PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT5842522

SUBMISSION TYPE:	CORRECTIVE ASSIGNMENT
NATURE OF CONVEYANCE:	Corrective Assignment to correct the NATURE OF CONVEYANCE FROM CHANGE OF NAME TO ASSIGNMENT previously recorded on Reel 050353 Frame 0884. Assignor(s) hereby confirms the CORRECT CONVEYANCE SHOULD BE ASSIGNMENT.

CONVEYING PARTY DATA

Name	Execution Date
UBER TECHNOLOGIES, INC.	07/02/2019

RECEIVING PARTY DATA

Name:	UATC, LLC
Street Address:	1455 MARKET STREET, 4TH FLOOR
City:	SAN FRANCISCO
State/Country:	CALIFORNIA
Postal Code:	94103

PROPERTY NUMBERS Total: 463

Property Type	Number
Application Number:	09824543
Application Number:	62623815
Application Number:	62623171
Application Number:	62623155
Application Number:	62622233
Application Number:	62620735
Application Number:	62620656
Application Number:	62619147
Application Number:	62618383
Application Number:	62618367
Application Number:	62617417
Application Number:	62617409
Application Number:	62616820
Application Number:	62616542
Application Number:	62615740
Application Number:	62615206
Application Number:	62614545
Application Number:	62613845

Property Type	Number
Application Number:	62598125
Application Number:	62597450
Application Number:	62596308
Application Number:	62595906
Application Number:	62595693
Application Number:	62595193
Application Number:	62594631
Application Number:	62593454
Application Number:	62593422
Application Number:	62592529
Application Number:	62592527
Application Number:	62592024
Application Number:	62589951
Application Number:	62589701
Application Number:	62586777
Application Number:	62586770
Application Number:	62586759
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Application Number:	62586668
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Application Number:	62584268
Application Number:	62583153
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Application Number:	62579528
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Application Number:	62576844
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Application Number:	62574247
Application Number:	62573761
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Property Type	Number
Application Number:	62570955
Application Number:	62569718
Application Number:	62569054
Application Number:	62568839
Application Number:	62567533
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Property Type	Number
Application Number:	62516531
Application Number:	62510515
Application Number:	62489524
Application Number:	62487735
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Property Type	Number
Application Number:	16123233
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Property Type	Number
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PCT Number:	US2016054250
PCT Number:	US2016049736
PCT Number:	US2016031929

CORRESPONDENCE DATA

Fax Number: (864)233-7342

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.

Email: USDOCKETING@DORITY-MANNING.COM,
jchapman@dority-manning.com

Correspondent Name: DORITY & MANNING, P.A. AND UATC, LLC

Address Line 1: PO BOX 1449

Address Line 4: GREENVILLE, SOUTH CAROLINA 29602

ATTORNEY DOCKET NUMBER:	UBER-GEN
NAME OF SUBMITTER:	ERIK K. SIVERTSON

SIGNATURE:	/Erik K. Sivertson/
DATE SIGNED:	11/27/2019

Total Attachments: 46

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PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT5714898

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	CHANGE OF NAME

CONVEYING PARTY DATA

Name	Execution Date
UBER TECHNOLOGIES, INC.	07/02/2019

RECEIVING PARTY DATA

Name:	UATC, LLC
Street Address:	1455 MARKET STREET, 4TH FLOOR
City:	SAN FRANCISCO
State/Country:	CALIFORNIA
Postal Code:	94103

PROPERTY NUMBERS Total: 463

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Application Number:	62620656
Application Number:	62619147
Application Number:	62618383
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Application Number:	62616542
Application Number:	62615740
Application Number:	62615206
Application Number:	62614545
Application Number:	62613845
Application Number:	62598125
Application Number:	62597450

PATENT ASSIGNMENT

This Patent Assignment (this "***Assignment***"), dated and effective as of July 1, 2019 (the "***Effective Date***"), is entered into by and among Uber Technologies, Inc., a Delaware corporation ("***Uber***"), Auto Horizon, LLC, a Delaware limited liability company ("***Auto Horizon***"), and UATC, LLC, a Delaware limited liability company ("***UATC***"). Uber, Auto Horizon and UATC are sometimes referred to herein individually as a "***Party***" and collectively as the "***Parties***."

WHEREAS, prior to the Effective Date, Uber, Rennpferd, LLC, a Delaware limited liability company and the sole Auto Horizon equity holder ("***Rennpferd***") and Auto Horizon entered into that certain Patent Distribution Agreement, dated as of June 29, 2019 (the "***Distribution Agreement***"), pursuant to which Auto Horizon distributed, transferred and assigned all right, title and interest in and to the patents and patent applications listed on the attached Exhibit A (the "***AH Patents***") owned by Auto Horizon to Rennpferd, and then Rennpferd immediately distributed, transferred and assigned all right, title and interest in and to the AH Patents to Uber (the "***AH Transfer***");

WHEREAS, prior to the Effective Date but following the completion of the AH Transfer, Uber, certain of Uber's subsidiaries and UATC entered into that certain Business Asset Contribution Agreement, dated as of June 30, 2019 (the "***Contribution Agreement***"), pursuant to which, among other things, Uber contributed, transferred and assigned to UATC all of Uber's right, title and interest in and to (i) the AH Patents and (ii) the patents and patent applications listed on the attached Exhibit B (the "***UTI Patents***", and, together with the AH Patents, the "***Transferred Patents***").

NOW THEREFORE, for good and valuable consideration, the receipt of which is acknowledged, Auto Horizon (on behalf of Uber as the registered owner of the AH Patents) and Uber (collectively, the "***Registered Patent Holders***") hereby assign and transfer to UATC all right, title and interest in and to the Transferred Patents owned by the Registered Patent Holders including in and to any and all divisionals, continuations, continuations-in-part, substitutes, reexaminations, renewals, reissues and patents which have or which may be filed thereon or may be granted therefor, including any and all counterparts worldwide, including all right, title and interest in and to all income, royalties, damages and payments now or hereafter due or payable with respect to the Transferred Patents, and all causes of action (whether in law or equity) and the right to sue, counterclaim, and recover for the past, present and future infringement of the Transferred Patents.

Each of the Registered Patent Holders agree that if requested by UATC, without charge to either of them but at the cost and expense of UATC, each of the Registered Patent Holders will perform any reasonable action which may be necessary to secure and to vest in UATC the full and entire right, title and interest in, to and under the Transferred Patents, including promptly communicating and providing any and all known and accessible facts, data or any other pertinent information thereof and promptly executing and delivering any and all papers, documents, forms, declarations, oaths, affidavits and other legal instruments.

The Registered Patent Holders authorize and request any official of any country or countries, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to UATC, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

[Counterpart Signature Pages Follow]

IN WITNESS WHEREOF, the Parties have caused this Patent Assignment to be signed by a duly authorized representative to be effective as of July 1, 2019.

UBER TECHNOLOGIES, INC.

By: _____
Name: Francois Chadwick
Title: VP, Tax & Accounting

Please see attached

State of _____)
) ss.
County of _____)

On _____, before me, _____, Notary Public, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence, to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

_____
Signature of Notary Public

Place Notary Seal Above

My Commission Expires: _____

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of San Francisco)

On 7/1/2019 before me, James Wiley Molito, Notary Public
(insert name and title of the officer)

personally appeared Francois Chadwick,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

JAMES WILEY MOLITO
Notary Public - California
San Francisco County
Commission # 2163988
My Comm. Expires Sep 2, 2020

Signature _____ (Seal)

IN WITNESS WHEREOF, the Parties have caused this Patent Assignment to be signed by a duly authorized representative to be effective as of July 1, 2019.

AUTO HORIZON, LLC

By: _____
Name: Francois Chadwick
Title: Manager

Please see attached

State of _____)
) *ss.*
County of _____)

On _____, before me, _____, Notary Public, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence, to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

_____
Signature of Notary Public

Place Notary Seal Above

My Commission Expires: _____

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of San Francisco)

On 3/1/2019 before me, James Wiley Molito, Notary Public
(insert name and title of the officer)

personally appeared Francis Chadwick,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

JAMES WILEY MOLITO
Notary Public - California
San Francisco County
Commission # 2163988
My Comm. Expires Sep 2, 2020

Signature _____ (Seal)

IN WITNESS WHEREOF, the Parties have caused this Patent Assignment to be signed by a duly authorized representative to be effective as of July 1, 2019.

UATC, LLC

By: _____
Name: Keir Gumbs
Title: Manager

State of _____) District of Columbia
) ss.
County of _____)

On July 2nd, 2019, before me, Morgan Harris Kerr Gumbs, Notary Public, personally appeared Keir Gumbs, personally known to me or proved to me on the basis of satisfactory evidence, to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

_____
Signature of Notary Public

MORGHSN FAIRLEY HARRIS
NOTARY PUBLIC DISTRICT OF COLUMBIA
My Commission Expires June 30, 2020

Place Notary Seal Above

My Commission Expires: _____

NOTARY PUBLIC DISTRICT OF COLUMBIA
MORGHSN FAIRLEY HARRIS
6-30-20
EXP

Signature Page to Patent Assignment

Exhibit B

UTI Patents

IP Right: IP Right ID	Title	Filing Date	Application Number	Earliest Priority Date	Publication Number	Publication Date	Issue Date	IP Right Number	Provisional	Country Code	Country Name	IP Right Status
UP-00147US-3	FORMATTING SENSOR DATA FOR USE IN AUTONOMOUS VEHICLE COMMUNICATIONS PLATFORM	12/11/2015	14/967,205	12/11/2015	20170168494	6/15/2017	10/10/2017	9785150	0	US	United States	In Force
UP-00147US-2	SYSTEM FOR PROCESSING ASYNCHRONOUS SENSOR DATA	12/11/2015	14/967,178	12/11/2015	9596666	3/14/2017	3/14/2017	9596666	0	US	United States	In Force
UP-00147US-1	SYSTEM FOR ACQUIRING TIME-SYNCHRONIZED SENSOR DATA	12/11/2015	14/967,154	12/11/2015	9537956	1/3/2017	1/3/2017	9537956	0	US	United States	In Force
UP-00191US	AUTONOMOUS VEHICLE DIAGNOSTIC SYSTEM	8/16/2016	15/238,093	8/16/2016	20180050704	2/22/2018	11/27/2018	10137903	0	US	United States	In Force
UP-00168US	SYSTEM AND METHOD OF SENSOR TRIGGERING FOR SYNCHRONIZED OPERATION	3/21/2017	15/464,787	3/21/2016	20170269601	9/21/2017	10/30/2018	10114103	0	US	United States	In Force
UP-00147US-3CIP	FORMATTING SENSOR DATA FOR USE IN AUTONOMOUS VEHICLE COMMUNICATIONS PLATFORM	10/5/2017	15/726,050	12/11/2015	20180088584	3/29/2018	10/16/2018	10101747	0	US	United States	In Force
UP-00147US-3CIP1C1	FORMATTING SENSOR DATA FOR USE IN AUTONOMOUS VEHICLE COMMUNICATIONS PLATFORM	8/21/2018	16/106,936	12/11/2015	20190004530	1/3/2019			0	US	United States	Pending
UP-00411WO	SYSTEMS AND METHODS TO OBTAIN FEEDBACK IN RESPONSE TO AUTONOMOUS VEHICLE FAILURE EVENTS	6/15/2018	PCT/US2018/037757	6/16/2017					0	WO	WIPO (PCT)	Pending
UP-00168USP	SYSTEM AND METHOD OF SENSOR TRIGGERING FOR SYNCHRONIZED OPERATION	3/21/2016	62/311,267	3/21/2016					1	US	United States	Lapsed
UP-00324USP	Autonomy Monitoring Systems and Methods for a Vehicle	4/20/2017	62/487,735	4/20/2017					1	US	United States	Lapsed
[redacted]												
UP-00411US	Systems and Methods to Obtain Feedback in Response to Autonomous Vehicle Failure Events	6/16/2017	15/625,255	6/16/2017	20180365913	12/20/2018			0	US	United States	Pending
UP-00468USP	Systems and Methods for a Vehicle Application Programming Interface	10/11/2017	62/570,955	10/11/2017					1	US	United States	Lapsed
UP-00468WO	Systems and Methods for a Vehicle Application Programming Interface	10/10/2018	PCT/US2018/055127	10/11/2017					0	WO	WIPO (PCT)	Pending
UP-00468US	Systems and Methods For a Vehicle Application Programming Interface	2/14/2018	15/896,276	10/11/2017					0	US	United States	Pending
UP-00168USC1	SYSTEM AND METHOD OF SENSOR TRIGGERING FOR SYNCHRONIZED OPERATION	7/5/2018	16/027,706	3/21/2016	20180313928	11/1/2018			0	US	United States	Pending
UP-00199US	VEHICLE SENSOR CALIBRATION SYSTEM	5/27/2016	15/166,538	5/27/2016	20170343654	11/30/2017	4/24/2018	9952317	0	US	United States	In Force
UP-00615US	Calibration of orthogonal sensor suite	4/2/2001	09/824,543	3/31/2000	20020100310	8/1/2002	5/4/2004	6729176	0	US	United States	In Force
UP-00199USC1	VEHICLE SENSOR CALIBRATION SYSTEM	11/14/2017	15/812,872	5/27/2016	20180067198	3/8/2018			0	US	United States	Pending
UP-00318US	Autonomous Vehicle Sensor Calibration System	3/31/2017	15/475,934	3/31/2017	20180284243	10/4/2018			0	US	United States	Pending
UP-00405US2	CALIBRATION FOR AN AUTONOMOUS VEHICLE LIDAR MODULE	8/17/2017	15/679,338	8/17/2017	20190056484	2/21/2019			0	US	United States	Pending
UP-00405US1	CALIBRATION FOR AN AUTONOMOUS VEHICLE LIDAR MODULE	8/17/2017	15/679,319	8/17/2017	20190056483	2/21/2019			0	US	United States	Pending

UP-00472US	INTERMEDIATE MOUNTING COMPONENT AND SENSOR SYSTEM FOR A MANSFIELD BAR OF A CARGO TRAILER	1/30/2018 15/883,889	1/30/2018			0	US	United States	Pending
[redacted]									
UP-00564USC1	GNSS/IMU Positioning, Communication, and Computation Platforms for Automotive Safety Applications	12/6/2013 14/099,271	7/15/2010 20140100713	4/10/2014	8/4/2015 9099003	0	US	United States	In Force
UP-00564US	GPS/IMU/Video/Radar Absolute/Relative Positioning Communication/Computation Sensor Platform for Automotive Safety Applications	7/15/2011 13/135,862	7/15/2010 20120290146	11/15/2012	1/28/2014 8639426	0	US	United States	In Force
UP-00586US	Microwave Vehicle-to-Vehicle Warning System	12/29/2003 10/746,692	1/8/2003 20040145494	7/29/2004	9/5/2006 7102536	0	US	United States	In Force
UP-00708US	Telecommunications Network For Vehicles	1/30/2018 15/883,715	1/12/2018			0	US	United States	Pending
UP-00596US	Cellular Device Location Discovery Systems and Methods for Autonomous Vehicles	10/10/2017 15/728,911	9/27/2017			0	US	United States	Pending
UP-00586USP	Microwave Alterting System for Vehicles	1/8/2003 60/438,536	1/8/2003			1	US	United States	Lapsed
UP-00564USP	GPS/IMU/Video/Radar Absolute/Relative Positioning Communication Sensor Platform for Automotive Safety Applications	7/15/2010 61/399,613	7/15/2010			1	US	United States	Lapsed
UP-00708USP	Telecommunications Network For Autonomous Vehicles	1/12/2018 62/616,820	1/12/2018			1	US	United States	Lapsed
UP-00596USP	Cellular Device Location Discovery Systems and Methods for Autonomous Vehicles	9/27/2017 62/563,697	9/27/2017			1	US	United States	Lapsed
[redacted]									

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UP-00170US-2	UTILIZING ACCELEROMETER DATA TO CONFIGURE AN AUTONOMOUS VEHICLE FOR A USER	4/1/2016	15/089,408	4/1/2016	20170284819	10/5/2017	6/5/2018	9989645	0	US	United States	In Force
UP-00108USC3	DETECTING OBJECTS WITHIN A VEHICLE IN CONNECTION WITH A SERVICE	6/21/2017	15/629,372	5/11/2015	20170284148	10/5/2017	5/8/2018	9963926	0	US	United States	In Force
UP-00122US	CONTROLLING AUTONOMOUS VEHICLES IN CONNECTION WITH TRANSPORT SERVICES	11/21/2016	15/358,033	11/20/2015	20170147959	5/25/2017	4/24/2018	9953283	0	US	United States	In Force
UP-00192US-2	VIRTUAL REALITY EXPERIENCE FOR A VEHICLE	8/5/2016	15/230,053	8/5/2016	20180040163	2/8/2018	3/20/2018	9922466	0	US	United States	In Force
UP-00108USC2	DETECTING OBJECTS WITHIN A VEHICLE IN CONNECTION WITH A SERVICE	6/21/2017	15/629,357	5/11/2015	20170284147	10/5/2017	3/6/2018	9909349	0	US	United States	In Force
UP-00171USCIP1	SENSORY STIMULATION FOR AN AUTONOMOUS VEHICLE	6/17/2016	15/186,279	3/3/2016	20170253252	9/7/2017	2/27/2018	9902403	0	US	United States	In Force
UP-00108USC1	DETECTING OBJECTS WITHIN A VEHICLE IN CONNECTION WITH A SERVICE	3/3/2017	15/449,110	5/11/2015	20170175431	6/22/2017	10/17/2017	9790729	0	US	United States	In Force
UP-00171US	SENSORY STIMULATION SYSTEM FOR AN AUTONOMOUS VEHICLE	3/3/2016	15/059,493	3/3/2016	20170253254	9/7/2017	10/17/2017	9789880	0	US	United States	In Force
UP-00108US	DETECTING OBJECTS WITHIN A VEHICLE IN CONNECTION WITH A SERVICE	5/11/2015	14/708,611	5/11/2015	20160332535	11/17/2016	4/11/2017	9616773	0	US	United States	In Force

[redacted]

UP-00164US	TRANSPORT VEHICLE CONFIGURATION FOR IMPAIRED RIDERS	4/27/2016	15/139,612	4/27/2016	20170316696	11/2/2017	4/9/2019	10255816	0	US	United States	Pending
UP-00170US-3C1	CONFIGURING AN AUTONOMOUS VEHICLE FOR AN UPCOMING RIDER	3/5/2018	15/911,485	4/1/2016	20180196433	7/12/2018	11/13/2018	10126749	0	US	United States	In Force

[redacted]

UP-00171USC1	SENSORY STIMULATION SYSTEM FOR AN AUTONOMOUS VEHICLE	7/17/2017	15/651,878	3/3/2016	20170313326	11/2/2017	10/30/2018	10112623	0	US	United States	In Force
UP-00170US-1	TRANSPORT FACILITATION SYSTEM FOR CONFIGURING A SERVICE VEHICLE FOR A USER	4/1/2016	15/089,402	4/1/2016	20170282821	10/5/2017	10/9/2018	10093252	0	US	United States	In Force

UP-00192US-1	VIRTUAL REALITY EXPERIENCE FOR A VEHICLE	8/5/2016 15/229,923	8/5/2016 20180040162	2/8/2018	8/7/2018 10043316	0	US	United States	In Force
UP-00170US-3	OPTIMIZING TIMING FOR CONFIGURING AN AUTONOMOUS VEHICLE	4/1/2016 15/089,416	4/1/2016 20170285642	10/5/2017	7/3/2018 10012990	0	US	United States	In Force
UP-00329WO	SYSTEM FOR SAFE PASSENGER DEPARTURE FROM AUTONOMOUS VEHICLE	3/27/2018 PCT/US2018/024480	3/31/2017 2018183267	10/4/2018		0	WO	WIPO (PCT)	Pending
UP-00409WO	SYSTEMS AND METHODS TO OBTAIN PASSENGER FEEDBACK IN RESPONSE TO AUTONOMOUS VEHICLE DRIVING EVENTS	6/15/2018 PCT/US2018/037750	6/16/2017			0	WO	WIPO (PCT)	Pending
UP-00720US	Autonomous Vehicle Interface System With Multiple Interface Devices Featuring Redundant Vehicle Commands	2/21/2018 15/901,424	2/12/2018			0	US	United States	Pending
UP-00482WO	Systems and Methods for Communicating Intent of an Autonomous Vehicle	8/20/2018 PCT/US2018/047044	8/28/2017			0	WO	WIPO (PCT)	Pending
[redacted]									
UP-00108CN	DETECTING OBJECTS WITHIN A VEHICLE IN CONNECTION WITH A SERVICE	5/11/2016 201680040538.2	5/11/2015 107873098	4/3/2018		0	CN	China	Pending
UP-00721WO	State-Based Autonomous-Vehicle Operations	2/13/2019 PCT/US2019/017837	2/14/2018			0	WO	WIPO (PCT)	Pending
UP-00396WO	SYSTEM AND METHODS TO ENABLE USER CONTROL OF AN AUTONOMOUS VEHICLE	6/6/2018 PCT/US2018/036246	6/7/2017			0	WO	WIPO (PCT)	Pending
UP-00497WO	Systems and Methods for Determining When to Release Control of an Autonomous Vehicle	8/27/2018 PCT/US2018/048098	8/31/2017			0	WO	WIPO (PCT)	Pending
UP-00163WO	FACILITATING RIDER PICK-UP FOR A SELF-DRIVING VEHICLE	5/26/2017 PCT/US2017/034819	5/27/2016 2017205822	11/30/2017		0	WO	WIPO (PCT)	Pending
UP-00465USP	COORDINATING ON-DEMAND TRANSPORT USING REQUESTOR LOCALIZATION	9/28/2017 62/564,451	9/28/2017			1	US	United States	Lapsed
UP-00170US-1C1	TRANSPORT FACILITATION SYSTEM FOR CONFIGURING A SERVICE VEHICLE FOR A USER	6/15/2018 16/009,558	4/1/2016 20180290610	10/11/2018		0	US	United States	Pending
UP-00395USP	Systems and Methods for Changing Autonomous Vehicle Operations Based on User Profiles	6/20/2017 62/522,207	6/20/2017			1	US	United States	Lapsed

UP-00170WO	TRANSPORT FACILITATION SYSTEM FOR CONFIGURING A SERVICE VEHICLE FOR A USER	3/21/2017 PCT/US2017/023411	4/1/2016 2017172415	10/5/2017	0	WO	WIPO (PCT)	Pending
UP-00603US	Systems and Methods for Presenting Virtual Content in a Vehicle	11/9/2017 15/807,932	10/31/2017		0	US	United States	Pending
UP-00329US	System for Safe Passenger Departure from Autonomous Vehicle	3/31/2017 15/475,881	3/31/2017 20180284793	10/4/2018	0	US	United States	Pending
UP-00163USP	FACILITATING RIDER PICK-UP FOR A SELF-DRIVING VEHICLE	5/27/2016 62/342,797	5/27/2016		1	US	United States	Lapsed
UP-00320USP	Autonomous Vehicle System for Blending Sensor Data	3/31/2017 62/479,639	3/31/2017		1	US	United States	Lapsed
UP-00320US	Autonomous Vehicle System for Blending Sensor Data	6/5/2017 15/613,636	3/31/2017 20180284779	10/4/2018	0	US	United States	Pending
UP-00225US	PERSONALIZING RIDE EXPERIENCE BASED ON CONTEXTUAL RIDE USAGE DATA	11/11/2016 15/349,648	11/11/2016 20180137593	5/17/2018	0	US	United States	Pending
UP-00583USP	Seamless Vehicle Entry	12/1/2017 62/593,422	12/1/2017		1	US	United States	Lapsed
UP-00122WO	CONTROLLING AUTONOMOUS VEHICLES IN CONNECTION WITH TRANSPORT SERVICES	11/21/2016 PCT/US2016/063203	11/20/2015 2017087984	5/26/2017	0	WO	WIPO (PCT)	Lapsed
UP-00122USP	CONTROLLING AUTONOMOUS VEHICLES IN CONNECTION WITH TRANSPORT SERVICES	11/20/2015 62/258,066	11/20/2015		1	US	United States	Lapsed
UP-00425US	Systems and Methods for Providing User Access to an Autonomous Vehicle	7/27/2017 15/661,608	7/27/2017 20190031144	1/31/2019	0	US	United States	Pending
UP-00556USP	Systems and Methods for Signaling Intentions to Riders	10/18/2017 62/573,761	10/18/2017		1	US	United States	Lapsed
UP-00423USP	System and Methods for Controlling Autonomous Vehicles that Provide a Vehicle Service to Users	5/24/2017 62/510,515	5/24/2017		1	US	United States	Lapsed
UP-00423US2	Systems and Methods for Controlling Autonomous Vehicles that Provide a Vehicle Service to Users	7/28/2017 15/662,327	5/24/2017 20180342157	11/29/2018	0	US	United States	Pending
UP-00200US	VEHICLE WORK ENVIRONMENT	11/14/2016 15/351,209	11/14/2016 20180137470	5/17/2018	0	US	United States	Pending
UP-00498USP	Systems and Methods for Determining Whether an Autonomous Vehicle Can Provide a Requested Service for a Rider	9/28/2017 62/564,326	9/28/2017		1	US	United States	Lapsed
UP-00497USP	Systems and Methods for Determining When to Release Control of an Autonomous Vehicle	8/31/2017 62/552,558	8/31/2017		1	US	United States	Lapsed
UP-00497US	Systems and Methods for Determining When to Release Control of an Autonomous Vehicle	10/4/2017 15/724,728	8/31/2017 20190064806	2/28/2019	0	US	United States	Pending
UP-00423US1	Systems and Methods for Controlling Autonomous Vehicles that Provide a Vehicle Service to Users	7/28/2017 15/662,314	5/24/2017 20180341274	11/29/2018	0	US	United States	Pending
UP-00375US	PERSONALIZED CONTENT CREATION FOR AUTONOMOUS VEHICLE RIDES	3/9/2017 15/454,941	3/9/2017 20180259958	9/13/2018	0	US	United States	Pending
UP-00374US	COORDINATING ON-DEMAND TRANSPORTATION WITH AUTONOMOUS VEHICLES	5/25/2017 15/605,060	5/25/2017 20180342035	11/29/2018	0	US	United States	Pending

UP-00417USP	Vehicle Door Strike Prevention for Autonomous Vehicles	7/12/2017	62/531,508	7/12/2017			1	US	United States	Lapsed
UP-00482US	Systems and Methods for Communicating Intent of an Autonomous Vehicle	9/11/2017	15/700,211	8/28/2017	20190064824	2/28/2019	0	US	United States	Pending
[redacted]										
UP-00415US	Supervised Movement of Autonomous Vehicle	11/1/2017	15/800,494	7/14/2017	20190018413	1/17/2019	0	US	United States	Pending
UP-00186US	RIDER-VEHICLE HANDSHAKE	4/8/2016	15/094,899	4/8/2016	20170294130	10/12/2017	0	US	United States	Pending
UP-00108WO	DETECTING OBJECTS WITHIN A VEHICLE IN CONNECTION WITH A SERVICE	5/11/2016	PCT/US2016/031929	5/11/2015	2016183241	11/17/2016	0	WO	WIPO (PCT)	Lapsed
UP-00409US	Systems and Methods to Obtain Passenger Feedback in Response to Autonomous Vehicle Driving Events	6/16/2017	15/625,145	6/16/2017	20180365740	12/20/2018	0	US	United States	Pending
UP-00396US	System and Methods to Enable User Control of an Autonomous Vehicle	6/7/2017	15/615,870	6/7/2017	20180356817	12/13/2018	0	US	United States	Pending
UP-00164USC1	TRANSPORT VEHICLE CONFIGURATION FOR IMPAIRED RIDERS	1/29/2019	16/260,663	4/27/2016			0	US	United States	Pending
UP-00482USP	Systems and Methods for Communicating Intent of an Autonomous Vehicle	8/28/2017	62/550,796	8/28/2017			1	US	United States	Lapsed
UP-00721US	State-Based Autonomous-Vehicle Operations	3/19/2018	15/924,865	2/14/2018			0	US	United States	Pending
UP-00583US	Seamless Vehicle Entry	1/23/2018	15/877,689	12/1/2017			0	US	United States	Pending
[redacted]										
UP-00171USC2	SENSORY STIMULATION SYSTEM FOR AN AUTONOMOUS VEHICLE	8/1/2018	16/051,910	3/3/2016	20180339715	11/29/2018	0	US	United States	Pending
UP-00603WO	Systems and Methods for Presenting Virtual Content in a Vehicle	10/30/2018	PCT/US2018/058163	10/31/2017			0	WO	WIPO (PCT)	Pending
UP-00556WO	Systems and Methods for Signaling Intentions to Riders	10/16/2018	PCT/US2018/056028	10/18/2017			0	WO	WIPO (PCT)	Pending
[redacted]										
UP-00108USC4	DETECTING OBJECTS WITHIN A VEHICLE IN CONNECTION WITH A SERVICE	4/4/2018	15/945,365	5/11/2015	20180223584	8/9/2018	0	US	United States	Pending
[redacted]										

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UP-00170CN	TRANSPORT FACILITATION SYSTEM FOR CONFIGURING A SERVICE VEHICLE FOR A USER	3/21/2017 201780022139.8	4/1/2016 109074621	12/21/2018		0	CN	China	Pending

[redacted]

UP-00603USP	Systems and Methods for Presenting Virtual Content in a Vehicle	10/31/2017 62/579,505	10/31/2017			1	US	United States	Lapsed
UP-00556US	Systems and Methods for Signaling Intentions to Riders	11/6/2017 15/804,428	10/18/2017			0	US	United States	Pending
UP-00122EP	CONTROLLING AUTONOMOUS VEHICLES IN CONNECTION WITH TRANSPORT SERVICES	11/21/2016 16867359.8	11/20/2015 3378032	9/26/2018		0	EP	European Patent Office	Pending

[redacted]

UP-00108EP	DETECTING OBJECTS WITHIN A VEHICLE IN CONNECTION WITH A SERVICE	5/11/2016 16793475.1	5/11/2015 3295421	3/21/2018		0	EP	European Patent Office	Pending

[redacted]

UP-00250US-1C2	VEHICLE MANAGEMENT SYSTEM	10/11/2017 15/730,234	12/14/2016 20180164814	6/14/2018	3/5/2019 10223847	0	US	United States	In Force
UP-00319US	Autonomous Vehicle Paletization System	3/31/2017 15/475,755	3/31/2017 20180284807	10/4/2018	10/9/2018 10095239	0	US	United States	In Force
UP-00249USC1	Vehicle Servicing System	10/16/2017 15/784,594	12/14/2016 20180164815	6/14/2018	7/17/2018 10025310	0	US	United States	In Force
UP-00246WO	Charge Control System for Mobile Energy Storage Fleet	1/4/2018 PCT/US2018/012323	1/13/2017 2018132293	9/20/2018		0	WO	WIPO (PCT)	Pending
UP-00710USP	Systems and Methods for On-Site Recovery of Autonomous Vehicles	1/29/2018 62/623,155	1/29/2018			1	US	United States	Lapsed
UP-00710US	Systems and Methods for On-Site Recovery of Autonomous Vehicles	1/31/2018 15/884,852	1/29/2018			0	US	United States	Pending
UP-00621US	SYSTEMS AND METHODS FOR REMOTE INSPECTION OF A VEHICLE	3/23/2018 15/933,499	1/23/2018			0	US	United States	Pending
UP-00640US	Methods, Devices, and Systems For Communicating Autonomous-Vehicle Status	1/29/2018 15/882,372	1/17/2018			0	US	United States	Pending

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UP-00671US	Task Management Platform for Autonomous Vehicles	2/28/2018	15/907,829	1/19/2018			0	US	United States	Pending
UP-00670US	Systems and Methods for Implementing Vehicle Assignments using Vehicle State Information	2/19/2018	15/898,960	1/17/2018			0	US	United States	Pending
UP-00621USP	Systems and Methods For Remote Inspection of a Vehicle	1/23/2018	62/620,656	1/23/2018			1	US	United States	Lapsed
UP-00620USP	Systems and Methods for Providing a Vehicle Service via a Transportation Network for Autonomous Vehicles	11/10/2017	62/584,268	11/10/2017			1	US	United States	Lapsed
UP-00312US	Self-Driving Delivery of Optionally-Driven Vehicles	5/16/2017	15/596,046	5/16/2017	20180335783	11/22/2018	0	US	United States	Pending
UP-00376US-13	FLEET UTILIZATION EFFICIENCY FOR ON-DEMAND TRANSPORTATION SERVICES	5/23/2017	15/602,398	5/23/2017	20180341895	11/29/2018	0	US	United States	Pending
UP-00424US	Systems and Methods for Deploying an Autonomous Vehicle to Oversee Autonomous Navigation	7/17/2017	15/651,362	7/17/2017	20190019416	1/17/2019	0	US	United States	Pending
UP-00376US-6	POST-TRIP OPTIMIZATION FOR AUTONOMOUS VEHICLES	5/23/2017	15/602,277	5/23/2017	20180341881	11/29/2018	0	US	United States	Pending
UP-00250US-2	Vehicle Management System	12/14/2016	15/379,420	12/14/2016	20180165895	6/14/2018	0	US	United States	Pending
UP-00250US-1C1	Vehicle Management System	10/11/2017	15/730,211	12/14/2016	20180164813	6/14/2018	0	US	United States	Pending
UP-00248US	Vehicle Control Device	12/14/2016	15/378,553	12/14/2016	20180164798	6/14/2018	0	US	United States	Pending
UP-00246US	Charge Control System for Mobile Energy Storage Fleet	1/13/2017	15/405,581	1/13/2017	20180201148	7/19/2018	0	US	United States	Pending
UP-00640USP	Methods, Devices, and Systems for Communicating Autonomous-Vehicle Status	1/17/2018	62/618,367	1/17/2018			1	US	United States	Lapsed
UP-00671USP	Systems and Methods for a Task Management Platform	1/19/2018	62/619,147	1/19/2018			1	US	United States	Lapsed
UP-00670USP	Systems and Methods for Implementing Vehicle Assignments Using Vehicle State Information	1/17/2018	62/618,383	1/17/2018			1	US	United States	Lapsed
UP-00620WO	SYSTEMS AND METHODS FOR PROVIDING A VEHICLE SERVICE VIA A TRANSPORTATION NETWORK FOR AUTONOMOUS VEHICLES	11/9/2018	PCT/US2018/059934	11/10/2017			0	WO	WIPO (PCT)	Pending
UP-00250WO	Vehicle Management System	12/12/2017	PCT/US2017/065818	12/14/2016	2018111877	6/21/2018	0	WO	WIPO (PCT)	Pending
UP-00687USP	Dispatching a Third-Party Autonomous Vehicle	10/20/2017	62/575,200	10/20/2017			1	US	United States	Lapsed
UP-00710WO	Systems and Methods for On-Site Recovery of Autonomous Vehicles	1/28/2019	PCT/US2019/015336	1/29/2018			0	WO	WIPO (PCT)	Pending
UP-00319USC1	Autonomous Vehicle Paletization System	9/19/2018	16/135,760	3/31/2017	20190033880	1/31/2019	0	US	United States	Pending
UP-00249USC2	Vehicle Servicing System	7/6/2018	16/029,075	12/14/2016	20180314256	11/1/2018	0	US	United States	Pending
UP-00249WO	Vehicle Servicing System	12/12/2017	PCT/US2017/065814	12/14/2016	2018111874	6/21/2018	0	WO	WIPO (PCT)	Pending
UP-00670WO	Systems and Methods for Implementing Vehicle Assignments Using Vehicle State Information	1/17/2019	PCT/US2019/013904	1/17/2018			0	WO	WIPO (PCT)	Pending
UP-00620US	Systems and Methods for Providing a Vehicle Service Via a Transportation Network for Autonomous Vehicles	12/21/2017	15/850,398	11/10/2017			0	US	United States	Pending

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UP-00169US	INTENTION SIGNALING FOR AN AUTONOMOUS VEHICLE	2/22/2016 15/050,237	2/22/2016 20170240096	8/24/2017	5/15/2018 9969326	0	US	United States	In Force
UP-00323US	Lidar Display Systems and Methods	4/10/2017 15/484,073	4/10/2017 9904375	2/27/2018	2/27/2018 9904375	0	US	United States	In Force
UP-00169USCIP1	LIGHTING DEVICE FOR A VEHICLE	4/29/2016 15/143,198	2/22/2016 20170240098	8/24/2017	2/27/2018 9902311	0	US	United States	In Force
UP-00469US	Systems and Methods for Communicating Autonomous Vehicle Scenario Evaluation and Intended Vehicle Actions	8/16/2017 15/678,675	8/16/2017 20190056741	2/21/2019	2/19/2019 10209716	0	US	United States	In Force
UP-00169USCIP1C1	LIGHT OUTPUT SYSTEM FOR A SELF-DRIVING VEHICLE	11/3/2017 15/803,184	2/22/2016 20180072218	3/15/2018	12/25/2018 10160378	0	US	United States	In Force
UP-00469USC1	Systems and Methods for Communicating Autonomous Vehicle Scenario Evaluation and Intended Vehicle Actions	2/15/2019 16/276,761	8/16/2017			0	US	United States	Pending
UP-00469WO	Systems and Methods for Communicating Autonomous Vehicle Scenario Evaluation and Intended Vehicle Actions	8/16/2018 PCT/US2018/000215	8/16/2017			0	WO	WIPO (PCT)	Pending
UP-00323USC1	Lidar Display Systems and Methods	2/26/2018 15/905,364	4/10/2017 20180292916	10/11/2018		0	US	United States	Pending
UP-00169CIP1WO	INTENTION SIGNALING FOR AN AUTONOMOUS VEHICLE	12/23/2016 PCT/US2016/068563	2/22/2016 2017146815	8/31/2017		0	WO	WIPO (PCT)	Pending
UP-00441US	Systems and Methods for Communicating Autonomous Vehicle Confidence Levels	7/14/2017 15/650,028	7/14/2017 20190019411	1/17/2019		0	US	United States	Pending
UP-00440US	Systems and Methods for Communicating Future Vehicle Actions to be Performed by an Autonomous Vehicle	7/14/2017 15/650,004	7/14/2017 20190015976	1/17/2019		0	US	United States	Pending

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UP-00169CIP1CN	INTENTION SIGNALING FOR AN AUTONOMOUS VEHICLE	12/23/2016 201680084495.8	2/22/2016 109070891	12/21/2018		0	CN	China	Pending

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UP-00323WO	LIDAR DISPLAY SYSTEMS AND METHODS	1/16/2018 PCT/US2018/013810	4/10/2017 2018190929	10/18/2018		0	WO	WIPO (PCT)	Pending

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UP-00140US-5	AUTONOMOUS VEHICLE LOCALIZATION USING IMAGE ANALYSIS AND MANIPULATION	6/30/2017	15/640,340	7/1/2016	20180005050	1/4/2018	0	US	United States	Pending
UP-00140US-4	AUTONOMOUS VEHICLE LOCALIZATION USING PASSIVE IMAGE DATA	6/30/2017	15/640,334	7/1/2016	20180005407	1/4/2018	0	US	United States	Pending
UP-00140US-3	AUTONOMOUS VEHICLE LOCALIZATION USING SUBMAPS	6/30/2017	15/640,313	7/1/2016	20180003511	1/4/2018	0	US	United States	Pending
UP-00662USP	Light Weight Highway Localization for Autonomous Vehicles	11/15/2017	62/586,759	11/15/2017			1	US	United States	Lapsed
UP-00662WO	Lightweight Vehicle Localization Systems and Methods	11/15/2018	PCT/US2018/061219	11/15/2017			0	WO	WIPO (PCT)	Pending

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UP-00662US	Lightweight Vehicle Localization Systems and Methods	9/6/2018	16/123,289	11/15/2017			0	US	United States	Pending

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UP-00153EP	VEHICLE TRACTION MAP FOR AUTONOMOUS VEHICLES	12/12/2016	16874074.4	12/10/2015	3386828	10/17/2018	0	EP	European Patent Office	Pending
[redacted]										
UP-00140US-1	AUTONOMOUS VEHICLE CONTROL USING SUBMAPS	6/30/2017	15/640,289	7/1/2016	20180004225	1/4/2018	0	US	United States	Pending
UP-00140US-2P	SUBMAP SYSTEM FOR USE IN AUTONOMOUSLY OPERATING VEHICLES	10/24/2016	62/412,041	10/24/2016			1	US	United States	Lapsed
UP-00140US-1P	SUBMAP SYSTEM FOR USE IN AUTONOMOUSLY OPERATING VEHICLES	7/1/2016	62/357,903	7/1/2016			1	US	United States	Lapsed
UP-00153WO	VEHICLE TRACTION MAP FOR AUTONOMOUS VEHICLES	12/12/2016	PCT/US2016/066235	12/10/2015	2017100797	6/15/2017	0	WO	WIPO (PCT)	Pending
UP-00153US-2	VEHICLE TRACTION MAP FOR AUTONOMOUS VEHICLES	12/12/2016	15/376,574	12/10/2015	20170167881	6/15/2017	0	US	United States	Pending
UP-00140-1WO	AUTONOMOUS VEHICLE CONTROL USING SUBMAPS	7/1/2017	PCT/US2017/040532	7/1/2016	2018006082	1/4/2018	0	WO	WIPO (PCT)	Pending
UP-00140US-2	SYSTEM AND METHOD FOR MANAGING SUBMAPS FOR CONTROLLING AUTONOMOUS VEHICLES	6/30/2017	15/640,296	7/1/2016	20180004226	1/4/2018	0	US	United States	Pending

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UP-00498WO	SYSTEMS AND METHODS FOR DETERMINING WHETHER AN AUTONOMOUS VEHICLE CAN PROVIDE A REQUESTED SERVICE FOR A RIDER	9/13/2018 PCT/US2018/050879	9/28/2017		0	WO	WIPO (PCT)	Pending
UP-00499WO	SYSTEMS AND METHODS FOR MATCHING AN AUTONOMOUS VEHICLE TO A RIDER	9/13/2018 PCT/US2018/050883	9/28/2017		0	WO	WIPO (PCT)	Pending
UP-00376US-5	SOFTWARE VERSION VERIFICATION FOR AUTONOMOUS VEHICLES	5/23/2017 15/602,244	5/23/2017 20180341571	11/29/2018	0	US	United States	Pending
UP-00376US-4	SOFTWARE VERSION AND MODE SWITCHING FOR AUTONOMOUS VEHICLES	5/23/2017 15/602,234	5/23/2017 20180339712	11/29/2018	0	US	United States	Pending
UP-00376US-3	VEHICLE SELECTION FOR ON-DEMAND TRANSPORTATION SERVICES	5/23/2017 15/602,223	5/23/2017 20180341880	11/29/2018	0	US	United States	Pending
UP-00499USP	Systems and Methods for Matching an Autonomous Vehicle to a Rider	9/28/2017 62/564,331	9/28/2017		1	US	United States	Lapsed
UP-00376US-2	TRIP CLASSIFICATION SYSTEM FOR ON-DEMAND TRANSPORTATION SERVICES	5/23/2017 15/602,204	5/23/2017 20180342033	11/29/2018	0	US	United States	Pending
UP-00376US-1	PATH SEGMENT RISK REGRESSION SYSTEM FOR ON-DEMAND TRANSPORTATION SERVICES	5/23/2017 15/602,197	5/23/2017 20180341261	11/29/2018	0	US	United States	Pending
UP-00376WO	PATH SEGMENT RISK REGRESSION SYSTEM FOR ON-DEMAND TRANSPORTATION SERVICES	5/17/2018 PCT/US2018/033092	5/23/2017 2018217526	11/29/2018	0	WO	WIPO (PCT)	Pending
UP-00498US	Systems and Methods for Determining Whether an Autonomous Vehicle Can Provide a Requested Service for a Rider	10/25/2017 15/792,964	9/28/2017		0	US	United States	Pending
UP-00499US	Systems and Methods for Matching an Autonomous Vehicle to a Rider	10/31/2017 15/799,323	9/28/2017		0	US	United States	Pending

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UP-00281US	Adaptive Vehicle Motion Control System	2/2/2017	15/423,233	2/2/2017	9964952	5/8/2018	5/8/2018 9964952	0	US	United States	In Force
UP-00198US	AUTONOMOUS VEHICLE PERFORMANCE OPTIMIZATION SYSTEM	7/5/2016	15/202,412	7/5/2016	9884630	2/6/2018	2/6/2018 9884630	0	US	United States	In Force
UP-00627US	TWO-LEVEL GROUPING OF PRINCIPALS FOR A COLLISION WARNING SYSTEM	6/12/2007	11/818,177	6/12/2007	20080312831	12/18/2008	1/8/2013 8352173	0	US	United States	In Force
UP-00627JP	TWO-LEVEL GROUPING OF PRINCIPALS FOR A COLLISION WARNING SYSTEM	5/2/2008	2008-120581	6/12/2007	2008310806	12/25/2008	2/4/2015 5662634	0	JP	Japan	In Force
UP-00314USCIP	Automatic Tuning of Autonomous Vehicle Cost Functions Based on Human Driving Data	9/11/2017	15/700,689	4/6/2017	20180292824	10/11/2018	1/1/2019 10168705	0	US	United States	In Force
UP-00431US	Human Supervision of an Automated Driving System	6/30/2017	15/638,739	6/30/2017	20190004522	1/3/2019	12/18/2018 10156849	0	US	United States	In Force
UP-00094US	VEHICLE CONTROLS BASED ON THE MEASURED WEIGHT OF FREIGHT	12/20/2016	15/385,613	12/20/2016	20180170396	6/21/2018	11/6/2018 10118627	0	US	United States	In Force
UP-00502US	Autonomous Vehicles Featuring Machine-Learned Yield Model	10/24/2017	15/791,646	10/9/2017	10019011	7/10/2018	7/10/2018 10019011	0	US	United States	In Force
UP-00286US	COLLISION-AVOIDANCE SYSTEM FOR AUTONOMOUS-CAPABLE VEHICLE	6/23/2017	15/631,990	6/23/2017	100007269	6/26/2018	6/26/2018 10007269	0	US	United States	In Force
UP-00431USC1	Human Supervision of an Automated Driving System	11/28/2018	16/202,488	6/30/2017				0	US	United States	Pending
UP-00431WO	HUMAN SUPERVISION OF AN AUTOMATED DRIVING SYSTEM	6/18/2018	PCT/US2018/038010	6/30/2017				0	WO	WIPO (PCT)	Pending
UP-00418WO	CONTEXT-SPECIFIC TOLERANCE FOR MOTION CONTROL IN AUTONOMOUS VEHICLES	9/11/2018	PCT/US2018/050462	9/15/2017				0	WO	WIPO (PCT)	Pending
UP-00559WO	AUTONOMOUS VEHICLES FEATURING VEHICLE INTENTION SYSTEM	8/27/2018	PCT/US2018/048161	8/31/2017				0	WO	WIPO (PCT)	Pending
UP-00502USP	Autonomous Vehicles Featuring Machine-Learned Yield Model	10/9/2017	62/569,718	10/9/2017				1	US	United States	Lapsed
UP-00717US	Autonomous Vehicle Safe Stop	6/1/2018	15/995,285	1/30/2018				0	US	United States	Pending
UP-00413WO	SYSTEMS AND METHODS FOR SPEED LIMIT CONTEXT AWARENESS	7/18/2018	PCT/US2018/042600	7/18/2017				0	WO	WIPO (PCT)	Pending
UP-00286CN	COLLISION-AVOIDANCE SYSTEM FOR AUTONOMOUS-CAPABLE VEHICLE	6/22/2018	201810653532.3	6/23/2017	109117709	1/1/2019		0	CN	China	Pending
UP-00695US	Methods, Devices, and Systems For Analyzing Motion Plans of Autonomous Vehicles	3/19/2018	15/924,844	1/26/2018				0	US	United States	Pending
UP-00604US1	Systems and Methods for Streaming Processing for Autonomous Vehicles	5/18/2018	15/983,491	1/12/2018				0	US	United States	Pending
UP-00502USC1	Autonomous Vehicles Featuring Machine-Learned Yield Model	6/8/2018	16/003,543	10/9/2017				0	US	United States	Pending

UP-00698US1	Discrete Decision Architecture for Motion Planning System of an Autonomous Vehicle	8/8/2018	16/058,364	1/15/2018		0	US	United States	Pending
UP-00394WO	AUTONOMOUS VEHICLE COLLISION MITIGATION SYSTEMS AND METHODS	6/22/2018	PCT/US2018/038996	6/29/2017		0	WO	WIPO (PCT)	Pending
UP-00291US	HIERARCHICAL MOTION PLANNING FOR AUTONOMOUS VEHICLES	3/14/2017	15/458,740	3/14/2017	20180267537	9/20/2018	0	US	United States	Pending
UP-00394US2	Autonomous Vehicle Collision Mitigation Systems and Methods	6/29/2017	15/637,539	6/29/2017	20190004538	1/3/2019	0	US	United States	Pending
UP-00604USP	Systems and Methods For Streaming Autonomy Processing For Autonomous Vehicles	1/12/2018	62/616,542	1/12/2018			1	US	United States	Lapsed
UP-00452USP	Systems and Methods to Adjust Autonomous Vehicle Parameters in Response to Passenger Feedback	8/11/2017	62/544,432	8/11/2017			1	US	United States	Lapsed
UP-00322US	Systems and Methods to Control Autonomous Vehicle Motion	3/30/2017	15/473,686	3/30/2017	20180284768	10/4/2018	0	US	United States	Pending
UP-00452US	Systems and Methods to Adjust Autonomous Vehicle Parameters in Response to Passenger Feedback	11/13/2017	15/810,296	8/11/2017	20190047584	2/14/2019	0	US	United States	Pending
UP-00448USP	Systems and Methods for Performing Lane Changes Around Static Vehicles	8/23/2017	62/549,056	8/23/2017			1	US	United States	Lapsed
UP-00448US	Systems and Methods for Performing Lane Changes Around Obstacles	10/6/2017	15/726,498	8/23/2017	20190061765	2/28/2019	0	US	United States	Pending
UP-00447US	Systems and Methods of Controlling an Autonomous Vehicle Using an Enhanced Trajectory Following Configuration	8/29/2017	15/689,251	8/29/2017	20190064813	2/28/2019	0	US	United States	Pending
UP-00226US	NEURAL NETWORK SYSTEM FOR AUTONOMOUS VEHICLE CONTROL	10/17/2016	15/295,088	10/17/2016	20180107215	4/19/2018	0	US	United States	Pending
UP-00314USP	Machine Learning to Automatically Tune Autonomous Vehicle Cost Function Gains	4/6/2017	62/482,280	4/6/2017			1	US	United States	Lapsed
UP-00153USP	VEHICLE CONTROL SYSTEM USING TIRE SENSOR DATA	12/10/2015	62/265,960	12/10/2015			1	US	United States	Lapsed
UP-00576USP	Systems and Methods for a Vehicle Controller Robust to Time Delays	10/19/2017	62/574,247	10/19/2017			1	US	United States	Lapsed
UP-00575USP	Systems and Methods for a Vehicle Controller Safety Monitor	10/6/2017	62/569,054	10/6/2017			1	US	United States	Lapsed
UP-00567USP	Systems and Methods for Road Surface Dependent Motion Planning	12/7/2017	62/595,693	12/7/2017			1	US	United States	Lapsed
UP-00314US	Automatic Tuning of Autonomous Vehicle Cost Functions Based on Human Driving Data	5/30/2017	15/607,994	4/6/2017	20180292830	10/11/2018	0	US	United States	Lapsed
UP-00153US-3	MOTION PLANNING FOR A VEHICLE USING TRACTION INFORMATION	12/12/2016	15/376,583	12/10/2015	20170166216	6/15/2017	0	US	United States	Pending
UP-00153US-1	VEHICLE CONTROL SYSTEM USING TIRE SENSOR DATA	12/12/2016	15/376,270	12/10/2015	20170166215	6/15/2017	0	US	United States	Pending
UP-00406US	CONFIGURING MOTION PLANNING FOR A SELF-DRIVING TRACTOR UNIT	8/16/2017	15/678,984	8/16/2017	20190056736	2/21/2019	0	US	United States	Pending
UP-00559USP	Autonomous Vehicles Featuring Vehicle Intention System	8/31/2017	62/552,574	8/31/2017			1	US	United States	Lapsed

UP-00559US	Autonomous Vehicles Featuring Vehicle Intention System	9/11/2017 15/700,466	8/31/2017 20190066506	2/28/2019	0	US	United States	Pending
UP-00501USP	Systems and Methods for Autonomous Vehicle Lane Change Control	11/6/2017 62/582,005	11/6/2017		1	US	United States	Lapsed
UP-00418US	Context-Specific Tolerance for Motion Control in Autonomous Vehicles	9/15/2017 15/705,507	9/15/2017 20190086924	3/21/2019	0	US	United States	Pending
UP-00484USP	Systems and Methods for Low-Latency Braking Action for an Autonomous Vehicle	8/23/2017 62/549,355	8/23/2017		1	US	United States	Lapsed
UP-00484US	Systems and Methods for Low-Latency Braking Action for an Autonomous Vehicle	10/16/2017 15/784,684	8/23/2017 20190061712	2/28/2019	0	US	United States	Pending
UP-00413US	Systems and Methods for Speed Limit Context Awareness	7/18/2017 15/652,654	7/18/2017 20190025843	1/24/2019	0	US	United States	Pending
UP-00286USC1	COLLISION-AVOIDANCE SYSTEM FOR AUTONOMOUS-CAPABLE VEHICLES	5/23/2018 15/987,460	6/23/2017 20180373263	12/27/2018	0	US	United States	Pending
UP-00717USP	Autonomous Vehicle Safe Stop	1/30/2018 62/623,815	1/30/2018		1	US	United States	Lapsed
UP-00698USP1	Discrete Design Architecture For Motion Planning System of an Autonomous Vehicle	1/15/2018 62/617,417	1/15/2018		1	US	United States	Lapsed
UP-00695USP	Methods, Devices, and Systems For Analyzing Motion Plans of Autonomous Vehicles	1/26/2018 62/622,233	1/26/2018		1	US	United States	Lapsed
UP-00604US2	Systems and Methods for Streaming Processing for Autonomous Vehicles	5/18/2018 15/983,499	1/12/2018		0	US	United States	Pending
UP-00604US3	Systems and Methods for Streaming Processing for Autonomous Vehicles	5/18/2018 15/983,504	1/12/2018		0	US	United States	Pending
UP-00698US2	Discrete Decision Architecture for Motion Planning System of an Autonomous Vehicle	8/8/2018 16/058,430	1/15/2018		0	US	United States	Pending
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UP-00281USC1	Adaptive Vehicle Motion Control System	4/26/2018 15/963,662	2/2/2017 20180246517	8/30/2018	0	US	United States	Pending
UP-00094USC1	VEHICLE CONTROLS BASED ON THE MEASURED WEIGHT OF FREIGHT	8/1/2018 16/051,659	12/20/2016 20180339711	11/29/2018	0	US	United States	Pending
UP-00698WO	DISCRETE DECISION ARCHITECTURE FOR MOTION PLANNING SYSTEM OF AN AUTONOMOUS VEHICLE	1/14/2019 PCT/US2019/013464	1/15/2018		0	WO	WIPO (PCT)	Pending
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UP-00226WO	NEURAL NETWORK SYSTEM FOR AUTONOMOUS VEHICLE CONTROL	10/12/2017 PCT/US2017/056277	10/17/2016 2018075325	4/26/2018	0	WO	WIPO (PCT)	Pending
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UP-00567WO	Systems and Methods for Road Surface Dependent Motion Planning	12/7/2018 PCT/US2018/064383	12/7/2017		0	WO	WIPO (PCT)	Pending

UP-00604WO	SYSTEMS AND METHODS FOR STREAMING PROCESSING FOR AUTONOMOUS VEHICLES	1/11/2019 PCT/US2019/013168	1/12/2018			0	WO	WIPO (PCT)	Pending
UP-00198USC1	AUTONOMOUS VEHICLE PERFORMANCE OPTIMIZATION SYSTEM	12/29/2017 15/858,872	7/5/2016 20180141564	5/24/2018		0	US	United States	Pending
[redacted]									
UP-00567US	Systems and Methods for Road Surface Dependent Motion Planning	8/3/2018 16/054,499	12/7/2017			0	US	United States	Pending
UP-00094WO	VEHICLE CONTROLS BASED ON THE MEASURED WEIGHT OF FREIGHT	12/14/2017 PCT/US2017/066447	12/20/2016 2018118649	6/28/2018		0	WO	WIPO (PCT)	Pending
UP-00575US	Systems and Methods for a Vehicle Controller Safety Monitor	11/13/2017 15/810,495	10/6/2017			0	US	United States	Pending
UP-00576US	Systems and Methods for a Vehicle Controller Robust to Time Delays	11/13/2017 15/810,524	10/19/2017			0	US	United States	Pending
UP-00501US	Systems and Methods For Autonomous Vehicle Lane Change Control	1/5/2018 15/862,757	11/6/2017			0	US	United States	Pending
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UP-00208US-2	SENSOR CLEANING SYSTEM FOR VEHICLES	7/18/2016 15/213,149	7/18/2016 20180015908	1/18/2018	3/5/2019 10220817	0	US	United States	In Force

UP-00208US-1	SENSOR CLEANING SYSTEM FOR VEHICLES	7/18/2016	15/213,110	7/18/2016	20180015907	1/18/2018	1/29/2019 10189450	0	US	United States	In Force
UP-00426US	Sequential Sensor Cleaning System for Autonomous Vehicle	7/7/2017	15/643,598	7/7/2017	20190009752	1/10/2019	1/8/2019 10173646	0	US	United States	In Force
[redacted]											
UP-00162US	SIDEPOD STEREO CAMERA SYSTEM FOR AN AUTONOMOUS VEHICLE	3/14/2016	15/069,428	3/14/2016	20170259753	9/14/2017	9/18/2018 10077007	0	US	United States	In Force
UP-00145US	INTELLIGENT LENS MASKING SYSTEM FOR AN AUTONOMOUS VEHICLE	12/22/2015	14/979,351	12/22/2015	20170177000	6/22/2017	8/14/2018 10048696	0	US	United States	In Force
[redacted]											
UP-00407US	CARGO TRAILER SENSOR ASSEMBLY	10/23/2017	15/790,329	10/23/2017				0	US	United States	Pending
UP-00145USC1	LENS MASKING SYSTEM FOR A VEHICLE	6/26/2018	16/018,246	12/22/2015	20180299903	10/18/2018		0	US	United States	Pending
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UP-00208-1WO	SENSOR CLEANING SYSTEM FOR VEHICLES	7/13/2017	PCT/US2017/042005	7/18/2016	2018017395	1/25/2018		0	WO	WIPO (PCT)	Pending
UP-00145EP	INTELLIGENT LENS MASKING SYSTEM FOR AN AUTONOMOUS VEHICLE	12/20/2016	16879983.1	12/22/2015	3394694	10/31/2018		0	EP	European Patent Office	Pending
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UP-00330WO	AUTONOMOUS VEHICLE SENSOR CLEANING SYSTEM	3/27/2018	PCT/US2018/024556	4/7/2017	2018187089	10/11/2018		0	WO	WIPO (PCT)	Pending
UP-00330US-2	Autonomous Vehicle Sensor Cleaning System	4/7/2017	15/482,251	4/7/2017	20180290631	10/11/2018		0	US	United States	Pending
UP-00330US-1	Autonomous Vehicle Sensor Cleaning System	4/7/2017	15/482,219	4/7/2017	20180290632	10/11/2018		0	US	United States	Pending
UP-00585USP	Nozzles and Systems for Cleaning Sensors of an Autonomous Vehicle	11/8/2017	62/583,143	11/8/2017				1	US	United States	Lapsed
UP-00253USP	Color Filter Array for Image Capture Device	12/29/2016	62/439,910	12/29/2016				1	US	United States	Lapsed
UP-00145WO	INTELLIGENT LENS MASKING SYSTEM FOR AN AUTONOMOUS VEHICLE	12/20/2016	PCT/US2016/067821	12/22/2015	2017112690	6/29/2017		0	WO	WIPO (PCT)	Pending
UP-00253US	Color Filter Array for Image Capture Device	12/21/2017	15/850,452	12/29/2016	20180188427	7/5/2018		0	US	United States	Pending
UP-00252US	Image Capture Device with Customizable Regions of Interest	12/29/2016	15/393,306	12/29/2016	20180189574	7/5/2018		0	US	United States	Pending
UP-00637WO	VEHICLE SENSOR CLEANING SYSTEM	11/5/2018	PCT/US2018/059201	11/8/2017				0	WO	WIPO (PCT)	Pending
UP-00637USP	Cleaning Patterns for Autonomous Vehicle Sensor Cleaning System	11/8/2017	62/583,153	11/8/2017				1	US	United States	Lapsed
UP-00473US	FUSED SENSOR VIEW FOR SELF-DRIVING TRUCK	1/30/2018	15/883,941	1/30/2018				0	US	United States	Pending
[redacted]											
UP-00623USP	VEHICLE DYNAMICS MONITOR FOR AUTONOMOUS VEHICLE	11/22/2017	62/589,701	11/22/2017				1	US	United States	Lapsed

[redacted]

UP-00585USC1	Nozzles and Systems for Cleaning Vehicle Sensors	9/26/2018 16/142,485	11/8/2017			0	US	United States	Pending
[redacted]									
UP-00637US	Vehicle Sensor Cleaning System	12/12/2017 15/839,137	11/8/2017			0	US	United States	Pending
UP-00623US	Vehicle Dynamics Monitor For Autonomous Vehicle	1/29/2018 15/882,294	11/22/2017			0	US	United States	Pending
[redacted]									
UP-00309US	Machine-Learning Based Autonomous Vehicle Management System	3/31/2017 15/475,228	3/31/2017 20180284770	10/4/2018	4/2/2019 10248121	0	US	United States	Pending
[redacted]									
UP-00404US	ENCODED ROAD STRIPING FOR AUTONOMOUS VEHICLES	3/28/2017 15/472,076	3/28/2017 20180282955	10/4/2018		0	US	United States	Pending
[redacted]									
UP-00399US	Noise Testing in an Autonomous Vehicle	3/23/2018 15/933,730	6/15/2017 20180367895	12/20/2018		0	US	United States	Pending
UP-00399USP	Noise Testing in an Autonomous Vehicle	6/15/2017 62/519,924	6/15/2017			1	US	United States	Lapsed

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UP-00172US	TRAFFIC SIGNAL ANALYSIS SYSTEM	3/9/2016 15/065,681	3/9/2016 20170262709	9/14/2017	6/5/2018 9990548	0	US	United States	In Force
[redacted]									
UP-00166IL	OBJECT DETECTION FOR AN AUTONOMOUS VEHICLE	5/4/2017 252104	5/6/2016 252104	1/31/2018	5/1/2018 252104	0	IL	Israel	In Force
[redacted]									
UP-00277USC1	Systems and Methods to Track Vehicles Proximate Perceived By an Autonomous Vehicle	7/19/2018 16/039,864	3/30/2017 20180322650	11/8/2018	3/12/2019 10229510	0	US	United States	In Force
UP-00315US	Image-Based Pedestrian Detection	9/8/2017 15/698,824	4/25/2017 20180307921	10/25/2018	10/23/2018 10108867	0	US	United States	In Force
UP-00277US	Systems and Methods to Track Vehicles Proximate Perceived by an Autonomous Vehicle	8/28/2017 15/688,704	3/30/2017 10037613	7/31/2018	7/31/2018 10037613	0	US	United States	In Force
UP-00153US-6	SYSTEM AND METHOD TO DETERMINE TRACTION OF DISCRETE LOCATIONS OF A ROAD SEGMENT	12/12/2016 15/376,596	12/10/2015 20170168489	6/15/2017	7/10/2018 10018472	0	US	United States	In Force
[redacted]									
UP-00714USP	Efficient Convolutions for Real-Time Semantic Segmentation of 3D Point Clouds	11/15/2017 62/586,777	11/15/2017			1	US	United States	Lapsed
[redacted]									
UP-00333US	Range-View Lidar-Based Object Detection	5/31/2017 15/609,256	5/31/2017 20180348374	12/6/2018		0	US	United States	Pending
UP-00332US	Top-View Lidar-Based Object Detection	5/31/2017 15/609,141	5/31/2017 20180349746	12/6/2018		0	US	United States	Pending
[redacted]									
UP-00166CN	IMPROVED OBJECT DETECTION FOR AN AUTONOMOUS VEHICLE	5/5/2017 201710311393.1	5/6/2016 107450529	12/8/2017		0	CN	China	Pending

UP-00166USC1	OBJECT DETECTION FOR AN AUTONOMOUS VEHICLE	3/3/2017 15/449,501	5/6/2016 20170323179	11/9/2017	0	US	United States	Pending
UP-00453USP	Systems and Methods for Controlling an Autonomous Vehicle Including Occluded Sensor Zones	8/31/2017 62/552,515	8/31/2017		1	US	United States	Lapsed
UP-00453US	Systems and Methods for Controlling an Autonomous Vehicle with Occluded Sensor Zones	5/22/2018 15/985,820	8/31/2017 20190064840	2/28/2019	0	US	United States	Pending
UP-00584USP	Multiple Stage Image Based Object Detection and Recognition	12/5/2017 US62/594,631	12/15/2017		1	US	United States	Lapsed
UP-00578USP	Systems and Methods For Image-Based Free Space Detection	1/5/2018 62/613,845	1/5/2018		1	US	United States	Lapsed
UP-00315USP	Image-Based Pedestrian Detection	4/25/2017 62/489,524	4/25/2017		1	US	United States	Lapsed
UP-00310US	Machine Learning for Event Detection and Classification in Autonomous Vehicles	3/27/2017 15/469,981	3/27/2017 20180275667	9/27/2018	0	US	United States	Pending
UP-00277USP	Systems and Methods to Track Vehicles Proximate to an Autonomous Vehicle	3/30/2017 62/478,663	3/30/2017		1	US	United States	Lapsed
UP-00495USP	3D Graph Neural Networks for RGBD Semantic Segmentation	6/7/2017 62/516,531	6/7/2017		1	US	United States	Lapsed
UP-00141US-2	PERCEPTION SYSTEM FOR AUTONOMOUS VEHICLE	6/30/2017 15/640,370	7/1/2016 20180005053	1/4/2018	0	US	United States	Pending
UP-00141US-1	STATIC OBJECT DETECTION FOR OPERATING AUTONOMOUS VEHICLE	6/30/2017 15/640,364	7/1/2016 20180005052	1/4/2018	0	US	United States	Pending
UP-00475USP	Systems and Methods for Determining Tractor-Trailer Angles and Distances	10/26/2017 62/577,426	10/26/2017		1	US	United States	Lapsed
UP-00470USP	Systems and Methods for Object Detection at Various Ranges Using Multiple Range Imagery	12/12/2017 62/597,450	12/12/2017		1	US	United States	Lapsed
UP-00578US	Systems and Methods For Image-Based Free Space Detection	2/1/2018 15/886,434	1/5/2018		0	US	United States	Pending
UP-00485USP	Orientation Determination in Object Detection and Tracking for Autonomous Vehicles	9/8/2017 62/555,816	9/8/2017		1	US	United States	Lapsed
[redacted]								
UP-00680USP	Deep Parametric Continuous Convolutional Neural Networks	11/15/2017 62/586,717	11/15/2017		1	US	United States	Lapsed
UP-00665USP	Hierarchical Recurrent Attention Networks for Structured Online Maps	11/15/2017 62/586,770	11/15/2017		1	US	United States	Lapsed
UP-00659USP	Sparse Convolutional Neural Networks	11/15/2017 62/586,668	11/15/2017		1	US	United States	Lapsed
UP-00661USP	Deep Convolutional Neural Networks for Online Multi-Sensor Lane Detection	11/15/2017 62/586,741	11/15/2017		1	US	United States	Lapsed
UP-00660USP	Deep Convolutional Neural Networks for Online Multi-Sensor Lane Detection	11/15/2017 62/586,725	11/15/2017		1	US	United States	Lapsed
UP-00657USP	Efficient 3D Object Detection from Point Clouds	11/15/2017 62/586,631	11/15/2017		1	US	United States	Lapsed
UP-00656USP	Semantic and Instance Segmentation	11/15/2017 62/586,564	11/15/2017		1	US	United States	Lapsed
UP-00660WO	Autonomous Vehicle Lane Boundary Detection Systems and Methods	11/15/2018 PCT/US2018/061216	11/15/2017		0	WO	WIPO (PCT)	Pending

UP-00665WO	Systems and Methods for Generating Sparse Geographic Data for Autonomous Vehicles	11/15/2018	PCT/US2018/061231	11/15/2017	0	WO	WIPO (PCT)	Pending
[redacted]								
UP-00475WO	Systems and Methods for Determining Tractor-Trailer Angles and Distances	10/26/2018	PCT/US2018/057703	10/26/2017	0	WO	WIPO (PCT)	Pending
[redacted]								
UP-00584WO	Multiple Stage Image Based Object Detection and Recognition	12/4/2018	PCT/US2018/063839	12/5/2017	0	WO	WIPO (PCT)	Pending
[redacted]								
UP-00315USC1	Image-Based Pedestrian Detection	10/8/2018	16/154,348	4/25/2017 20190042865	2/7/2019	0	US	United States	Pending
[redacted]								
UP-00172USC1	TRAFFIC SIGNAL ANALYSIS SYSTEM	3/20/2018	15/926,211	3/9/2016 20180218226	8/2/2018	0	US	United States	Pending
[redacted]								

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UP-00470US	Systems and Methods for Object Detection at Various Ranges Using Multiple Range Imagery	5/30/2018	15/992,498	12/12/2017			0	US	United States	Pending
UP-00410US	SYSTEM AND METHOD FOR PRESENTING AUTONOMY-SWITCHING DIRECTIONS	12/19/2017	15/847,476	12/19/2017			0	US	United States	Pending
UP-00485US	Orientation Determination in Object Detection and Tracking for Autonomous Vehicles	10/27/2017	15/795,632	9/8/2017	20190079526	3/14/2019	0	US	United States	Pending
UP-00332USP	Hybrid-View Lidar-Based Object Detection	10/31/2017	62/579,528	10/31/2017			1	US	United States	Lapsed
UP-00584US	Multiple Stage Image Based Object Detection and Recognition	5/7/2018	15/972,566	12/5/2017			0	US	United States	Pending
UP-00660US	Autonomous Vehicle Lane Boundary Detection Systems and Methods	9/5/2018	16/122,267	11/15/2017			0	US	United States	Pending
UP-00475US	Systems and Methods for Determining Tractor-Trailer Angles and Distances	5/30/2018	15/992,346	10/26/2017			0	US	United States	Pending
UP-00659US	Sparse Convolutional Neural Networks	2/7/2018	15/890,886	11/15/2017			0	US	United States	Pending
[redacted]										
UP-00657US	Three Dimensional Object Detection	9/17/2018	16/133,046	11/15/2017			0	US	United States	Pending
UP-00680US	Continuous Convolution and Fusion in Neural Networks	10/30/2018	16/175,161	11/15/2017			0	US	United States	Pending
UP-00665US	Systems and Methods for Generating Sparse Geographic Data for Autonomous Vehicles	9/6/2018	16/123,343	11/15/2017			0	US	United States	Pending
UP-00661US	Autonomous Vehicle Lane Boundary Detection Systems and Methods	9/5/2018	16/122,413	11/15/2017			0	US	United States	Pending
UP-00332USCIP1	Hybrid-View LIDAR-Based Object Detection	2/28/2018	15/907,966	5/31/2017	20180348346	12/6/2018	0	US	United States	Pending
[redacted]										

[redacted]									
UP-00624US	DUAL ASSESSMENT FOR EARLY COLLISION WARNING	6/12/2007	11/818,187	6/12/2007	20080312832	12/18/2008	2/1/2011 7881868	0	US	United States	In Force
UP-00626US	USING SEGMENTED CONES FOR FAST, CONSERVATIVE ASSESSMENT OF COLLISION RISK	6/12/2007	11/818,191	6/12/2007	20080312833	12/18/2008	11/9/2010 7831391	0	US	United States	In Force
UP-00625US	USING LONG-RANGE DYNAMICS AND MENTAL STATE MODELS TO ASSESS COLLISION RISK FOR EARLY WARNING	6/12/2007	11/818,122	6/12/2007	20080312830	12/18/2008	9/7/2010 7792641	0	US	United States	In Force
UP-00628US	HUMAN-MACHINE-INTERFACE (HMI) CUSTOMIZATION BASED ON COLLISION ASSESSMENTS	6/12/2007	11/818,176	6/12/2007	20080309468	12/18/2008	5/4/2010 7710248	0	US	United States	In Force
UP-00626JP	USING SEGMENTED CONES FOR FAST, CONSERVATIVE ASSESSMENT OF COLLISION RISK	5/2/2008	2008-120580	6/12/2007	2008312833	12/18/2008	4/1/2015 5694636	0	JP	Japan	In Force
[redacted]											
UP-00628JP	HUMAN-MACHINE-INTERFACE (HMI) CUSTOMIZATION BASED ON COLLISION ASSESSMENTS	5/2/2008	2008-120582	6/12/2007	2008310807	12/25/2008	4/2/2014 5460973	0	JP	Japan	In Force
[redacted]											
UP-00467US	Systems and Methods for Prioritizing Object Prediction for Autonomous Vehicles	11/14/2017	15/811,865	8/23/2017	20190064815	2/28/2019	2/26/2019 10216189	0	US	United States	In Force
[redacted]											
UP-00658USP2	Object Detection, Tracking, and Motion Prediction	2/27/2018	62/635,881	2/27/2018				1	US	United States	Lapsed
[redacted]											
UP-00467WO	SYSTEMS AND METHODS FOR PRIORITIZING OBJECT PREDICTION FOR AUTONOMOUS VEHICLES	8/20/2018	PCT/US2018/047032	8/23/2017				0	WO	WIPO (PCT)	Pending
[redacted]											
UP-00458USCIP1	Object Motion Prediction and Autonomous Vehicle Control	9/5/2018	16/122,455	8/8/2017	20190049970	2/14/2019		0	US	United States	Pending
UP-00624JP	DUAL ASSESSMENT FOR EARLY COLLISION WARNING	5/2/2008	2008-120556	6/12/2007	2008310803	12/25/2008		0	JP	Japan	Lapsed
UP-00467USP	Systems and Methods for Prioritizing Object Prediction for Autonomous Vehicles	8/23/2017	62/549,407	8/23/2017				1	US	United States	Lapsed

UP-00466USP	Anomaly Detection Systems and Methods for Autonomous Vehicles	10/3/2017 62/567,533	10/3/2017		1	US	United States	Lapsed
UP-00458USP	Object Motion Prediction and Autonomous Vehicle Control	8/8/2017 62/542,506	8/8/2017		1	US	United States	Lapsed
UP-00458US	Object Motion Prediction and Autonomous Vehicle Control	10/13/2017 15/783,005	8/8/2017 20190049987	2/14/2019	0	US	United States	Pending
UP-00446USP	Machine Learning for Predicting Locations of Objects Perceived by Autonomous Vehicles	7/21/2017 62/535,343	7/21/2017		1	US	United States	Lapsed
UP-00446US	Machine Learning for Predicting Locations of Objects Perceived by Autonomous Vehicles	8/23/2017 15/684,865	7/21/2017 20190025841	1/24/2019	0	US	United States	Pending
[redacted]								
UP-00107US	CONTROL SYSTEM TO ADJUST OPERATION OF AN AUTONOMOUS VEHICLE BASED ON A PROBABILITY OF INTERFERENCE BY A DYNAMIC OBJECT	5/10/2016 15/151,394	5/10/2016 20170329332	11/16/2017	0	US	United States	Pending
UP-00638USP	Object Interaction Prediction Systems and Methods for Autonomous Vehicles	11/22/2017 62/589,951	11/22/2017		1	US	United States	Lapsed
UP-00688USP	Object Motion Prediction and Vehicle Control Systems and Methods for Autonomous Vehicles	12/8/2017 62/596,308	12/8/2017		1	US	United States	Lapsed
UP-00658USP1	End-to-End Tracking of Objects	11/15/2017 62/586,700	11/15/2017		1	US	United States	Lapsed
UP-00467USC1	Systems and Methods for Prioritizing Object Prediction for Autonomous Vehicles	12/6/2018 16/211,376	8/23/2017		0	US	United States	Pending
[redacted]								
UP-00718USP	Autonomous Vehicle Motion Control Systems and Methods	11/29/2017 62/592,024	11/29/2017		1	US	United States	Lapsed
UP-00688WO	OBJECT MOTION PREDICTION AND VEHICLE CONTROL SYSTEMS AND METHODS FOR AUTONOMOUS VEHICLES	10/19/2018 PCT/US2018/056628	12/8/2017		0	WO	WIPO (PCT)	Pending
UP-00466WO	ANOMALY DETECTION SYSTEMS AND METHODS FOR AUTONOMOUS VEHICLES	9/28/2018 PCT/US2018/053514	10/3/2017		0	WO	WIPO (PCT)	Pending
[redacted]								
UP-00638WO	Object Interaction Prediction Systems and Methods for Autonomous Vehicles	11/21/2018 PCT/US2018/062171	11/22/2017		0	WO	WIPO (PCT)	Pending
UP-00658US2	Systems and Methods for Object Detection, Tracking, and Motion Prediction	9/7/2018 16/124,966	11/15/2017		0	US	United States	Pending
UP-00466US	Anomaly Detection Systems and Methods for Autonomous Vehicles	10/25/2017 15/793,291	10/3/2017		0	US	United States	Pending

UP-00718US	Autonomous Vehicle Motion Control Systems and Methods	1/9/2018 15/865,790	11/29/2017			0	US	United States	Pending
UP-00658US1	End-to-End Tracking of Objects	9/5/2018 16/122,203	11/15/2017			0	US	United States	Pending
UP-00638US	Object Interaction Prediction Systems and Methods for Autonomous Vehicles	12/20/2017 15/848,564	11/22/2017			0	US	United States	Pending
UP-00714US	Semantic Segmentation of Three-Dimensional Data	9/6/2018 16/123,233	11/15/2017			0	US	United States	Pending
[redacted]									
UP-00153US-4	PLANNING TRIPS ON A ROAD NETWORK USING TRACTION INFORMATION FOR THE ROAD NETWORK	12/12/2016 15/376,587	12/10/2015 20170167888	6/15/2017	11/6/2018 10119827	0	US	United States	In Force

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UP-00496WO	SYSTEMS AND METHODS FOR CHANGING A DESTINATION OF AN AUTONOMOUS VEHICLE IN REAL-TIME	8/27/2018	PCT/US2018/048091	9/1/2017			0	WO	WIPO (PCT)	Pending
UP-00163US	FACILITATING RIDER PICK-UP FOR A SELF-DRIVING VEHICLE	5/26/2017	15/606,451	5/27/2016	20170344010	11/30/2017	0	US	United States	Pending
UP-00376US-12	NON-TRIP RISK MATCHING AND ROUTING FOR ON-DEMAND TRANSPORTATION SERVICES	5/23/2017	15/602,387	5/23/2017	20180342034	11/29/2018	0	US	United States	Pending
UP-00376US-11	INDIVIDUALIZED RISK ROUTING FOR HUMAN DRIVERS	5/23/2017	15/602,375	5/23/2017	20180340790	11/29/2018	0	US	United States	Pending
UP-00376US-10	GENERALIZED RISK ROUTING FOR HUMAN DRIVERS	5/23/2017	15/602,327	5/23/2017	20180341888	11/29/2018	0	US	United States	Pending
UP-00496USP	Systems and Methods for Changing a Destination of an Autonomous Vehicle in Real-Time	9/1/2017	62/553,240	9/1/2017			1	US	United States	Lapsed
UP-00416USP	Turn Based Autonomous Vehicle Guidance	10/12/2017	62/571,418	10/12/2017			1	US	United States	Lapsed
UP-00496US	Systems and Methods for Changing a Destination of an Autonomous Vehicle in Real-Time	10/26/2017	15/794,547	9/1/2017	20190072964	3/7/2019	0	US	United States	Pending
UP-00416US	Turn Based Autonomous Vehicle Guidance	11/17/2017	15/816,242	10/12/2017			0	US	United States	Pending

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UP-00173US-2	SECURE START SYSTEM FOR AN AUTONOMOUS VEHICLE	3/18/2016	15/074,924	3/18/2016	20170272943	9/21/2017	4/17/2018	9946890	0	US	United States	In Force
UP-00101USC1	AUTONOMOUS VEHICLE OPERATED WITH GUIDE ASSISTANCE OF HUMAN DRIVEN VEHICLES	9/13/2016	15/264,374	5/13/2015	20170003681	1/5/2017	4/3/2018	9933779	0	US	United States	In Force
UP-00101US	AUTONOMOUS VEHICLE OPERATED WITH GUIDE ASSISTANCE OF HUMAN DRIVEN VEHICLES	5/13/2015	14/711,506	5/13/2015	20160334229	11/17/2016	11/15/2016	9494439	0	US	United States	In Force
UP-00251US	Vehicle Security System	10/28/2016	15/337,383	10/28/2016	20180124213	5/3/2018	3/26/2019	10243867	0	US	United States	Pending
UP-00173US-2C1	SECURE START SYSTEM FOR AN AUTONOMOUS VEHICLE	1/18/2018	15/874,549	3/18/2016	20180157862	6/7/2018	11/27/2018	10140468	0	US	United States	In Force
UP-00139US	AUTONOMOUS VEHICLE OPERATED WITH SAFETY AUGMENTATION	9/26/2016	15/276,321	9/24/2015	20170090480	3/30/2017	11/27/2018	10139828	0	US	United States	In Force

UP-00101USD1	AUTONOMOUS VEHICLE OPERATED WITH GUIDE ASSISTANCE OF HUMAN DRIVEN VEHICLES	11/11/2016	15/349,793	5/13/2015	20170060129	3/2/2017	11/13/2018 10126742	0	US	United States	In Force
UP-00134US	CONTROL SYSTEM FOR AUTONOMOUS-CAPABLE VEHICLES	8/30/2016	15/252,152	8/31/2015	20170057520	3/2/2017	10/16/2018 10099705	0	US	United States	In Force
UP-00173US-1	SECURE START SYSTEM FOR AN AUTONOMOUS VEHICLE	3/18/2016	15/074,892	3/18/2016	20170269940	9/21/2017	10/2/2018 10089116	0	US	United States	In Force
UP-00137US	AUTONOMOUS VEHICLE WITH INDEPENDENT AUXILIARY CONTROL UNITS	9/28/2016	15/279,165	9/28/2015	20170090476	3/30/2017	8/28/2018 10061313	0	US	United States	In Force
UP-00254US	Customizable Vehicle Security System	10/31/2017	15/799,469	10/31/2016	20180118164	5/3/2018		0	US	United States	Pending
UP-00137EP	AUTONOMOUS VEHICLE WITH INDEPENDENT AUXILIARY CONTROL UNITS	9/28/2016	16852522.8	9/28/2015	3356899	8/8/2018		0	EP	European Patent Office	Pending
[redacted]											
UP-00430US	Systems and Methods For Deploying Warning Devices From an Autonomous Vehicle	2/7/2018	15/890,383	1/15/2018				0	US	United States	Pending
[redacted]											
UP-00139USP	AUTONOMOUS VEHICLE OPERATED WITH SAFETY AUGMENTATION	9/24/2015	62/232,435	9/24/2015				1	US	United States	Lapsed
UP-00137WO	AUTONOMOUS VEHICLE WITH INDEPENDENT AUXILIARY CONTROL UNITS	9/28/2016	PCT/US2016/054250	9/28/2015	2017058961	4/6/2017		0	WO	WIPO (PCT)	Lapsed
UP-00137USP	AUTOMATED VEHICLE WITH INDEPENDENT BYPASS RESPONSE	9/28/2015	62/233,930	9/28/2015				1	US	United States	Lapsed
[redacted]											
UP-00430USP	Systems and Methods For Deploying a Warning Device From an Autonomous Vehicle	1/15/2018	62/617,409	1/15/2018				1	US	United States	Lapsed
UP-00311US	Machine Learning for Triaging Failures in Autonomous Vehicles	3/23/2017	15/467,504	3/23/2017	20180276912	9/27/2018		0	US	United States	Pending
UP-00376US-9	INDIVIDUALIZED RISK VEHICLE MATCHING FOR AN ON-DEMAND TRANSPORTATION SERVICE	5/23/2017	15/602,313	5/23/2017	20180341887	11/29/2018		0	US	United States	Pending
UP-00376US-8	AUTONOMOUS VEHICLE DEGRADATION LEVEL MONITORING	5/23/2017	15/602,303	5/23/2017	20180342113	11/29/2018		0	US	United States	Pending
UP-00376US-7	FRACTIONAL RISK PERFORMANCE EVALUATION FOR AUTONOMOUS VEHICLES	5/23/2017	15/602,292	5/23/2017	20180341276	11/29/2018		0	US	United States	Pending

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UP-00140US-6	DETECTING DEVIATIONS IN DRIVING BEHAVIOR FOR AUTONOMOUS VEHICLES	6/30/2017	15/640,355	7/1/2016	201800004227	1/4/2018	0	US	United States	Pending
UP-00137USC1	AUTONOMOUS VEHICLE WITH INDEPENDENT AUXILIARY CONTROL UNITS	7/10/2018	16/031,188	9/28/2015	201803216777	11/8/2018	0	US	United States	Pending
UP-00686US	Systems and Methods For Communication Via Hydraulic Fluid	1/29/2018	15/882,325	1/10/2018			0	US	United States	Pending
[redacted]										
UP-00139USC1	AUTONOMOUS VEHICLE OPERATED WITH SAFETY AUGMENTATION	10/19/2018	16/165,623	9/24/2015	201900056742	2/21/2019	0	US	United States	Pending
UP-00101USD1C1	AUTONOMOUS VEHICLE OPERATED WITH GUIDE ASSISTANCE OF HUMAN DRIVEN VEHICLES	10/12/2018	16/159,283	5/13/2015	20190049946	2/14/2019	0	US	United States	Pending
[redacted]										
UP-00173US-1C1	SECURE START SYSTEM FOR AN AUTONOMOUS VEHICLE	7/30/2018	16/048,835	3/18/2016	20180336040	11/22/2018	0	US	United States	Pending
[redacted]										
UP-00483USP	Systems and Methods to Manage Devices of an Autonomous Vehicle	9/5/2017	62/554,506	9/5/2017			1	US	United States	Lapsed
[redacted]										
UP-00709USP	Autonomous Vehicle Application Programming Interface and Communications Systems and Methods	1/29/2018	62/623,171	1/29/2018			1	US	United States	Lapsed
[redacted]										

[redacted]

UP-00709US2	Autonomous Vehicle Application Programming Interface And Communications Systems And Methods	3/12/2018 15/918,599	1/29/2018	0	US	United States	Pending
UP-00709US1	Autonomous Vehicle Application Programming Interface And Communications Systems And Methods	3/12/2018 15/918,588	1/29/2018	0	US	United States	Pending

[redacted]

UP-00709WO	Autonomous Vehicle Application Programming Interface and Communications Systems and Methods	1/29/2019 PCT/US2019/015665	1/29/2018	0	WO	WIPO (PCT)	Pending

[redacted]

	PREDICTIVE SENSOR ARRAY CONFIGURATION SYSTEM FOR AN												
UP-00142US-2	AUTONOMOUS VEHICLE PREDICTIVE SENSOR ARRAY CONFIGURATION SYSTEM FOR AN	12/16/2015	14/971,866	12/16/2015	9841763	12/12/2017	12/12/2017	9841763	0	US	United States	In Force	
UP-00142US-1	AUTONOMOUS VEHICLE PREDICTIVE SENSOR ARRAY CONFIGURATION SYSTEM FOR AN	12/16/2015	14/971,850	12/16/2015	9840256	12/12/2017	12/12/2017	9840256	0	US	United States	In Force	
UP-00142US-1-C1	AUTONOMOUS VEHICLE Sensor Control System for Autonomous	9/1/2017	15/694,493	12/16/2015	20180009441	1/11/2018	3/5/2019	10220852	0	US	United States	In Force	
UP-00463WO	Vehicle SENSOR CONFIGURATION FOR AN	9/12/2018	PCT/US2018/050563	9/28/2017					0	WO	WIPO (PCT)	Pending	
UP-00471US	AUTONOMOUS SEMI-TRUCK SENSOR CONFIGURATION FOR AN	6/15/2018	16/010,281	6/27/2017	20180372875	12/27/2018			0	US	United States	Pending	
UP-00471WO	AUTONOMOUS SEMI-TRUCK PREDICTIVE SENSOR ARRAY CONFIGURATION SYSTEM FOR AN	6/27/2018	PCT/US2018/039842	6/27/2017	20190006021	1/3/2019			0	WO	WIPO (PCT)	Pending	
UP-00142US-2-C1	AUTONOMOUS VEHICLE Sensor Control System for Autonomous	9/26/2017	15/716,144	12/16/2015	20180032075	2/1/2018			0	US	United States	Pending	
UP-00463USP	Vehicle	9/28/2017	62/564,322	9/28/2017					1	US	United States	Lapsed	
UP-00317US	Camera Fields of View for Object Detection	4/3/2017	15/477,638	4/3/2017	20180288320	10/4/2018			0	US	United States	Pending	
UP-00221US	RADAR MULTIPATH PROCESSING	10/27/2016	15/335,692	10/27/2016	20180120842	5/3/2018			0	US	United States	Pending	
UP-00220US	DYNAMIC SENSOR SELECTION FOR SELF-DRIVING VEHICLES	3/23/2017	15/467,525	3/23/2017	20180272963	9/27/2018			0	US	United States	Pending	

UP-00153US-5	ACTIVE LIGHT SENSORS FOR DETERMINING EXPECTED TRACTION VALUE OF A ROAD SEGMENT	12/12/2016	15/376,592	12/10/2015	20170168495	6/15/2017	0	US	United States	Pending
UP-00471USP2	SENSOR CONFIGURATION FOR PROVIDING FIELD OF VIEW FOR AUTONOMOUSLY OPERATING SEMI-TRUCKS	6/27/2017	62/525,192	6/27/2017			1	US	United States	Lapsed
UP-00471USP1	FIELD OF VIEW CONFIGURATION OPTIONS	6/9/2017	62/517,836	6/9/2017			1	US	United States	Lapsed
UP-00188US	EXTERNAL SENSOR ASSEMBLY FOR VEHICLES	5/3/2016	29/563,210	5/3/2016			0	US	United States	Pending
UP-00187US	EXTERNAL SENSOR ASSEMBLY FOR VEHICLES	4/22/2016	15/136,876	4/22/2016	20170305360	10/26/2017	0	US	United States	Pending
UP-00185USP	DYNAMIC RANGE SETTING FOR VEHICULAR RADARS	3/4/2016	62/304,131	3/4/2016			1	US	United States	Lapsed
UP-00185US	DYNAMIC RANGE SETTING FOR VEHICULAR RADARS	3/6/2017	15/451,206	3/4/2016	20170254880	9/7/2017	0	US	United States	Pending
UP-00636US	Autonomous Vehicle Sensor Compensation Using Displacement Sensor	12/27/2017	15/855,364	11/30/2017			0	US	United States	Pending
UP-00636USP	Autonomous Vehicle Sensor Compensation Using Displacement Sensor	11/30/2017	62/592,529	11/30/2017			1	US	United States	Lapsed
UP-00635USP	Autonomous Vehicle Sensor Compensation By Monitoring Acceleration	11/30/2017	62/592,527	11/30/2017			1	US	United States	Lapsed
[redacted]										
UP-00635US	Autonomous Vehicle Sensor Compensation By Monitoring Acceleration	12/27/2017	15/855,313	11/30/2017			0	US	United States	Pending
UP-00142US-1-C2	PREDICTIVE SENSOR ARRAY CONFIGURATION SYSTEM FOR AN AUTONOMOUS VEHICLE	11/30/2018	16/206,660	12/16/2015			0	US	United States	Pending
UP-00220WO	DYNAMIC SENSOR SELECTION FOR SELF-DRIVING VEHICLES	3/22/2018	PCT/US2018/023885	3/23/2017	2018175808	9/27/2018	0	WO	WIPO (PCT)	Pending
UP-00463US	Sensor Control System for Autonomous Vehicle	10/30/2017	15/797,365	9/28/2017			0	US	United States	Pending
UP-00696US	Passenger Experience and Biometric Monitoring in an Autonomous Vehicle	2/13/2018	15/895,381	1/23/2018			0	US	United States	Pending
[redacted]										
UP-00602USP	Simulated Sensor Testing	12/13/2017	62/598,125	12/13/2017			1	US	United States	Lapsed
[redacted]										
UP-00577USP	Autonomous Vehicle Simulation Testing Systems and Methods	10/27/2017	62/577,979	10/27/2017			1	US	United States	Lapsed
UP-00444USP	Systems and Methods to Test an Autonomous Vehicle	8/21/2017	62/548,061	8/21/2017			1	US	United States	Lapsed
[redacted]										
UP-00443US	Testing Environment for Autonomous Vehicles	8/29/2017	15/689,196	8/29/2017	20190064036	2/28/2019	0	US	United States	Pending
UP-00442USP	Systems and Methods for Using a Linear Actuator in Track Testing	8/24/2017	62/549,534	8/24/2017			1	US	United States	Lapsed
[redacted]										

UP-00558USP	Deterministic Simulation Framework for Autonomous Vehicle Testing	11/2/2017	62/580,703	11/2/2017				1	US	United States	Lapsed
[redacted]											
UP-00480USP	Autonomous Vehicle Hybrid Simulation Testing	8/24/2017	62/549,613	8/24/2017				1	US	United States	Lapsed
[redacted]											
UP-00696USP	Monitoring in an Autonomous Vehicle	1/23/2018	62/620,735	1/23/2018				1	US	United States	Lapsed
[redacted]	LidarSIM: Combining Physics and Deep										
UP-00601USP	Autonomous Vehicle Testing Systems and Methods	10/25/2017	62/576,844	10/25/2017				1	US	United States	Lapsed
[redacted]											
UP-00602US	Simulated Sensor Testing	2/12/2018	15/893,729	12/13/2017				0	US	United States	Pending
UP-00558US	Deterministic Simulation Framework for Autonomous Vehicle Testing	12/7/2017	15/834,691	11/2/2017				0	US	United States	Pending
UP-00577US	Autonomous Vehicle Simulation Testing Systems and Methods	12/11/2017	15/837,341	10/27/2017				0	US	United States	Pending
UP-00143US	THERMAL REDUCTION SYSTEM FOR AN AUTOMATED VEHICLE	12/22/2015	14/979,248	12/22/2015	20170174037	6/22/2017	1/2/2018 9855816	0	US	United States	In Force
UP-00247WO	Decreasing Vehicle Power Consumption	12/22/2017	PCT/US2017/068104	12/28/2016	2018125782	7/5/2018		0	WO	WIPO (PCT)	Pending
UP-00557USP	Power and Thermal Management Systems and Methods for Autonomous Vehicles	9/8/2017	62/555,895	9/8/2017				1	US	United States	Lapsed
UP-00143JP	THERMAL REDUCTION SYSTEM FOR AN AUTONOMOUS VEHICLE	12/20/2016	2018-532388	12/22/2015	2019503583	2/7/2019		0	JP	Japan	Pending
UP-00143CN	THERMAL REDUCTION SYSTEM FOR AN AUTONOMOUS VEHICLE	12/20/2016	201680082277.0	12/22/2015	109196966	1/11/2019		0	CN	China	Pending
[redacted]											
UP-00143EP	THERMAL REDUCTION SYSTEM FOR AN AUTONOMOUS VEHICLE	12/20/2016	16879958.3	12/22/2015	3395132	10/31/2018		0	EP	European Patent Office	Pending
UP-00600USP	Modular Devices and Systems for Cooling a Computing System of an Autonomous Vehicle	12/1/2017	62/593,454	12/1/2017				1	US	United States	Lapsed
UP-00570USP	Systems and Methods for Cooling Vehicle Systems of an Autonomous Vehicle	10/6/2017	62/568,839	10/6/2017				1	US	United States	Lapsed
UP-00557US	Power and Thermal Management Systems and Methods for Autonomous Vehicles	10/2/2017	15/722,346	9/8/2017	20190080602	3/14/2019		0	US	United States	Pending
UP-00143WO	THERMAL REDUCTION SYSTEM FOR AN AUTONOMOUS VEHICLE	12/20/2016	PCT/US2016/067718	12/22/2015	2017112648	6/29/2017		0	WO	WIPO (PCT)	Pending
UP-00143USC1	THERMAL REDUCTION SYSTEM FOR AN AUTONOMOUS VEHICLE	6/14/2017	15/623,229	12/22/2015	20170282675	10/5/2017		0	US	United States	Pending
UP-00247US	Decreasing an Autonomous Vehicle Power Consumption	12/28/2016	15/392,274	12/28/2016	20180178741	6/28/2018		0	US	United States	Pending

UP-00600US	Modular Vehicle Computing System Cooling Systems	2/9/2018 15/892,506	12/1/2017			0	US	United States	Pending
UP-00600WO	Modular Vehicle Computing System Cooling Systems	11/30/2018 PCT/US2018/063252	12/1/2017			0	WO	WIPO (PCT)	Pending
UP-00570US	Systems and Methods for Cooling Vehicle Systems of an Autonomous Vehicle	11/6/2017 15/804,386	10/6/2017			0	US	United States	Pending
[redacted]									
UP-00148US-2	SYSTEM FOR SWITCHING CONTROL OF AN AUTONOMOUS VEHICLE	3/15/2016 15/070,795	3/15/2016 9616896	4/11/2017	4/11/2017 9616896	0	US	United States	In Force
UP-00148US-1	DRIVE-BY-WIRE CONTROL SYSTEM	3/15/2016 15/070,754	3/15/2016 9580080	2/28/2017	2/28/2017 9580080	0	US	United States	In Force
UP-00144US	INTEGRATED CLUTCH STEERING SYSTEM	12/22/2015 14/979,187	12/22/2015 9481393	11/1/2016	11/1/2016 9481393	0	US	United States	In Force
UP-00630US	Lamp ignition system and lamp ignition method	9/13/2012 13/614,678	7/16/2012 20140015434	1/16/2014	12/2/2014 8901840	0	US	United States	In Force
[redacted]									
UP-00282US	Vehicle Control System	2/23/2017 15/440,510	2/23/2017 20180237030	8/23/2018	3/5/2019 10220857	0	US	United States	In Force
UP-00144USC1	INTEGRATED CLUTCH STEERING SYSTEM	8/17/2016 15/239,056	12/22/2015 20170174259	6/22/2017	10/16/2018 10099723	0	US	United States	In Force
UP-00394US1	Multi-Model Switching on a Collision Mitigation System	8/3/2017 15/668,196	8/3/2017 10065638	9/4/2018	9/4/2018 10065638	0	US	United States	In Force
UP-00282WO	Vehicle Control System	2/19/2018 PCT/US2018/018600	2/23/2017 2018156451	8/30/2018		0	WO	WIPO (PCT)	Pending
UP-00474US	System for Actively Monitoring the Steering Angle of a Vehicle Using a Kingpin Sensor	10/18/2017 15/786,778	9/7/2017 20190071124	3/7/2019		0	US	United States	Pending
UP-00459WO	VEHICLE INTERFACE FOR AUTONOMOUS VEHICLE	7/16/2018 PCT/US2018/042247	8/23/2017			0	WO	WIPO (PCT)	Pending
[redacted]									

UP-00134WO	CONTROL SYSTEM FOR AUTONOMOUS-CAPABLE VEHICLES	8/31/2016	PCT/US2016/049736	8/31/2015	2017040689	3/9/2017	0	WO	WIPO (PCT)	Lapsed
UP-00622USP	Systems and Methods for Controlling Autonomous Vehicle	1/9/2018	62/615,206	1/9/2018			1	US	United States	Lapsed
UP-00460USP	Systems and Methods for Controlling an Autonomous Vehicle with Multiple Control Lanes	9/14/2017	62/558,523	9/14/2017			1	US	United States	Lapsed
UP-00459USP	Vehicle Interface For Autonomous Vehicle	8/23/2017	62/549,024	8/23/2017			1	US	United States	Lapsed
UP-00459US	Vehicle Interface For Autonomous Vehicle	9/28/2017	15/718,003	8/23/2017	20190064825	2/28/2019	0	US	United States	Pending
UP-00378US	Disabling Onboard Input Devices in an Autonomous Vehicle	6/27/2017	15/634,067	6/27/2017	20180370543	12/27/2018	0	US	United States	Pending
UP-00134USP	CONTROL SYSTEM FOR AUTONOMOUS-CAPABLE VEHICLES	8/31/2015	62/212,577	8/31/2015			1	US	United States	Lapsed
UP-00153US-7	SYSTEM AND METHOD TO DETERMINE TRACTION ABILITY OF VEHICLES IN OPERATION	12/12/2016	15/376,604	12/10/2015	20170168500	6/15/2017	0	US	United States	Pending
UP-00148US-1C1	DRIVE-BY-WIRE CONTROL SYSTEM	1/18/2017	15/408,619	3/15/2016	20170269593	9/21/2017	0	US	United States	Pending
UP-00419USP	Control Method for Autonomous Vehicles	7/14/2017	62/532,494	7/14/2017			1	US	United States	Lapsed
UP-00144WO	INTEGRATED CLUTCH STEERING SYSTEM	12/20/2016	PCT/US2016/067791	12/22/2015	2017112676	6/29/2017	0	WO	WIPO (PCT)	Pending
UP-00419US	Control Method for Autonomous Vehicles	9/6/2017	15/697,368	7/14/2017	20190018412	1/17/2019	0	US	United States	Pending
UP-00415USP	Supervised Movement of Autonomous Vehicle	7/14/2017	62/532,476	7/14/2017			1	US	United States	Lapsed
UP-00412USP	Systems and Methods for Controlling an Input Device of an Autonomous Vehicle	6/16/2017	62/520,639	6/16/2017			1	US	United States	Lapsed
UP-00412US	Systems and Methods for Controlling an Input Device of an Autonomous Vehicle	10/11/2017	15/730,177	6/16/2017	20180362070	12/20/2018	0	US	United States	Pending
UP-00474USP	System for Actively Monitoring the Steering Angle of a Vehicle Using a Kingpin Sensor	9/7/2017	62/555,356	9/7/2017			1	US	United States	Lapsed
UP-00622US	Systems and Methods for Controlling an Autonomous Vehicle	5/15/2018	15/980,324	1/9/2018			0	US	United States	Pending
UP-00639USP	Location Based Vehicle Headlight Control	12/7/2017	62/595,906	12/7/2017			1	US	United States	Lapsed
UP-00686USP	Systems and Methods For Communication Via Hydraulic Fluid	1/10/2018	62/615,740	1/10/2018			1	US	United States	Lapsed
UP-00679USP1	Systems and Methods for Brake Redundancy for an Autonomous Vehicle	12/6/2017	62/595,193	12/6/2017			1	US	United States	Lapsed
UP-00282USC1	Vehicle Control System	2/5/2019	16/267,468	2/23/2017			0	US	United States	Pending

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UP-00639WO	Location Based Vehicle Headlight Control	12/5/2018 PCT/US2018/063968	12/7/2017		0	WO	WIPO (PCT)	Pending

[redacted]

UP-00394US1C1	Multi-Model Switching on a Collision Mitigation System	8/2/2018 16/052,899	8/3/2017 20190039609	2/7/2019	0	US	United States	Pending

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UP-00460WO	Fault-Tolerant Control of an Autonomous Vehicle with Multiple Control Lanes	9/12/2018	PCT/US2018/050542	9/14/2017		0	WO	WIPO (PCT)	Pending
UP-00378EP	Disabling Onboard Input Devices in an Autonomous Vehicle	6/21/2018	EP18179015.5	6/27/2017 EP3421316	1/2/2019	0	EP	European Patent Office	Pending
[redacted]									
UP-00622WO	SYSTEMS AND METHODS FOR CONTROLLING AN AUTONOMOUS VEHICLE	1/9/2019	PCT/US2019/012857	1/9/2018		0	WO	WIPO (PCT)	Pending
UP-00679USP2	Systems and Methods for Brake Redundancy for an Autonomous Vehicle	1/8/2018	62/614,545	1/8/2018		1	US	United States	Lapsed
[redacted]									
UP-00134EP	CONTROL SYSTEM FOR AUTONOMOUS-CAPABLE VEHICLES	8/31/2016	16842925.6	8/31/2015 3344507	7/11/2018	0	EP	European Patent Office	Pending
UP-00134CN	CONTROL SYSTEM FOR AUTONOMOUS-CAPABLE VEHICLES	8/31/2016	201680049672.9	8/31/2015 107924191	4/17/2018	0	CN	China	Pending
UP-00144EP	INTEGRATED CLUTCH STEERING SYSTEM	12/20/2016	16879976.5	12/22/2015 3393887	10/31/2018	0	EP	European Patent Office	Pending
[redacted]									
UP-00639US	Location Based Vehicle Headlight Control	2/28/2018	15/907,906	12/7/2017		0	US	United States	Pending
UP-00686WO	Systems and Methods For Communication Via Hydraulic Fluid	1/10/2019	PCT/US2019/013020	1/10/2018		0	WO	WIPO (PCT)	Pending
UP-00679US	Systems and Methods for Brake Redundancy for an Autonomous Vehicle	1/19/2018	15/875,000	12/6/2017		0	US	United States	Pending
UP-00460US	Fault-Tolerant Control of an Autonomous Vehicle with Multiple Control Lanes	9/10/2018	16/126,533	9/14/2017 20190079513	3/14/2019	0	US	United States	Pending
[redacted]									

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RECORDED: 11/27/2019