

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT4368718

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
LEO PARKER DIRAC	03/02/2017
OLEG RYBAKOV	03/01/2017
VIJAI MOHAN	03/01/2017
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	AMAZON TECHNOLOGIES, INC.
<b>Street Address:</b>	PO BOX 81226
<b>City:</b>	SEATTLE
<b>State/Country:</b>	WASHINGTON
<b>Postal Code:</b>	98108-1226
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	15442453
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(949)760-9502
<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>	949-760-0404
<b>Email:</b>	efiling@knobbe.com
<b>Correspondent Name:</b>	KNOBBE MARTENS OLSON & BEAR, LLP
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<b>Address Line 4:</b>	IRVINE, CALIFORNIA 92614
<b>ATTORNEY DOCKET NUMBER:</b>	SEAZN.1301A
<b>NAME OF SUBMITTER:</b>	Y. PAUL CHANG
<b>SIGNATURE:</b>	/ Y. Paul Chang /
<b>DATE SIGNED:</b>	04/14/2017
This document serves as an Oath/Declaration (37 CFR 1.63).	
<b>Total Attachments: 6</b>	
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**PATENT ASSIGNMENT AND DECLARATION (37 CFR 1.63)**

U.S. Patent Appln. No. 15/442,453

Attorney Docket No. SEAZN.1301A

Filing Date February 24, 2017

Client Docket No. P36763-US

**PARTIES TO THE ASSIGNMENT**

Assignors:

**Leo Parker Dirac**

410 Terry Avenue North  
Seattle, WA 98109-5210

**Oleg Rybakov**

410 Terry Avenue North  
Seattle, WA 98109-5210

**Vijai Mohan**

410 Terry Avenue North  
Seattle, WA 98109-5210

Assignee:

Amazon Technologies, Inc.  
PO Box 81226  
Seattle, WA 98108-1226

**AGREEMENT**

WHEREAS, ASSIGNORS (listed above) are inventors of an invention entitled  
“ENCODINGS FOR REVERSIBLE SPARSE DIMENSIONALITY REDUCTION” (Invention) for which a non-  
provisional application for United States Letters Patent (Application):

- was filed on February 24, 2017 and accorded U.S. Application No. 15/442,453; or
- will be filed concurrently with the submission of this executed PATENT ASSIGNMENT  
for recordation.

ASSIGNORS hereby authorize and request ASSIGNEE’S legal representatives, of  
Knobbe, Martens, Olson & Bear, LLP, associated with Customer No. 79,502, to insert in the  
header above and here in parentheses (U.S. Patent Application No. 15/442,453, filed February  
24, 2017) this application’s U.S. application number and filing date, when known.

**PATENT ASSIGNMENT AND DECLARATION (37 CFR 1.63)**

U.S. Patent Appln. No. 15/442,453

Attorney Docket No. SEAZN.1301A

Filing Date February 24, 2017

Client Docket No. P36763-US

Title of Invention: ENCODINGS FOR REVERSIBLE SPARSE DIMENSIONALITY REDUCTION

Inventors: Leo Parker Dirac, Oleg Rybakov, Vijai Mohan

WHEREAS, ASSIGNEE, a corporation of the State of Nevada, is desirous of acquiring the entire right, title and interest in and to the Invention and in and to any letters patent that may be granted therefor in the United States and in any and all foreign countries.

NOW, THEREFORE, in exchange for good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNORS hereby sell, assign and transfer unto ASSIGNEE its successors and assigns, the entire right, title and interest in and to said Invention and any improvements thereto, said Application and any and all letters patent which may be granted for said Invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all provisional, divisions, reissues, re-examinations and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said Application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said Invention, Application and all letters patent on said Invention to be held and enjoyed by ASSIGNEE and its successors and assigns for their use and benefit and of their successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR(S) had this assignment, transfer and sale not been made. ASSIGNORS hereby authorize and request the Commissioner of Patents and Trademarks, as well as all other applicable patent offices throughout the world, to issue all letters patent on said Invention to ASSIGNEE. ASSIGNORS agree to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said Invention, for litigation

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Inventors: Leo Parker Dirac, Oleg Rybakov, Vijai Mohan

regarding said letters patent, or for the purpose of protecting title to said Invention or letters patent therefor.

AND ASSIGNORS DO HEREBY sell, assign, transfer, and convey to ASSIGNEE, its successors, legal representatives, and assigns all claims for damages and all remedies arising out of any violation of the rights assigned hereby that may have accrued prior to the date of assignment to ASSIGNEE, or may accrue hereafter, including, but not limited to, the right to sue for, collect, and retain damages for past infringements of said letters patent before or after issuance.

AND ASSIGNORS DO HEREBY covenant and agree that ASSIGNORS will communicate to ASSIGNEE, its successors, legal representatives and assigns, any facts known to ASSIGNOR respecting the Invention or said Application, and testify in any legal proceeding, assist in the preparation of any other patent property relating to the Application and the Invention or any improvements made thereto, sign/execute all lawful papers, provide all requested documents, execute and make all rightful oaths and/or declarations in connection with the Application and the Invention including any improvements made thereto, any patent applications filed therefrom, and any continuing application filed from any of the aforementioned applications, and generally do everything possible to aid ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for the Invention in all countries. These provisions are binding upon ASSIGNOR's heirs, legal representatives, administrators, and assigns.

**PATENT ASSIGNMENT AND DECLARATION (37 CFR 1.63)**

U.S. Patent Appln. No. 15/442,453

Attorney Docket No. SEAZN.1301A

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Inventors: Leo Parker Dirac, Oleg Rybakov, Vijai Mohan

**DECLARATION**

As a below named inventor, I hereby declare that:

This declaration is directed to:

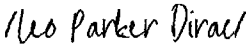
- the attached application; or
- United States Patent Application number 15/442,453 filed on February 24, 2017; or
- PCT International Application number \_\_\_\_\_ filed on \_\_\_\_\_.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed Invention in the application.

I have reviewed and understand the contents of the above-identified application, and acknowledge the duty to disclose to the US Patent & Trademark Office all information known to me to be material to the patentability as defined in 37 CFR 1.56.

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

DocuSigned by:  
  
748BDD0C7380417...  
 \_\_\_\_\_  
**Leo Parker Dirac**

March 2, 2017  
 \_\_\_\_\_  
 Date

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U.S. Patent Appln. No. 15/442,453

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

DocuSigned by:  
  
 \_\_\_\_\_  
**Oleg Rybakov**

March 1, 2017  
 \_\_\_\_\_  
 Date

**PATENT ASSIGNMENT AND DECLARATION (37 CFR 1.63)**

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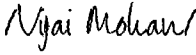
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DocuSigned by:  
  
 39A3E400833B4E4...  
 \_\_\_\_\_  
**Vijai Mohan**

March 1, 2017  
 \_\_\_\_\_  
 Date