

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
QINGFENG HE	05/22/2009
KHOSROW MOSLEHI	05/22/2009
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PENG PENG	05/22/2009
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<b>Property Type</b>	<b>Number</b>
Application Number:	12472440
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<b>SIGNATURE:</b>	/LISA SCHODROWSKI/
<b>DATE SIGNED:</b>	03/30/2018
<b>Total Attachments: 5</b>	
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**PATENT**

**REEL: 045394 FRAME: 0312**

US Application No.: 61/056093  
Attorney Docket No.: US0813PA

### ASSIGNMENT

This ASSIGNMENT, effective as of May 22, 2009, by Qingfeng He, Khosrow Moslehi, Xiaoming Feng and Peng Peng residing at 8012 Morrell Lane, Durham, North Carolina 27713; 282 Whitclem Drive, Palo Alto, California 94306; 203 Downing Forest Place, Cary, North Carolina 27519 and 1425 Pine Grove Way, San Jose, California 95129, respectively (hereinafter referred to as the "Assignor"), have invented certain new and useful improvements described in the application for Letters Patent of the United States entitled: METHOD OF CONSTRUCTING CAUSALITY NETWORK GRAPHS AND VISUAL INFERENCE PRESENTATIONS FOR BUSINESS RULE APPLICATIONS

which application is:

(1) ☒ a provisional application

- (a) ☒ having Serial No. 61/056,093, filed on May 27, 2008;  
(b) ☐ to be filed with this Assignment; or

(2) ☒ a non-provisional application

- (a) ☒ having Serial No. 12/472,440, filed on May 27, 2009;  
(b) ☐ having an oath or declaration executed on the same date as the execution date of this Assignment and those execution dates are prior to the filing of the U.S. patent application for this invention.

For good and sufficient consideration, the receipt of which is hereby acknowledged, each Assignor agrees to assign, and hereby does assign, transfer and set over to ABB Research Ltd., a corporation duly organized under the laws of Switzerland, and having a principal place of business at Affolternstrasse 44, Zurich, Switzerland CH-8050, (hereinafter referred to as the Assignee) his or her entire right, title and interest in the invention or inventions as represented by the application for patent identified herein (the "Application") in the United States, its territories, dependencies and possessions, and for all other national jurisdictions and international entities that have the power to grant patents, wherever situated, including without limitation all applications for patent which claim priority to and/or the benefit of the subject matter disclosed in the Application for patent identified herein, including any utility application and/or design application, as well as any continuation application, divisional application, continuation-in-part application, reissue application, reexamination application, patent interference proceeding, and any foreign national application and/or any application filed or to be filed under a patent treaty such as the International Convention for Protection of Industrial Property and/or the Patent Cooperation Treaty, and any Letters Patent which may be granted therefor in any jurisdiction.

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Each Assignor agrees to execute all papers and documents and perform any act which maybe necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

Each Assignor agrees to perform all affirmative acts which may be necessary to obtain a grant of a valid United States Patent to the Assignee.

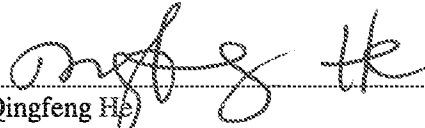
Each Assignor agrees to and with the Assignee, its successors, legal representatives, and assigns that the Assignors will, whenever counsel of the Assignee, or the counsel of its successors, legal representatives, and assigns, shall advise that any proceeding in connection with said inventions or said applications for Letters Patent or Patents, or any proceeding in connection with Letters Patent or Patents for said inventions in any country, including interference proceedings, is lawful and desirable, or that any application claiming priority to said application, division, continuation, or continuation-in-part of any applications for Letters Patent or Patents, or any reissue or extension of any Letters Patent or Patents to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement, and defense of Letters Patent or Patents for said inventions, without charge to the Assignee, its successors, legal representatives, and assigns, but at the cost and expense of the Assignee, its successors, legal representatives, and assigns.

Each Assignor hereby authorizes and requests the Director of the United States Patent and Trademark Office to issue any and all Letters Patent of the United States resulting from the Application or any divisions or continuing applications thereof to the Assignee of the entire interest in the inventions and hereby covenant that he or she has the full right to convey the entire interest herein assigned, and that he or she has not executed and will not execute, any agreement in conflict herewith.

Each Assignor hereby authorizes and requests the attorneys of the ABB Inc. Intellectual Property Law Department located in Wickliffe, OH to insert in this Assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office or with the rules of any other national or international Patent Office for recordation of this document or a true copy thereof.

**\*\*\*Signature of Each Assignor Appears On The Following Page(s)\*\*\***

US Application No.: 61/056093  
Attorney Docket No.: US0813PA

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Xiaoming Feng

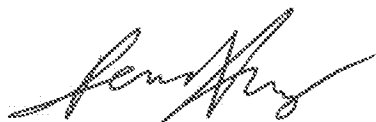
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