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SUBMISSION TYPE:		NEW ASSIGNMENT	NEW ASSIGNMENT		
NATURE OF CONVEYANCE:		ASSIGNMENT	ASSIGNMENT		
CONVEYING PARTY DA	ΑΤΑ				
		Name	Execution Date		
MALLAVARAPU RAMA	SRIKANT	Ή	05/09/2016		
RAVI DUTT SINGH		05/09/2016			
AJIT SHYAMSUNDER B	OPARDI	05/09/2016			
TAEJIN AHN			05/09/2016		
	тл				
RECEIVING PARTY DATA   Name: SAMSUNG ELECTRONICS CO., LTD.					
Street Address:	129, SAMSUNG-RO, YEONGTONG-GU				
City:		SUWON-SI, GYEONGGI-DO			
State/Country:		KOREA, REPUBLIC OF			
Postal Code:	16677				
PROPERTY NUMBERS	Total: 1				
Property Type		Number			
Application Number:	1	5158075			
CORRESPONDENCE D					
Fax Number:	•	312)616-5700			
		the e-mail address first; if that is una if that is unsuccessful, it will be ser			
Phone:	-	12-616-5600			
Email:	Assignments@leydig.com				
Correspondent Name:	LEYDIG VOIT & MAYER, LTD				
Address Line 1:	TWO PRUDENTIAL PLAZA, SUITE 4900				
Address Line 2:	180 NORTH STETSON AVENUE				
Address Line 4:	C	CHICAGO, ILLINOIS 60601-6731			
ATTORNEY DOCKET NU	JMBER:	724154			
NAME OF SUBMITTER:		GERALD T. GRAY	GERALD T. GRAY		
SIGNATURE:		/Gerald T. Gray/	/Gerald T. Gray/		
DATE SIGNED:		05/18/2016	-		
		This document serves as an Oath	n/Declaration (37 CFR 1.63).		
			· · · · ·		
Total Attachments: 2					

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PATENT REEL: 038637 FRAME: 0295

### COMBINED DECLARATION AND ASSIGNMENT

# Title of Invention: METHOD AND DEVICE FOR GENERATING PILEUP FILE FROM COMPRESSED GENOMIC DATA

### DECLARATION

As an inventor named below, I hereby declare for:

the attached patent application, or

(i) the patent application identified above was made or authorized to be made by me;

(ii) I believe that I am the original inventor or an original joint inventor of an invention claimed in the patent application identified above; and

(iii) I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years or both fine and imprisonment.

### ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which are acknowledged, I sell, assign, and transfer to

SAMSUNG ELECTRONICS CO., LTD., 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, KR

(hereinafter "ASSIGNEE") and its successors, assigns, and legal representatives, my entire right, title and interest for the United States of America, as defined in 35 U.S.C. 100, in the invention(s) disclosed in the patent application identified above, and any and all extensions, divisions, reissues, reexaminations, continuations, or continuations-in-part patent applications of the patent application identified above;

I authorize and request the United States Director of Patents and Trademarks to issue any and all United States Letters Patent which may be granted for the invention(s) disclosed in the patent application identified above, and any and all extensions, divisions, reissues, reexaminations, continuations, or continuations-in-part patent applications of the patent application identified above, and the right to all benefits under the Patent Corporation Treaty, and the international Convention for the Protection of Industrial Property to the ASSIGNEE, for its interest as ASSIGNEE; and

I agree to transfer a like interest, and to render all necessary assistance in making application for and obtaining original, continuation, divisional, continuation-in-part, reissued, or reexamined Letters Patent of the United States, upon request of the ASSIGNEE, and without further remuneration, in and to any improvements, and applications for patent based on the patent application identified above, growing out of or related to the invention(s) disclosed in the patent application identified above, and to execute any papers of the ASSIGNEE, deemed essential to ASSIGNEE'S full protection and title in and to the invention(s) transferred by this Assignment.

It is agreed the terms of this assignment shall bind, and inure to the benefit of, the legal representatives, successors, and assigns of all parties hereto.

I authorize ASSIGNEE to insert in this assignment the number and filing date of the application if the number and filing date of the application are not recited herein at the time of execution of this assignment.

PATENT REEL: 038637 FRAME: 0296 Combined Declaration and Assignment Page 2 of 2

1. A.	Date	2016.5.9
Mallavarapu Rama Srikanth	Date	
Ravi Dutt Singh	Date	2016.5.9
Ajit Shyamsunder Bopardikar	Date	2016.5.9
Taejin Ahn	Date	2016.5.9

RECORDED: 05/18/2016