

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
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EPAS ID: PAT5759641

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
HAOJIE WANG	07/18/2019
AGUS SUDJIANTO	08/01/2019
RICHARD LIU	08/02/2019
QI SHEN	07/22/2019
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	WELLS FARGO BANK, N.A.
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<b>City:</b>	SAN FRANCISCO
<b>State/Country:</b>	CALIFORNIA
<b>Postal Code:</b>	94104
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16506155
<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>Phone:</b>	704-444-1000
<b>Email:</b>	usptomail@alston.com
<b>Correspondent Name:</b>	WELLS FARGO BANK, N.A. AND ALSTON & BIRD
<b>Address Line 1:</b>	ALSTON & BIRD LLP
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<b>Address Line 4:</b>	CHARLOTTE, NORTH CAROLINA 28280-4000
<b>ATTORNEY DOCKET NUMBER:</b>	011655/533171
<b>NAME OF SUBMITTER:</b>	ADEN R. DRAPER
<b>SIGNATURE:</b>	/Aden R. Draper/
<b>DATE SIGNED:</b>	10/08/2019
<b>Total Attachments: 4</b>	
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**ASSIGNMENT**

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor (“Assignor”) hereby sells and assigns, unto

Wells Fargo Bank, N.A.  
550 California Street  
San Francisco, CA 94104

(the “Assignee”) its successors and assigns, the inventor’s entire worldwide right, title, and interest in and to all inventions, improvements, and discoveries (collectively, the “Inventions”) set forth in:

United States Patent Application No. 16/506,155, filed on July 9, 2019, and titled:

**“SYSTEMS AND METHODS FOR CALLABLE OPTIONS VALUES  
DETERMINATION USING DEEP MACHINE LEARNING”,**

as well as in and to (a) all improvements and modifications to any of the Inventions, (b) the above-identified patent application and all other patent applications, patents, utility models, design registrations, other rights of exclusion, and inventors’ certificates in every country or region setting forth (i) any or all of the Inventions or (ii) any improvements or modifications to any or all of the Inventions, (collectively, the “Applications and Granted Rights”) (c) every priority right that is or may be predicated upon or arise from any of the Inventions or the Applications and Granted Rights, and (d) the right to pursue, collect, and retain in the Assignee’s name or otherwise, damages and any other remedies arising from any past, present, or future infringement of the Inventions, the Applications and Granted Rights, and any other rights assigned by this Assignment;

said Assignee being hereby authorized to file patent applications in any or all countries on any or all of the Inventions in the name of the Assignor or in the name of the Assignee or otherwise as the Assignee may deem advisable, under the Patent Cooperation Treat or otherwise; the Commissioner of Patents of the United States Patent and Trademark Office (and officials of other countries whose duty it is to issue patents) being hereby authorized to issue or transfer all Letters Patent to the Assignee in accordance with this Assignment; this assignment being under covenant, not only that full power to make the same is held by the Assignor, but also that such assigned right is not encumbered by any grant, license, or other right previously given, and that the Assignor will do all acts reasonably serving to ensure that the Inventions and the Applications and Granted Rights shall be held and enjoyed by the Assignee as fully and entirely as the same could have been held and enjoyed by the Assignor if this assignment had not been made, and particularly to execute and deliver to the Assignee all lawful documents including petitions, specifications, oaths, assignments, invention disclaimers, declarations, and lawful affidavits in form and substance which may be requested by the Assignee, to furnish the Assignee with all facts relating to any of the Inventions or the history thereof and any and all documents, photographs, models, samples or other physical exhibits which may embody any of

the Inventions, and to testify in any proceedings relating to any of the Inventions or the Applications and Granted Rights.

The Assignor hereby grants the Assignee, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification (including, but not limited to, patent Application Number) that may be necessary or desirable for recordation of this Assignment.

This Assignment is deemed to be effective at least as early as the earliest filing date listed above. To the extent that the Assignor has previously assigned, to the Assignee, any right, title, or interest in the Inventions or the Applications and Granted Rights, this document shall be interpreted as confirming the validity of such prior assignment(s).

7/18/2019	<i>Haojie Wang</i>
_____	_____ /
Date	<b>Haojie Wang</b>

_____	_____ /
Date	<b>Han Chen</b>

8/1/2019	<i>Agus Sudjianto</i>
_____	_____ /
Date	<b>Agus Sudjianto</b>

8/2/2019	<i>Richard Liu</i>
_____	_____ /
Date	<b>Richard Liu</b>

7/22/2019	<i>Qi Shen</i>
_____	_____ /
Date	<b>Qi Shen</b>

### Certificate Of Completion

Envelope Id: BDBB42D736174C668EA5DDE7C358995A	Status: Sent
Subject: Formal Documents - Declarations and Assignment for Execution   Wells Fargo IDF-19-0144	
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Envelopeld Stamping: Disabled	Torrey Wyatt
Time Zone: (UTC-05:00) Eastern Time (US & Canada)	torrey.wyatt@alston.com
	IP Address: 38.106.112.10

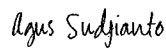
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7/18/2019 9:12:45 AM	torrey.wyatt@alston.com	

### Signer Events

Agus Sudjianto  
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 Security Level: Email, Account Authentication (None)

### Signature



Signature Adoption: Pre-selected Style  
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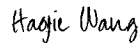
Han Chen  
 na@wellsfargo.com  
 Security Level: Email, Account Authentication (None)

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### Electronic Record and Signature Disclosure:

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 Security Level: Email, Account Authentication (None)



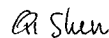
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### Electronic Record and Signature Disclosure:

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Richard Liu  
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Signer Events	Signature	Timestamp
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