PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6347083

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JUSTIN CRANSHAW	10/02/2013
RAZ SCHWARTZ	09/23/2013
JASON I. HONG	10/10/2013
NORMAN SADEH-KONIECPOL	10/10/2013

RECEIVING PARTY DATA

Name:	CARNEGIE MELLON UNIVERSITY
Street Address:	5000 FORBES AVENUE
City:	PITTSBURGH
State/Country:	PENNSYLVANIA
Postal Code:	15213

PROPERTY NUMBERS Total: 2

Property Type	Number
Application Number:	15845203
Application Number:	16927671

CORRESPONDENCE DATA

Fax Number: (919)999-2798

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.

Phone: (919) 636-4767

Email: ehysesani@kdbfirm.com, docketing@kdbfirm.com

Correspondent Name: KACVINSKY DAISAK BLUNI PLLC

Address Line 1: 2601 WESTON PARKWAY

Address Line 2: SUITE 103

Address Line 4: CARY, NORTH CAROLINA 27513

NAME OF SUBMITTER:EMA HYSESANISIGNATURE:/Ema Hysesani/DATE SIGNED:10/13/2020	ATTORNEY DOCKET NUMBER:	8350.0100C
·	NAME OF SUBMITTER:	EMA HYSESANI
DATE SIGNED: 10/13/2020	SIGNATURE:	/Ema Hysesani/
	DATE SIGNED:	10/13/2020

Total Attachments: 9

PATENT REEL: 054038 FRAME: 0405

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PATENT REEL: 054038 FRAME: 0406

Attorney's Docket No. <u>130234</u>	PATENT
	For: U.S. and/or Foreign Rights For: U.S. Application or U.S. Provisional Application For: U.S. Patent For: PCT Application By: Multiple Inventors
Serial No. <u>14/015,506</u>	<u> </u>
Filing Date: August 30, 2013	-
ASSIGNMENT OF INVE	ENTION (MULTIPLE INVENTORS)
In consideration of the payment by ASSIGN receipt of which is hereby acknowledged, and for	IEE to ASSIGNOR of the sum of One Dollar (\$1.00), the or other good and valuable consideration,
ASSIGNORS (Inventors):	
Justin Cranshaw	a resident of Pittsburgh, PA (US)
Raz Schwartz	a resident of New York, NY (US
Jason I. Hong	a resident of Pittsburgh, PA (US)
Norman Sadeh-Koniecpol	a resident of Pittsburgh, PA (US)
hereby sell, assign and transfer to	
ASSIGNEE:	
Carnegie Mellon University (type or print name of ASSIGNEE)	5000 Forbes Ave., Pittsburgh, PA 15213 Address
and the successors, assigns and legal represer	statives of the ASSIGNEE
★ the entire right, title and interest	
and in all foreign countries, including in all foreign countries, in and to any and all im	ng all rights to claim priority both in the United States and provements which are disclosed in the invention entitled:
DISCOVERING NEIGHBORHO	OD CLUSTERS AND USES THEREFOR
and which is found in:	
(a) U.S. patent application executed	on even date herewith;
(b) 🛛 U.S. application no.: 14/015,506	filed on <u>August 30, 2013</u>
(c) International application no. PC filed on	T /
and any legal equivalent thereof in a fortied States and in all foreign cou	oreign country, including the right to claim priority both in intries and, in and to, all Letters Patent to be obtained for

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said invention by the above application or any continuation, division, renewal, non-provisional, or substitute thereof, and as to letters patent any reissue or re-examination thereof.

ASSIGNORS hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment;

ASSIGNORS further covenant that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.

IN WITNESS WHEREOF, We have hereunto set hand and seal on the date(s) indicated below.

WARNING: The date of signing must be the same as the di	ate of execution of the application if item (a) w	as checked above.
Justin [®] Cranshaw	Signature of INVENTOR	Data Port
(type name of Inventor)	Signature of INVENTOR	Date
Raz Schwartz		
(type name of Inventor)	Signature of INVENTOR	Date
Jason I, Hong	O CHANGENTOR	D-4-
(type name of Inventor)	Signature of INVENTOR	Date
Norman Sadeh-Koniecpol		
(type name of Inventor)	Signature of INVENTOR	Date
nmonwealth of Pennsylvania		
SS:		
scribed and sworn to before me this $2nd$ Day of at , $ao/3$		
Notary Public		
My Commission Hispires 05 March 2017		
Votary for Justin B. Cronsham only		
OMMONWEALTH OF PENNSYLVANIA Notarial Seal Michael T. Cannon, Notary Public		
City of Pittsburgh, Allegheny County My Commission Expires March 5, 2017		

MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Attorney's Docket No. <u>130234</u>	PATENT
	For: ☑ U.S. and/or ☑ Foreign Rights For: ☑ U.S. Application or ☐ U.S. Provisional Application For: ☐ U.S. Patent For: ☐ PCT Application By: Multiple Inventors
Serial No. <u>14/015,506</u>	_
Filing Date: August 30, 2013	_
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ASSIGNORS (Inventors):	
Justin Cranshaw	a resident of Pittsburgh, PA (US)
Raz Schwartz	a resident of New York, NY (US
Jason I. Hong	a resident of Pittsburgh, PA (US)
Norman Sadeh-Koniecpol	a resident of Pittsburgh, PA (US)
hereby sell, assign and transfer to	
ASSIGNEE:	
Carnegie Mellon University (type or print name of ASSIGNEE)	5000 Forbes Ave., Pittsburgh, PA 15213 Address
and the successors, assigns and legal represe	entatives of the ASSIGNEE
★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★	
and in all foreign countries, incluin all foreign countries, in and to any and all i	ding all rights to claim priority both in the United States and mprovements which are disclosed in the invention entitled:
DISCOVERING NEIGHBORH	OOD CLUSTERS AND USES THEREFOR
and which is found in:	
(a) U.S. patent application execut	
• •	6 filed on <u>August 30, 2013</u>
(c) International application no. F filed on	CT /
and any legal equivalent thereof in a the United States and in all foreign c	foreign country, including the right to claim priority both in ountries and, in and to, all Letters Patent to be obtained for

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PATENT
REEL: 05468 FRAME: 0669

said invention by the above application or any continuation, division, renewal, non-provisional, or substitute thereof, and as to letters patent any reissue or re-examination thereof.

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Justin Cranshaw (type name of Inventor)	Signature of INVENTOR	Date
Raz Schwartz (type name of Inventor)	Signature of INVENTOR	<u>09/23/20/3</u> Date
Jason I. Hong (type name of Inventor)	Signature of INVENTOR	Date
Norman Sadeh-Koniecpol (type name of Inventor)	Signature of INVENTOR	Date

(Assignment of Invention-Multiple Inventors [16-3.2]-page 2)

10/10/2013 notorizing for Raz Schwartz

GALAXIA SIANDRE

NOTARY PUBLIC-STATE OF NEW YORK

No. 01516271655

Qualified in New York County

My Commission Expires November 05, 2016

PATENT

REEL: 054038 FRAME: 0683

Attorney's Docket No. 130234	PATENT
	For: ☑ U.S. and/or ☑ Foreign Rights For: ☑ U.S. Application or ☐ U.S. Provisional Application For: ☐ U.S. Patent For: ☐ PCT Application By: Multiple Inventors
Serial No. <u>14/015,506</u>	_
Filing Date: August 30, 2013	_
ASSIGNMENT OF INVE	ENTION (MULTIPLE INVENTORS)
In consideration of the payment by ASSIGN receipt of which is hereby acknowledged, and for	IEE to ASSIGNOR of the sum of One Dollar (\$1.00), the or other good and valuable consideration,
ASSIGNORS (Inventors):	
Justin Cranshaw	a resident of Pittsburgh, PA (US)
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Jason I. Hong	a resident of Pittsburgh, PA (US)
Norman Sadeh-Koniecpol	a resident of Pittsburgh, PA (US)
hereby sell, assign and transfer to	
ASSIGNEE:	
Carnegie Mellon University (type or print name of ASSIGNEE)	5000 Forbes Ave., Pittsburgh, PA 15213 Address
and the successors, assigns and legal represer	ntatives of the ASSIGNEE
★ the entire right, title and interest	
and in all foreign countries, includi in all foreign countries, in and to any and all im	ng all rights to claim priority both in the United States and provements which are disclosed in the invention entitled:
DISCOVERING NEIGHBORHO	OD CLUSTERS AND USES THEREFOR
and which is found in:	
(a) U.S. patent application executed	d on even date herewith;
(b) X U.S. application no.: 14/015,506	filed on <u>August 30, 2013</u>
(c) International application no. PC	DIMMONWEALTH OF PENNINGWANA
and any legal equivalent thereof in a f	oreign country, including the righten and for its and, in and to all Letters Pater William of the property and the righten and to all Letters Pater William of the righten and the right with the right of the right and the right of the right and the right of the right and the right of the rig

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PATENT REEL: 054038 FRAME: 0682

said invention by the above application or any continuation, division, renewal, non-provisional, or substitute thereof, and as to letters patent any reissue or re-examination thereof.

ASSIGNORS hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment;

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Justin Cranshaw (type name of Inventor)	Signature of INVENTOR	Date
Raz Schwartz		
(type name of Inventor)	Signature of INVENTOR	Date
Jason I. Hong (type name of Inventor)	Signature of INVENTOR	Oct 10 2013 Date
Norman Sadeh-Koniecpol		
(type name of Inventor)	Signature of INVENTOR	Date

Notarization or Legalization Page Added.

State of Pennsylvania County of alleshony Sworn to and subscribed before me this 10th day of October, 2013 at Carnesiae Mellon University, Jusen I Honz personally appeared before me. Christe Count

PITTSBURGH CITY, ALLEGHENY COUNTY My Commission Expires Mar 18, 2017

(Assignment of Invention-Multiple Inventors [16-3.2]-page 2)

REEL: 054038 FRAME: 0685

Attorney's Docket No. <u>130234</u>	PATENT
	For: ☑ U.S. and/or ☑ Foreign Rights For: ☑ U.S. Application or ☐ U.S. Provisional Application For: ☐ U.S. Patent For: ☐ PCT Application By: Multiple Inventors
Serial No. <u>14/015,506</u>	
Filing Date: August 30, 2013	
ASSIGNMENT OF INV	ZENTION (MULTIPLE INVENTORS)
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Justin Cranshaw	a resident of Pittsburgh, PA (US)
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Norman Sadeh-Koniecpol	a resident of Pittsburgh, PA (US)
hereby sell, assign and transfer to ASSIGNEE: Carnegie Mellon University (type or print name of ASSIGNEE)	5000 Forbes Ave., Pittsburgh, PA 15213 Address
and the successors, assigns and legal represe	entatives of the ASSIGNEE
★ the entire right, title and interest	
and in all foreign countries, including all foreign countries, in and to any and all i	ding all rights to claim priority both in the United States and improvements which are disclosed in the invention entitled:
DISCOVERING NEIGHBORHO	OOD CLUSTERS AND USES THEREFOR
and which is found in:	
(a) U.S. patent application execute	ed on even date herewith;
(b) 🛛 U.S. application no.: <u>14/015.5</u> 0	6 filed on <u>August 30, 2013</u>
(c) International application no. P	CT /
and any legal equivalent thereof in a the United States and in all foreign co	foreign country, including the right to claim priority both in ountries and, in and to, all Letters Patent to be obtained for

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Justin Ciansnaw		
type name of Inventor)	Signature of INVENTOR	Date
Raz Schwartz		
type name of Inventor)	Signature of INVENTOR	Date
Jason I. Hong		
type name of Inventor)	Signature of INVENTOR	Date
Norman Sadeh-Koniecpol	Ju	10/10/2013
type name of Inventor)	Signature of INVENTOR	Date
	Communication Page Added. Communication Of () Courty of But Green GN 0650BER 10, 20 Appended Before	Pernayuania Sodell 13 Norman Sodell Konjecpol
	APPENDED BEFOR	e me to sign this good

COMMONWEALTH OF PENNSYLVANIA

Notarial Seal

Sean Petrisko, Notary Public

Homestead Boro, Allegheny County

My Commission Expires May 7, 2017

MENBER, PENNSYLVANIA ASSOCIATION OF NOTAKIES

(Assignment of Invention-Multiple Inventors [16-3.2]-page 2)

PATENT

REEL: 054038 FRAME: 0683