

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
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EPAS ID: PAT4623565

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
BAHRAM GHAFFARZADEH KERMANI	04/28/2017
HELMY ELTOUKHY	10/14/2016
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	GUARDANT HEALTH, INC.
<b>Street Address:</b>	505 PENOBSCOT DR
<b>City:</b>	REDWOOD CITY
<b>State/Country:</b>	CALIFORNIA
<b>Postal Code:</b>	94063
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15255028
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	
<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>Email:</b>	patentdocket@wsgr.com, rgiuliano@wsgr.com
<b>Correspondent Name:</b>	WILSON SONSINI GOODRICH & ROSATI
<b>Address Line 1:</b>	650 PAGE MILL ROAD
<b>Address Line 4:</b>	PALO ALTO, CALIFORNIA 94304
<b>ATTORNEY DOCKET NUMBER:</b>	42534-722.201
<b>NAME OF SUBMITTER:</b>	RAFFAELLA GIULIANO
<b>SIGNATURE:</b>	/Raffaella Giuliano/
<b>DATE SIGNED:</b>	10/03/2017
<b>Total Attachments: 2</b>	
source=42534-722.201 executed Assignment#page1.tif	
source=42534-722.201 executed Assignment#page2.tif	

WHEREAS, the undersigned:

- 1. Kermami, Bahram Ghaffarzadeh  
Los Altos, CA
- 2. Elitskiy, Helmy  
Atherton, CA

(hereinafter "Inventor(s)"), have invented certain new and useful improvements in

**MACHINE LEARNING FOR SOMATIC SINGLE NUCLEOTIDE VARIANT DETECTION IN CELL-FREE TUMOR NUCLEIC ACID SEQUENCING APPLICATIONS**

for which application serial number 15/255,028 was filed on September 1, 2016 in the United States Patent Office;

WHEREAS, Guardant Health, Inc., a corporation of the State of Delaware, having a place of business at 505 Peninsula Dr., Redwood City, CA 94063, (hereinafter "Assignee"), is desirous of acquiring the entire right, title and interest in and to said Application(s), and the inventions disclosed therein, and in and to all embodiments of the inventions, heretofore conceived, made or discovered, whether jointly or severally, by said Inventor(s) (hereinafter collectively referred to as "inventions"), and in and to any and all patents, inventor's certificates and other forms of protection thereon granted in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty, including those filed under the Paris Convention for the Protection of Industrial Property, The Patent Cooperation Treaty or otherwise (hereinafter "Patent(s)").

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Inventor(s) to have been received in full from said Assignee:

1. Said Inventor(s) do hereby sell, assign, transfer and convey unto said Assignee the entire right, title and interest (a) in and to said Inventions; (b) in and to said Applications, including the right to claim priority to and from said Application(s); (c) in and to each and every application that is a divisional, substitution, continuation, or continuation-in-part of any of said Application(s); (d) in and to said Patent(s) and each and every patent issuing or reissuing from any of the foregoing; (e) in and to each and every reissue, reexamination, renewal or extension of any kind of any of the foregoing; (f) in and to each and every patent and application filed outside the United States and corresponding to any of the foregoing; and (g) in and to all claims for past, present and future infringement of the Patent(s), including all rights to sue for and to receive and recover for Assignee's own use all past, present, and future lost profits, royalties, and damages of whatever nature recoverable from an infringement of the Patent(s).

2. Said Inventor(s) hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest herein conveyed in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty. Such cooperation by said Inventor(s) shall include prompt production of pertinent facts and documents, giving of testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (s) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any applications covering said Inventions; (c) for filing and prosecuting substitute, divisional, continuing or additional applications covering said Inventions; (d) for filing and prosecuting applications for reissuance of any said Patent(s); (e) for interference or other priority proceedings involving said Inventions; and (f) for legal proceedings involving said Inventions and any applications therefor and any Patent(s) granted thereon, including without limitation reissues and reexaminations, opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that reasonable expenses incurred by said Inventor(s) in providing such cooperation shall be paid for by said Assignee.

3. The terms and covenants of this assignment shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Inventor(s), their respective heirs, legal representatives and assigns.

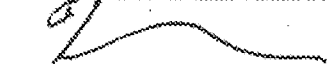
4. Said Inventor(s) hereby warrant, represent and covenant that said Inventor(s) have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.

5. Said Inventor(s) hereby request that any Patent(s) issuing in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty, be issued in the name of the Assignee, or its successors and assigns, for the sole use of said Assignee, its successors, legal representatives and assigns.


6. This instrument will be interpreted and construed in accordance with the laws of the State of California, without regard to conflict of law principles. If any provision of this instrument is found to be illegal or unenforceable, the other provisions shall remain effective and enforceable to the greatest extent permitted by law. This instrument may be executed in counterparts, each of which is deemed an original, but all of which together constitute one and the same agreement.

IN WITNESS WHEREOF, said Inventor(s) have executed and delivered this instrument to said Assignee as of the dates written below:

Date: \_\_\_\_\_  
Bahram Ghaffarzadeh Kermami

Date: 10/14/16  
  
Helmy Elitskiy

RECEIVED AND AGREED TO BY ASSIGNEE:

Date: 11 August 2017 Signature:   
Name: William M. French  
Title: SA, VP IP

PATENT ASSIGNMENT

Docket Number 42534-772.201

WHEREAS, the undersigned:

- 1. Keremsi, Bahram Ghasfarzadeh  
Los Altos, CA
- 2. Eltmukhy, Helmy  
Atherton, CA

(hereinafter "Inventor(s)"), have invented certain new and useful improvements in

**MACHINE LEARNING FOR SOMATIC SINGLE NUCLEOTIDE VARIANT DETECTION IN CELL-FREE TUMOR NUCLEIC ACID SEQUENCING APPLICATIONS**

for which application serial number 15/253,028 was filed on September 1, 2016 in the United States Patent Office;

WHEREAS, Guardant Health, Inc., a corporation of the State of Delaware, having a place of business at 505 Peninsula Dr., Redwood City, CA 94063, (hereinafter "Assignee"), is desirous of acquiring the entire right, title and interest in and to said Application(s), and the inventions disclosed therein, and in and to all embodiments of the inventions, heretofore conceived, made or discovered, whether jointly or severally, by said Inventor(s) (hereinafter collectively referred to as "Inventions"), and in and to any and all patents, inventor's certificates and other forms of protection thereon granted in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty, including those filed under the Paris Convention for the Protection of Industrial Property, The Patent Cooperation Treaty or otherwise (hereinafter "Patent(s)").

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Inventor(s) to have been received in full from said Assignee:

1. Said Inventor(s) do hereby sell, assign, transfer and convey unto said Assignee the entire right, title and interest (a) in and to said Inventions; (b) in and to said Applications, including the right to claim priority to and from said Application(s); (c) in and to each and every application that is a divisional, substitution, continuation, or continuation-in-part of any of said Application(s); (d) in and to said Patent(s) and each and every patent issuing or reissuing from any of the foregoing; (e) in and to each and every reissue, reexamination, renewal or extension of any kind of any of the foregoing; (f) in and to each and every patent and application filed outside the United States and corresponding to any of the foregoing; and (g) in and to all claims for past, present and future infringement of the Patent(s), including all rights to sue for and to receive and recover for Assignee's own use all past, present, and future lost profits, royalties, and damages of whatever nature recoverable from an infringement of the Patent(s).

2. Said Inventor(s) hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest herein conveyed in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty. Such cooperation by said Inventor(s) shall include prompt production of pertinent facts and documents, giving of testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (s) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any applications covering said Inventions; (c) for filing and prosecuting substitute, divisional, continuing or additional applications covering said Inventions; (d) for filing and prosecuting applications for reissuance of any said Patent(s); (e) for interference or other priority proceedings involving said Inventions; and (f) for legal proceedings involving said Inventions and any applications therefor and any Patent(s) granted thereon, including without limitation reissues and reexaminations, opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that reasonable expenses incurred by said Inventor(s) in providing such cooperation shall be paid for by said Assignee.

3. The terms and covenants of this assignment shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Inventor(s), their respective heirs, legal representatives and assigns.

4. Said Inventor(s) hereby warrant, represent and covenant that said Inventor(s) have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.

5. Said Inventor(s) hereby request that any Patent(s) issuing in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty, be issued in the name of the Assignee, or its successors and assigns, for the sole use of said Assignee, its successors, legal representatives and assigns.

6. This instrument will be interpreted and construed in accordance with the laws of the State of California, without regard to conflict of law principles. If any provision of this instrument is found to be illegal or unenforceable, the other provisions shall remain effective and enforceable to the greatest extent permitted by law. This instrument may be executed in counterparts, each of which is deemed an original, but all of which together constitute one and the same agreement.

IN WITNESS WHEREOF, said Inventor(s) have executed and delivered this instrument to said Assignee as of the dates written below:

Date: 4/28/17 Bahram Ghasfarzadeh Keremsi Date: \_\_\_\_\_  
Helmy Eltmukhy

RECEIVED AND AGREED TO BY ASSIGNEE:

Date: 21 July 2017 Signature: [Signature]  
 Name: William R. Smith  
 Title: Sr V.P. IP