

## PATENT ASSIGNMENT COVER SHEET

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 Stylesheet Version v1.2

EPAS ID: PAT5316572

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
ANDONIS MITIDIS	12/04/2018
JEANINE AYERS	12/13/2018
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	APTIMA, INC.
<b>Street Address:</b>	12 GILL STREET, STE 1400
<b>City:</b>	WOBURN
<b>State/Country:</b>	MASSACHUSETTS
<b>Postal Code:</b>	01801
<b>PROPERTY NUMBERS Total: 2</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16186278
<b>Application Number:</b>	62583810
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(781)935-4385
<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>	7819353966
<b>Email:</b>	patent@aptima.com
<b>Correspondent Name:</b>	APTIMA, INC.
<b>Address Line 1:</b>	12 GILL STREET
<b>Address Line 2:</b>	STE 1400
<b>Address Line 4:</b>	WOBURN, MASSACHUSETTS 01801
<b>ATTORNEY DOCKET NUMBER:</b>	APT11704PPPU
<b>NAME OF SUBMITTER:</b>	RACHEL BURRISS
<b>SIGNATURE:</b>	/Rachel Burriss/
<b>DATE SIGNED:</b>	01/09/2019
<b>Total Attachments: 6</b>	
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source=APTI1704PPPU\_TransferAgree\_ExhibitA\_Signed#page1.tif

## PATENT APPLICATION ASSIGNMENT

Whereas I, the undersigned, Andonis Mitidis, hereby have made certain inventions or discoveries (or both) to be set forth in an application for Letters Patent with the United States of America and/or the International Bureau of the World Intellectual Property Organization entitled, TREATMENT PATH SELECTION UTILIZING BINARY CLASSIFIERS, identified as Attorney Docket No. APT11704PP; and which application was filed on November 9<sup>th</sup>, 2017 and Assigned Application No. 62/583,810; a draft of an Abstract of the inventions or discoveries is included at Attachment A.

Whereas APTIMA, INC. a MASSACHUSETTS CORPORATION having a place of business at 12 GILL STREET, SUITE 1400, WOBURN, MA 01801, and which, together with its successors and assigns, is hereinafter called "Assignee," is desirous of acquiring the title, rights, benefits and privileges hereinafter recited;

Now, therefore, for valuable consideration furnished by Assignee to me, receipt and sufficiency of which I hereby acknowledge, and for other good and valuable consideration, I hereby, without reservation:

1. As a named inventor of the above identified application, I hereby declare that: the above-identified application was made or authorized to be made by me; I believe I am the original inventor or an original joint inventor of a claimed invention in the application; I hereby acknowledge that any willful false statement made by this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both; and recognize the Assignee as a real party in interest in the application;

2. Assign, transfer and convey to Assignee the entire right, title and interest in and to said inventions and discoveries, said application for Letters Patent of the United States of America, any and all other applications for Letters Patent on said inventions and discoveries in whatsoever countries, including all non-provisional, divisional, renewal, substitute, continuation, reissue, re-examination and Convention applications based in whole or in part upon said inventions or discoveries, or upon said applications, and any and all Letters Patent, reissues, reexaminations, and extensions of Letters Patent granted for said inventions and discoveries or upon said applications, and every priority right that is or may be predicated upon or arise from said inventions, said discoveries, said applications and said Letters Patent and any provisional applications from which priority is claimed in said Letters Patent;

3. Appoint Assignee as an attorney-in-fact and Authorize Assignee to execute and file all necessary document, including making substitute statements, for filing and/or prosecuting patent applications in any or all countries on any or all of said inventions and discoveries in my name or in the name of Assignee or otherwise as Assignee may deem advisable, under the International Convention or otherwise;

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4. Authorize and request the Commissioner of Patents and Trademarks of the United States of America and the empowered officials of all other governments to issue or transfer all said Letters Patent to Assignee, as assignee of the entire right, title and interest therein or otherwise as Assignee may direct;

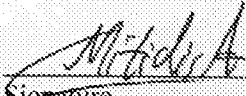
5. Warrant that I have not knowingly conveyed to others any right in said inventions, discoveries, applications or patents or any license to use the same or to make, use or sell anything embodying or utilizing any of said inventions or discoveries; and that I have good right to assign the same to Assignee without encumbrance;

6. Bind my heirs, legal representatives and assigns, as well as myself, to do, upon Assignee's request and at Assignee's expense, but without additional consideration to me or them, all acts reasonably serving to assure that the said inventions and discoveries, the said patent applications and the said Letters Patent shall be held and enjoyed by Assignee as fully and entirely as the same could have been held and enjoyed by me, my heirs, legal representatives and assigns if this assignment had not been made; and particularly to execute and deliver to Assignee all lawful application documents including petitions, specifications, and oaths, and all assignments, disclaimers, and lawful affidavits in form and substance as may be requested by Assignee; to communicate to Assignee all facts known to me relating to said inventions and discoveries or the history thereof; and to furnish Assignee with any and all documents, photographs, models, samples and other physical exhibits in my control or in the control of my heirs, legal representatives or assigns which may be useful for establishing the facts of my conceptions, disclosures, and reduction to practice of said inventions and discoveries.

In testimony of which I have executed this Assignment on the date indicated above my name.

Dated

12/04/2017

  
Signature

Andonis Mitidis  
600 S Promenade Blvd Apt. 1705  
Rogers, AR 72758  
Residential Address

antonis.mytidis@gmail.com  
Email

init: AM

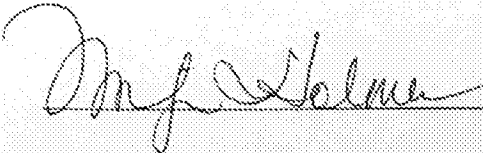
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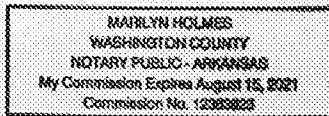
ATTACHMENT A

DRAFT OF ABSTRACT:

Methods for selecting treatment paths are disclosed generally comprising the steps of: (a) building a set of treatment path clusters based on historical inpatient treatment path data, (b) building a set of binary classifiers based on historical treatment data, historical inpatient data and target outcomes, and (c) given the treatment path clusters, actual inpatient data, and a selected target outcome, applying the binary classifiers to predict a treatment path for the inpatient that optimizing the selected target outcome. Processor based systems to implement the methods are also disclosed.

On this 4 day of December, 2017, before me, the undersigned notary public, personally appeared Andonis Mitidis, proved to me through satisfactory evidence of identification, which were Employee identification, to be the person whose name is signed on the preceding or attached document, in my presence.





Init: AM

## EXHIBIT C

### ASSIGNMENT OF PATENTS

THIS ASSIGNMENT OF PATENTS (the “**Assignment**”) is executed, acknowledged and delivered by Jeanine Ayers of 4957 Vass Carthage Road, Carthage, NC 28327 (“**Assignor**”), in accordance with, and pursuant to the terms and conditions of the Patent Transfer Agreement having an Effective Date of December 14, 2018 (the “**Agreement**”) between Assignor, as Transferor, and Aptima, Inc., a company organized under the laws of Massachusetts, with its principal place of business at 12 Gill Street, Suite 1400, Woburn MA, 01801 (“**Assignee**”), as Transferee. Capitalized terms used herein and not expressly defined shall have the meaning ascribed to such terms in the Agreement. “**Patents**” means the patents identified in the **Exhibit A** of the Agreement.

#### **NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN:**

WHEREAS I, the undersigned, Jeanine Ayers, the Assignor, hereby have made certain inventions or discoveries (or both) to be set forth in the Agreement and Patents; and

WHEREAS Assignee, together with its successors and assigns, is desirous of acquiring the title, rights, benefits and privileges hereinafter recited; and

NOW THEREFORE, for valuable consideration furnished by Assignee to me, receipt and sufficiency of which I hereby acknowledge, and for other good and valuable consideration, I hereby, without reservation:

1. As a named inventor of the above identified Patents, I hereby declare that: the above-identified application was made or authorized to be made by me; I believe I am the original inventor or an original joint inventor of a claimed invention in the Patents; I hereby acknowledge that any willful false statement made by this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both; and recognize the Assignee as a real party in interest in the application;
2. Assign, transfer and convey to Assignee the entire right, title and interest in and to said Patents including all inventions and discoveries, said application for Letters Patent of the United States of America, any and all other applications for Letters Patent on said inventions and discoveries in whatsoever countries, including all non-provisional, divisional, renewal, substitute, continuation, reissue, re-examination and Convention applications based in whole or in part upon said inventions or discoveries, or upon said applications, and any and all Letters Patent, reissues, reexaminations, and extensions of Letters Patent granted for said inventions and discoveries or upon said applications, and every priority right that is or may be predicated upon or arise from said inventions, said discoveries, said applications and said Letters Patent and any provisional applications from which priority is claimed in said Letters Patent;
3. Appoint Assignee as an attorney-in-fact and authorize Assignee to execute and file all necessary document, including making substitute statements, for filing and/or prosecuting patent applications in any or all countries on any or all of said inventions and discoveries in my name or in the name of Assignee or otherwise as Assignee may deem advisable, under the International Convention or otherwise;

Initials: JMA, JSM

4. Authorize and request the Commissioner of Patents and Trademarks of the United States of America and the empowered officials of all other governments to issue or transfer all said Letters Patent to Assignee, as assignee of the entire right, title and interest therein or otherwise as Assignee may direct;

5. Other than the licenses identified in the Agreement, warrant that I have not knowingly conveyed to others any right in said inventions, discoveries, applications or patents or any license to use the same or to make, use or sell anything embodying or utilizing any of said inventions or discoveries; and that I have good right to assign the same to Assignee without additional encumbrances;

6. Bind my heirs, legal representatives and assigns, as well as myself, to do, upon Assignee's request and at Assignee's expense, but without additional consideration to me or them, all acts reasonably serving to assure that the said Patents including all inventions and discoveries, the said patent applications and the said Letters Patent shall be held and enjoyed by Assignee as fully and entirely as the same could have been held and enjoyed by me, my heirs, legal representatives and assigns if this assignment had not been made; and particularly to execute and deliver to Assignee all lawful application documents including petitions, specifications, and oaths, and all assignments, disclaimers, and lawful affidavits in form and substance as may be requested by Assignee; to communicate to Assignee all facts known to me relating to said inventions and discoveries or the history thereof; and to furnish Assignee with any and all documents, photographs, models, samples and other physical exhibits in my control or in the control of my heirs, legal representatives or assigns which may be useful for establishing the facts of my conceptions, disclosures, and reduction to practice of said inventions and discoveries.

7. Notwithstanding anything to the contrary herein, Assignor is executing and delivering this Assignment in accordance with and subject to all of the terms and provisions of the Agreement. In the event of any conflict between the terms of this Assignment and those of the Agreement, the terms of the Agreement shall be controlling.

**IN WITNESS WHEREOF**, Assignor has caused this Assignment to be executed on the date identified below.

ASSIGNOR:

  
\_\_\_\_\_  
Jeanine Ayers

Date: 12/13/2018

Initials: JMA, JSM

## EXHIBIT A

### PATENTS

“Patents” means all right, title and interest to the inventions, disclosures, patent applications and patents set forth on **Exhibit A** and any reexamined or reissued U.S. patents directly or indirectly issuing from or claiming benefit to such, and each, a “**Patent**”.

Patent/ Asset Type	Disclosure Reference	Patent Application No.	Patent No.	Title	Disclosure/ Filing Date	Existing Licenses	Legal Activities
Disclosure	Disclosure to U.S. Army under contract # Contract # W81XWH-16-C-0165	N/A	N/A	TREATMENT PATH SELECTION UTILIZING BINARY CLASSIFIERS	Oct. 2, 2017	To U.S. Government under provisions of FAR 52.227-11 only.	None
U.S. Provisional Patent Application	N/A	62/583,810	N/A	SPECIALIZED HEALTH CARE SYSTEM FOR SELECTING TREATMENT PATHS	Nov. 9, 2017	To U.S. Government under provisions of FAR 52.227-11 only.	None
U.S. Non-Provisional Patent Application	N/A	16/186,278	TBD	SPECIALIZED HEALTH CARE SYSTEM FOR SELECTING TREATMENT PATHS	Nov. 9, 2018	To U.S. Government under provisions of FAR 52.227-11 only.	None

Initials: JMA, TJM