

PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT5703294

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
DEEPMAP CAYMAN LIMITED	09/04/2019
RECEIVING PARTY DATA	
Name:	DEEPMAP INC.
Street Address:	2197 E. BAYSHORE ROAD
City:	PALO ALTO
State/Country:	CALIFORNIA
Postal Code:	94303
PROPERTY NUMBERS Total: 39	
Property Type	Number
Application Number:	62441065
Application Number:	62441072
Application Number:	62441069
Application Number:	62441078
Application Number:	62441080
Application Number:	62574744
Application Number:	62588157
Application Number:	62589873
Application Number:	62593334
Application Number:	15853633
Application Number:	15853614
PCT Number:	US2017068351
Application Number:	15855547
PCT Number:	US2017068597
PCT Number:	US2017068595
Application Number:	15855116
Application Number:	15855144
Application Number:	15855557
Application Number:	15857611
Application Number:	15857609

Property Type	Number
Application Number:	15857606
Application Number:	15857383
PCT Number:	US2017068840
PCT Number:	US2017068809
PCT Number:	US2017068834
Application Number:	15857612
Application Number:	15857417
Application Number:	15857558
Application Number:	15859202
Application Number:	15859011
PCT Number:	US2017069128
PCT Number:	US2017069104
Application Number:	15859182
Application Number:	15859194
Application Number:	15859014
Application Number:	62637997
Application Number:	62637993
Application Number:	15857602
Application Number:	15858987

CORRESPONDENCE DATA

Fax Number: (650)938-5200

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.

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ATTORNEY DOCKET NUMBER:	33632-01000
NAME OF SUBMITTER:	RAJENDRA B. PANWAR, REG NO 63165
SIGNATURE:	/Rajendra Panwar/
DATE SIGNED:	09/05/2019

Total Attachments: 5

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ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, **DeepMap Cayman Limited**, a Cayman Islands Company, having a place of business at Suite #4-210, Governors Square, 23 Lime Tree Bay Avenue, PO Box 32311, Grand Cayman KY1-1209, Cayman Islands ("ASSIGNOR"), has sold, assigned, and transferred and does hereby sell, assign, and transfer to **DeepMap Inc.**, a Delaware Incorporation, having a place of business at 2197 E. Bayshore Road, Palo Alto, California 94303, United States of America ("ASSIGNEE"), for itself and its successors, transferees, and assignees, the following:

1. The entire worldwide right, title, and interest in all inventions and improvements ("SUBJECT MATTER") that are disclosed in the following provisional or non-provisional applications filed under 35 U.S.C. § 111, design applications filed under 35 U.S.C. § 171, Registered Community Designs, international applications filed according to the Patent Cooperation Treaty (PCT), U.S. national phase applications filed under 35 U.S.C. § 371, and any patents issuing thereon ("PATENT RIGHTS"), as listed in **Appendix A**, and;

2. The entire worldwide right, title, and interest in and to:
(a) the PATENT RIGHTS, including any right of priority; (b) any provisional, divisional, continuation, substitute, renewal, reissue, and other related applications thereto which have been or may be filed in the United States or elsewhere in the world; (c) any patents which may be granted on the applications set forth in (a) and (b) above; and (d) the right to sue in its own name and to recover for past infringement of any or all of any applications or patents issuing therefrom together with all rights to recover damages for infringement of provisional rights.

ASSIGNOR agrees to do the following, when requested, and without further consideration, in order to carry out the intent of this Assignment: (1) execute all oaths, assignments, powers of attorney, applications, and other papers necessary or desirable to fully secure to ASSIGNEE the rights, titles and interests herein conveyed; (2) communicate to ASSIGNEE all known facts relating to the SUBJECT MATTER of the above-identified patent applications and Letters Patents; and (3) generally do all lawful acts that ASSIGNEE shall consider desirable for securing, maintaining, and enforcing worldwide patent protection relating to the SUBJECT MATTER of the above-identified patent applications and Letters Patents and for vesting in ASSIGNEE the rights, titles, and interests herein conveyed. ASSIGNOR further agrees to provide any successor, transferee, assignee, or legal representative of ASSIGNEE with the benefits and assistance provided to ASSIGNEE hereunder.

ASSIGNOR represents that ASSIGNOR has the rights, titles, and interests to convey as set forth herein, and covenants with ASSIGNEE that the ASSIGNOR has made or will make hereafter no assignment, grant, mortgage, license, or other agreement affecting the rights, titles, and interests herein conveyed.

Duly Authorized Representative of ASSIGNOR



Xiaqing Wu
CEO
DeepMap Cayman Limited

Date of Signature

9/4/2019

Duly Authorized Representative of ASSIGNEE



Xiaqing Wu
CEO
DeepMap Inc.

Date of Signature

9/4/2019

Appendix A

COUNTRY	APPLICATION NUMBER	FILING DATE	TITLE
US	62/441,065	Dec 30, 2016	Optimizing Map Data Size
US	62/441,072	Dec 30, 2016	Customize High Definition Maps for On-Vehicle Location Services
US	62/441,069	Dec 30, 2016	Dynamic High Definition Map Update
US	62/441,078	Dec 30, 2016	Improved Routing for Using High Definition Maps in Vehicles
US	62/441,080	Dec 30, 2016	High Definition Map Creation with Improved Precision and Accuracy
US	62/574,744	Oct 19, 2017	Lidar to Camera Calibration for Generating High Definition Maps
US	62/588,157	Nov 17, 2017	Iterative Closest Point Process Based on Lidar with Integrated Motion Estimation for High Definition Maps
US	62/589,873	Nov 22, 2017	Accuracy of Global Navigation Satellite System Based Positioning Using High Definition Map Based Localization
US	62/593,334	Dec 1, 2017	High Definition Map Based Localization Optimization
US	15/853,633	Dec 22, 2017	Representing Navigable Surface Boundaries of Lanes in High Definition Maps for Autonomous Vehicles
US	15/853,614	Dec 22, 2017	Route Generation Using High Definition Maps for Autonomous Vehicles
WO	PCT/US2017/068351	Dec 22, 2017	Route Generation Using High Definition Maps for Autonomous Vehicles
US	15/855,547	Dec 27, 2017	Enrichment of Point Cloud Data for High-Definition Maps for Autonomous Vehicles
WO	PCT/US2017/068597	Dec 27, 2017	Visual Odometry and Pairwise Alignment for High Definition Map Creation
WO	PCT/US2017/068595	Dec 27, 2017	Enrichment of Point Cloud Data for High-Definition Maps for Autonomous Vehicles
US	15/855,116	Dec 27, 2017	Visual Odometry and Pairwise Alignment for High Definition Map Creation
US	15/855,144	Dec 27, 2017	Visual Odometry and Pairwise Alignment for High Definition Map Creation
US	15/855,557	Dec 27, 2017	Detection of Vertical Structures Based on Lidar Scanner Data for High-Definition Maps for Autonomous Vehicles

US	15/857,602	Dec 28, 2017	Alignment of Data Captured by Autonomous Vehicles to Generate High Definition Maps
US	15/857,611	Dec 28, 2017	Incremental Updates of Pose Graphs for Generating High Definition Maps for Navigating Autonomous Vehicles
US	15/857,609	Dec 28, 2017	Detection of Misalignment Hotspots for High Definition Maps for Navigating Autonomous Vehicles
US	15/857,606	Dec 28, 2017	Distributed Processing of Pose Graphs for Generating High Definition Maps for Navigating Autonomous Vehicles
US	15/857,383	Dec 28, 2017	Vector Data Encoding of High Definition Map Data for Autonomous Vehicles
WO	PCT/US2017/068840	Dec 28, 2017	Alignment of Data Captured by Autonomous Vehicles to Generate High Definition Maps
WO	PCT/US2017/068809	Dec 28, 2017	Vector Data Encoding of High Definition Map Data for Autonomous Vehicles
WO	PCT/US2017/068834	Dec 28, 2017	High Definition Map and Route Storage Management System for Autonomous Vehicles
US	15/857,612	Dec 28, 2017	Classification of Surfaces as Hard/Soft for Combining Data Captured by Autonomous Vehicles for Generating High Definition Maps
US	15/857,417	Dec 28, 2017	Encoding LIDAR Scanned Data for Generating High Definition Maps for Autonomous Vehicles
US	15/857,558	Dec 28, 2017	High Definition Map and Route Storage Management System for Autonomous Vehicles
US	15/859,202	Dec 29, 2017	Lane Network Construction Using High Definition Maps for Autonomous Vehicles
US	15/859,011	Dec 29, 2017	High Definition Map Updates Based on Sensor Data Collected by Autonomous Vehicles
US	15/858,987	Dec 29, 2017	High Definition Map Updates with Vehicle Data Load Balancing
WO	PCT/US2017/069128	Dec 29, 2017	Sign and Lane Creation for High Definition Maps Used for Autonomous Vehicles
WO	PCT/US2017/069104	Dec 29, 2017	High Definition Map Updates
US	15/859,182	Dec 29, 2017	Traffic Sign Feature Creation for High Definition Maps Used for Navigating Autonomous Vehicles
US	15/859,194	Dec 29, 2017	Lane Line Creation for High Definition Maps for Autonomous Vehicles

US	15/859,014	Dec 29, 2017	Occupancy Map Updates Based on Sensor Data Collected by Autonomous Vehicles
US	62/637,997	Mar 2, 2018	Camera Based Localization for Autonomous Vehicles
US	62/637,993	Mar 2, 2018	High Definition Map Based Visualization