOT CORPORATION

By:   
Name: Glen Weinstein  
Title: EVP and Chief Legal Officer  
Date: 5-22-13


By:   
Name: Glen Weinstein  
Title: EVP and Chief Legal Officer  
Date: 5-22-13

EXHIBIT A

Patents

ISSUED PATENTS

Title	Country	Patent No.	Issue Date
HARDWARE ABSTRACTION LAYER FOR A ROBOT	US	6889118	03-May-2005
HARDWARE ABSTRACTION LAYER (HAL) FOR A ROBOT	US	7076336	11-Jul-2006
HARDWARE ABSTRACTION LAYER (HAL) FOR A ROBOT	US	7302312	27-Nov-2007
HARDWARE ABSTRACTION LAYER (HAL) FOR A ROBOT	US	7925381	12-Apr-2011
SENSOR AND ACTUATOR ABSTRACTION AND AGGREGATION IN A HARDWARE ABSTRACTION LAYER FOR A ROBOT	KR	10-0980793	01-Sep-2010
PRESSURE SENSOR SYSTEMS AND METHODS FOR USE IN ROBOTIC DEVICES	US	6606540	12-Aug-2003
SYSTEMS AND METHODS FOR THE AUTOMATED SENSING OF MOTION IN A MOBILE ROBOT USING VISUAL DATA	US	7162056	09-Jan-2007
SYSTEMS AND METHODS FOR LANDMARK GENERATION FOR VISUAL SIMULTANEOUS LOCALIZATION AND MAPPING	US	7774158	10-Aug-2010
SYSTEMS AND METHODS FOR FILTERING POTENTIALLY UNRELIABLE VISUAL DATA FOR VISUAL SIMULTANEOUS LOCALIZATION AND MAPPING	US	8150650	03-Apr-2012
SYSTEMS AND METHODS FOR ADDING LANDMARKS FOR VISUAL SIMULTANEOUS LOCALIZATION AND MAPPING	US	8086419	27-Dec-2011
SYSTEMS AND METHODS FOR DETERMINING WHETHER TO ADD A LANDMARK FOR VISUAL SIMULTANEOUS LOCALIZATION AND MAPPING	US	8095338	10-Jan-2012
SYSTEMS AND METHODS FOR FILTERING POTENTIALLY UNRELIABLE VISUAL DATA FOR VISUAL SIMULTANEOUS LOCALIZATION AND MAPPING	US	7272467	18-Sep-2007
SYSTEMS AND METHODS FOR INCREMENTALLY UPDATING A POSE OF A MOBILE DEVICE CALCULATED BY VISUAL SIMULTANEOUS LOCALIZATION AND MAPPING TECHNIQUES	US	7015831	21-Mar-2006
SYSTEMS AND METHODS FOR CORRECTION OF DRIFT VIA GLOBAL LOCALIZATION WITH A VISUAL LANDMARK	US	7177737	13-Feb-2007
SYSTEMS AND METHODS FOR USING MULTIPLE HYPOTHESES IN A VISUAL SIMULTANEOUS LOCALIZATION AND MAPPING SYSTEM	US	7135992	14-Nov-2006
SYSTEMS AND METHODS FOR USING MULTIPLE HYPOTHESES IN A VISUAL SIMULTANEOUS LOCALIZATION AND MAPPING SYSTEM	US	7679532	16-Mar-2010
SYSTEMS AND METHODS FOR CONTROLLING A DENSITY OF VISUAL LANDMARKS IN A VISUAL SIMULTANEOUS LOCALIZATION AND MAPPING	US	7145478	05-Dec-2006
SYSTEMS AND METHODS FOR CONTROLLING A DENSITY OF VISUAL LANDMARKS IN A VISUAL SIMULTANEOUS LOCALIZATION AND MAPPING	US	7573403	11-Aug-2009

Title	Country	Patent No.	Issue Date
SYSTEMS AND METHODS FOR COMPUTING A RELATIVE POSE FOR GLOBAL LOCALIZATION IN A VISUAL SIMULTANEOUS LOCALIZATION AND MAPPING SYSTEM	US	7162338	09-Jan-2007
COMPUTER AND VISION-BASED AUGMENTED INTERACTION IN THE USE OF PRINTED MEDIA	US	7283983	16-Oct-2007
METHODS AND APPARATUS FOR POSITION ESTIMATION USING REFLECTED LIGHT SOURCES	US	7720554	18-May-2010
METHODS AND APPARATUS FOR POSITION ESTIMATION USING REFLECTED LIGHT SOURCES	US	7996097	09-Aug-2011
METHODS AND APPARATUS FOR POSITION ESTIMATION USING REFLECTED LIGHT SOURCES	US	8295955	23-Oct-2012
APPARATUS FOR HOLDING A CLEANING SHEET IN A CLEANING IMPLEMENT	US	8316499	27-Nov-2012
CIRCUIT FOR ESTIMATING POSITION AND ORIENTATION OF A MOBILE OBJ	US	7148458	12-Dec-2006
SYSTEM AND METHOD OF INTEGRATING OPTICS INTO AN IC PACKAGE	US	7535071	19-May-2009
ROBUST SENSOR FUSION FOR MAPPING AND LOCALIZATION IN A SIMULTANEOUS LOCALIZATION AND MAPPING (SLAM) SYSTEM	US	7669321	30-Mar-2010
VISION-ENABLED HOUSEHOLD APPLIANCES	US	7903838	08-Mar-2011
VISION-ENABLED HOUSEHOLD APPLIANCES	US	8229161	24-Jul-2012
SYSTEMS AND METHODS FOR USING MULTIPLE HYPOTHESES IN A VISUAL SIMULTANEOUS LOCALIZATION AND MAPPING SYSTEM	US	8274406	25-Sep-2012

### PENDING APPLICATIONS

Title	Country	Pub. No.	App. No.	Filing/ Pub. Date
HARDWARE ABSTRACTION LAYER (HAL) FOR A ROBOT	US	2012/0041592 A1	13/084350	11-Apr-2011 16-Feb-2012
METHODS AND APPARATUS FOR POSITION ESTIMATION USING REFLECTED LIGHT SOURCES	US		13/651080	12-Oct-2012
METHOD AND APPARATUS FOR POSITION ESTIMATION USING REFLECTED LIGHT SOURCES	GERMANY		112005000738.3	25-Mar-2005
METHOD AND APPARATUS FOR POSITION ESTIMATION USING REFLECTED LIGHT SOURCES	JAPAN		2007-506413	25-Mar-2005
METHODS AND SYSTEMS FOR COMPLETE COVERAGE OF A SURFACE BY AN AUTONOMOUS ROBOT	US	2011/0167574 A1	12/940871	05-Nov-2010 14-Jul-2011

Title	Country	Pub. No.	App. No.	Filing/ Pub. Date
METHODS AND SYSTEMS FOR COMPLETE COVERAGE OF A SURFACE BY AN AUTONOMOUS ROBOT	BRAZIL		Unassigned [PCT/US2010/055740]	05-Nov-2010
METHODS AND SYSTEMS FOR COMPLETE COVERAGE OF A SURFACE BY AN AUTONOMOUS ROBOT	CHINA	CN 102713779 A	201080058150.1	05-Nov-2010 03-Oct-2012
METHODS AND SYSTEMS FOR COMPLETE COVERAGE OF A SURFACE BY AN AUTONOMOUS ROBOT	EPC	2496995	10829201.2	05-Nov-2010 12-Sep-2012
METHODS AND SYSTEMS FOR COMPLETE COVERAGE OF A SURFACE BY AN AUTONOMOUS ROBOT	JAPAN		2012-538055	05-Nov-2010
METHODS AND SYSTEMS FOR COMPLETE COVERAGE OF A SURFACE BY AN AUTONOMOUS ROBOT	RUSSIAN FEDERATION		2012122469	05-Nov-2010
LOCALIZATION BY LEARNING OF WAVE-SIGNAL DISTRIBUTIONS	US	2011/0125323 A1	12/940937	05-Nov-2010 28-May-2011
APPLICATION OF LOCALIZATION, POSITIONING & NAVIGATION SYSTEMS FOR ROBOTIC ENABLED MOBILE PRODUCTS	US	2009/0281661 A1	12/429963	24-Apr-2009 12-Nov-2009
APPLICATION OF LOCALIZATION, POSITIONING & NAVIGATION SYSTEMS FOR ROBOTIC ENABLED MOBILE PRODUCTS	BRAZIL		PI0910450-0	24-Apr-2009
ROBOTIC FLOOR CLEANING APPARATUS WITH SHELL CONNECTED TO THE CLEANING ASSEMBLY AND SUSPENDED OVER THE DRIVE SYSTEM	US	2011/0153081 A1	12/976786	22-Dec-2010 23-Jun-2011
ARTICULATED JOINT AND THREE AREAS OF CONTACT	US	2011/0160903 A1	12/976698	22-Dec-2010 30-Jun-2011
APPLICATION OF LOCALIZATION, POSITIONING & NAVIGATION SYSTEMS FOR ROBOTIC ENABLED MOBILE PRODUCTS	CHINA	CN 102083352 A	200980124250.3	24-Apr-2009 01-Jun-2011
APPLICATION OF LOCALIZATION, POSITIONING & NAVIGATION SYSTEMS FOR ROBOTIC ENABLED MOBILE PRODUCTS	EPC	2303085	09734436.0	24-Apr-2009 06-Apr-2011

Title	Country	Pub. No.	App. No.	Filing/ Pub. Date
APPLICATION OF LOCALIZATION, POSITIONING & NAVIGATION SYSTEMS FOR ROBOTIC ENABLED MOBILE PRODUCTS	INDIA		8256/DELNP/2010	24-Apr-2009
APPLICATION OF LOCALIZATION, POSITIONING & NAVIGATION SYSTEMS FOR ROBOTIC ENABLED MOBILE PRODUCTS	KOREA		10-2010-7026278	24-Apr-2009
MOBILE ROBOT FOR CLEANING	US	2011/0202175 A1	12/930260	30-Dec-2010 18-Aug-2011
APPARATUS FOR HOLDING A CLEANING SHEET IN A CLEANING IMPLEMENT	US		13/685478	26-Nov-2012
SYSTEM FOR LOCALIZATION AND OBSTACLE DETECTION USING A COMMON RECEIVER	US	2011/0166707 A1	12/985194	05-Jan-2011 07-Jul-2011
SYSTEMS AND METHODS FOR VSLAM OPTIMIZATION	US	2012/0121161 A1	13/244221	23-Sep-2011 17-May-2012
SYSTEMS AND METHODS FOR VSLAM OPTIMIZATION	AUSTRALIA		Unassigned [PCT/US2011/053122]	28-Mar-2013
SYSTEMS AND METHODS FOR VSLAM OPTIMIZATION	CANADA		Unassigned [PCT/US2011/053122]	22-Mar-2013
SYSTEMS AND METHODS FOR VSLAM OPTIMIZATION	EPC		11827663.3	23-Apr-2013
SYSTEMS AND METHODS FOR VSLAM OPTIMIZATION	JAPAN		Unassigned [PCT/US2011/053122]	25-Mar-2013
SYSTEM AND METHOD FOR AUTONOMOUS MOPPING OF A FLOOR SURFACE	US		12/928965 23-Dec-2010	
DEBRIS GUARD FOR A WHEEL ASSEMBLY	US	2012/0267943 A1	13/455353	25-Apr-2012 25-Oct-2012
MOPPING ASSEMBLY FOR A MOBILE ROBOT	US		13/495912	13-Jun-2012
METHODS AND SYSTEMS FOR OBSTACLE DETECTION USING STRUCTURED	US		11/584355	20-Oct-2006
SYSTEM AND METHOD FOR MANAGING SEARCH RESULTS INCLUDING GRAPHICS	US		13/615381	13-Sep-2012
SCALING VECTOR FIELD SLAM TO LARGE ENVIRONMENTS	PCT		PCT/US2012/064553	09-Nov-2012
WALL FOLLOWING SYSTEM	US		61/657357	08-Jun-2012
CARPET DRIFT ESTIMATION USING DIFFERENTIAL SENSORS AND VISUAL MEASUREMENTS	US		61/657399	08-Jun-2012
ROBOTIC GAME SYSTEMS AND METHODS	US	2009/0081923 A1	12/234565	19-Sep-2008 26-Mar-2009
TRANSFERABLE INTELLIGENT	US	2009/0082879 A1	12/234543	19-Sep-2008



Title	Country	Pub. No.	App. No.	Filing/ Pub. Date
CONTROL DEVICE				26-Mar-2009
SYSTEMS AND METHODS FOR USING MULTIPLE HYPOTHESES IN A VISUAL SIMULTANEOUS LOCALIZATION AND MAPPING SYSTEM	US	2013/0006420 A1	13/615174	13-Sep-2012 03-Jan-2013

**INACTIVE/ABANDONED/EXPIRED APPLICATIONS**

Title	Country	App. No.	Filing Date
ROBOT CONTROL ARCHITECTURE	US	60/334142	28-Nov-2001
ROBOT CONTROL ARCHITECTURE	US	60/355624	08-Feb-2002
ROBOT CONTROL ARCHITECTURE	US	60/374309	19-Apr-2002
SENSOR AND ACTUATOR ABSTRACTION AND AGGREGATION IN HARDWARE ABSTRACTION LAYER FOR A ROBOT	JAPAN	2003-547121	27-Nov-2002
SENSOR AND ACTUATOR ABSTRACTION AND AGGREGATION IN A HARDWARE ABSTRACTION LAYER FOR A ROBOT	PCT	PCT/US2002/038280	27-Nov-2002
METHODS AND SYSTEMS FOR CHARGING A ROBOTIC APPARATUS	US	60/355728	08-Feb-2002
SYSTEMS AND METHODS FOR CONFIGURING THE BEHAVIOR OF A ROBOT VIA A USER INTERFACE	US	60/382504	21-May-2002
SYSTEMS AND METHODS FOR CONFIGURING THE BEHAVIOR OF A ROBOT VIA A USER INTERFACE	US	60/405854	22-Aug-2002
VISUAL STOP AND COLLISION DETECTION	US	60/404348	16-Aug-2002
SYSTEMS AND METHODS FOR THE AUTOMATED SENSING OF MOTION IN A MOBILE ROBOT USING VISUAL DATA	PCT	PCT/US2003/025666	15-Aug-2003
METHODS AND SYSTEMS FOR IMAGE RECOGNITION OF HAND-DRAWN	US	60/439039	09-Jan-2003
VISUAL LOCALIZATION AND MAPPING FOR ROBOTICS	US	60/434269	17-Dec-2002
VISUAL LOCALIZATION AND MAPPING	US	60/439049	09-Jan-2003
SYSTEMS AND METHODS FOR VISUAL SIMULTANEOUS LOCALIZATION AND MAPPING	US	PCT/US2003/039996	17-Dec-2003
COMPUTER AND VISION-BASED AUGMENTED INTERACTION IN THE USE OF PRINTED MEDIA	US	60/439050	09-Jan-2003
COMPUTER AND VISION-BASED AUGMENTED INTERACTION IN THE USE OF PRINTED MEDIA	PCT	PCT/US2004/000414	09-Jan-2004
VISION-BASED PROGRAMMING OF MOBILE ROBOTS	US	10/754917	09-Jan-2004
VISION- AND ENVIRONMENT-BASED PROGRAMMING OF ROBOTS AND COMPUTER SYSTEMS	US	60/439047	09-Jan-2003
VISION-AND ENVIRONMENT-BASED	PCT	PCT/US2004/000413	09-Jan-2004

Title	Country	App. No.	Filing Date
PROGRAMMING OF ROBOTS AND/OR COMPUTER SYSTEMS			
MECHANICAL ARRANGEMENT AND COMPONENTS FOR REDUCING ERROR IN DEDUCED RECKONING	US	10/818755	06-Apr-2004
METHOD AND SYSTEM FOR FLOOR COVERAGE FOR AN AUTONOMOUS MOBILE ROBOT	US	60/575129	28-May-2004
SYSTEMS AND METHODS FOR AN OPTICAL DISTANCE SENSOR	US	10/857429	28-May-2004
VISION-ENABLED HOUSEHOLD APPLIANCES	US	60/540905	30-Jan-2004
METHODS FOR ROBUST SENSOR FUSION	US	60/544486	13-Feb-2004
SENSING DEVICE AND METHOD FOR MEASURING POSITION AND ORIENTATION RELATIVE TO MULTIPLE LIGHT SOURCES	PCT	PCT/US2005/010200	25-Mar-2005
METHODS AND APPARATUS FOR POSITION ESTIMATION USING REFLECTED LIGHT SOURCES	US	60/557252	29-Mar-2004
METHOD AND APPARATUS FOR POSITION ESTIMATION USING REFLECTED LIGHT SOURCES	PCT	PCT/US2005/010244	25-Mar-2005
SYSTEMS AND METHODS FOR RETAIL CHECK-OUT MERCHANDISE DETECTION USING UNDER-CART SCANNING	US	60/548565	27-Feb-2004
MOBILE COMPUTING DEVICE WITH IMAGING CAPABILITY	PCT	PCT/US2007/011120	08-May-2007
METHOD AND SYSTEM FOR COMPLETE COVERAGE OF A SURFACE BY AN AUTONOMOUS ROBOT	US	61/280678	06-Nov-2009
METHODS AND SYSTEMS FOR COMPLETE COVERAGE OF A SURFACE BY AN AUTONOMOUS ROBOT	PCT	PCT/US2010/055740	05-Nov-2010
LOCALIZATION BY LEARNING OF WAVE-SIGNAL DISTRIBUTIONS	US	61/280677	06-Nov-2009
APPLICATION OF LOCALIZATION, POSITIONING & NAVIGATION SYSTEMS FOR ROBOTIC ENABLED MOBILE PRODUCTS	PCT	PCT/US2009/041728	24-Apr-2009
VSLAM	US	61/404001	24-Sep-2010
SYSTEMS AND METHODS FOR VSLAM OPTIMIZATION	PCT	PCT/US2011/053122	23-Sep-2011
SCALING VECTOR FIELD SLAM TO LARGE ENVIRONMENTS	US	61/558831	11-Nov-2011

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