

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TESLA, INC.,
Petitioner

v.

GRANITE VEHICLE VENTURES LLC,
Patent Owner

Case IPR2025-01035
Patent 12,037,004
(Claims 10-24, 27)

**PATENT OWNER'S PRELIMINARY RESPONSE
PURSUANT TO 37 C.F.R. § 42.107**

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EXHIBIT LIST

Exhibit	Description
EX2001	Complaint for Patent Infringement, <i>Granite Vehicle Ventures LLC v. Tesla, Inc.</i> , DKT No. 1, Case No. 2:24-cv-01007-JRG, (E.D. Texas, December 6, 2024)
EX2002	Docket Sheet for <i>Granite Vehicle Ventures LLC v. Tesla, Inc.</i> , Case No. 2:24-cv-01007-JRG
EX2003	First Amended Docket Control Order for <i>Granite Vehicle Ventures LLC v. Tesla, Inc.</i> , DKT No. 42, Case No. 2:24-cv-01007-JRG, (E.D. Texas, April 10, 2025)
EX2004	Docket Control Order for <i>Granite Vehicle Ventures LLC v. Tesla, Inc.</i> , DKT No. 38, Case No. 2:24-cv-01007-JRG, (E.D. Texas, March 27, 2025)
EX2005	Second Amended Docket Control Order for <i>Granite Vehicle Ventures LLC v. Tesla, Inc.</i> , DKT No. 94, Case No. 2:24-cv-01007-JRG, (E.D. Texas, August 15, 2025)
EX2006	Plaintiff's Notice of P.R. 3-1 and P.R. 3-2 Disclosures, for <i>Granite Vehicle Ventures LLC v. Tesla, Inc.</i> , DKT No. 49, Case No. 2:24-cv-01007-JRG, (E.D. Texas, April 28, 2025)
EX2007	Defendants' Notice of Compliance Regarding Patent Rule 3-4(a) Disclosures for <i>Granite Vehicle Ventures LLC v. Tesla, Inc.</i> , DKT No. 58, Case No. 2:24-cv-01007-JRG, (E.D. Texas, May 8, 2025)
EX2008	Defendants' Notice of Compliance Regarding Patent Rule 3-3 and 3-4 Invalidity Contentions, <i>Granite Vehicle Ventures LLC v. Tesla, Inc.</i> , DKT No. 74, Case No. 2:24-cv-01007-JRG, (E.D. Texas, June 5, 2025)
EX2009	Defendant's Invalidity Contentions served June 4, 2025
EX2010	Declaration of Blaine A. Larson in Support of Discretionary Denial Brief
EX2011	Protective Order for <i>Granite Vehicle Ventures LLC v. Tesla, Inc.</i> , DKT No. 52, Case No. 2:24-cv-01007-JRG, (E.D. Texas, April 28, 2025)
EX2012	Notice of Broadened Sotera Plus Stipulation of Defendant Tesla, Inc., <i>Granite Vehicle Ventures LLC v. Tesla, Inc.</i> , DKT No. 88, Case No. 2:24-cv-01007-JRG, (E.D. Texas, July 24, 2025)
EX2013	Patent Owner Statutory Disclaimer, filed August 22, 2025
EX2014	42 Federal District Court Cases for District Court Judge Rodney Gilstrap (Lex Machina)

Granite Vehicle Ventures LLC (“Patent Owner”) respectfully requests the Board deny institution in this proceeding because the Petition filed by Tesla, Inc. (“Petitioner”) does not have a reasonable likelihood of prevailing on any claim of U.S. Patent No. 12,037,004 (“the ’004 patent”) challenged in this IPR.

I. INTRODUCTION

Petitioner cannot prevail on any of the remaining claims of the ’004 patent that are challenged in this proceeding, namely claims 10-14, 17-24, and 27. These claims are all directed to inventions used in self-driving vehicles (“SDVs”) that generate “weighted voting result[s]” using weights comprising “active learning data.” Petitioner failed to show that the cited art discloses or renders obvious either of these limitations. The Grounds set forth in the Petition rely on combinations using a large number of alleged prior art references—no less than *seven* references, and as many as *eleven*. Unsurprisingly, Petitioner failed to show *how* or *why* an ordinary artisan would have combined all these references to achieve the particular features claimed. Moreover, despite the large number of references cited, Petitioner still could not find all the limitations of the claims in the art.

First, Petitioner fails to show that any claim would have been obvious because, contrary to the Petition, neither of the relied-upon references (*Gunderson* and *Grimm*) teaches *active learning data*. The Petition relies on an incorrect and overly broad interpretation of *active learning data*, which it implicitly construes to mean any data

from a source external to the SDV. This reads the word “learning” out of the claims. Neither *Gunderson* nor *Grimm* teaches using data for “learning,” and Petitioner does not attempt to argue that it does. Therefore, neither reference teaches *active learning data*.

Second, Petitioner fails to show that any claim would have been obvious because irrespective of whether *Grimm* discloses active learning data generally, it does not disclose a *second plurality of weights* comprising *second learning data*. To the extent *Grimm* discloses weights at all, it discloses static weights that are scripted based on a certain property in the abstract, not generated from *active learning data*. Nor does *Grimm* teach *determining a second weighted voting result by multiplying* an alleged *second input* by one of the *second plurality of weights*. This is irrespective of whether the reference teaches a *second plurality of weights* comprising *second active learning data*. The alleged *second input* of *Grimm*’s disclosure that is multiplied by *Grimm*’s static weight does not comprise *readings from the sensor system* of the *SDV* in question. Thus, *Grimm* does not disclose *determining a second weighted voting result* in the manner required by the claims.

Third, Petitioner fails to show that an ordinary artisan would have been motivated to combine each of the excessive number of references required for each ground together with one another. Despite each ground requiring *seven* or more references, the Petition discusses no more than *four* references in a single

combination, instead focusing on combining myriad, disparate references with *Hampiholi* and *Attard*. None of these combinations of *Hampiholi-Attard* with a third (or occasional fourth) reference satisfies every limitation of any given challenged claim. Nor does the Petition provide any evidence or argument that an ordinary artisan would have been motivated to make the more complex combinations of seven or more references on which the grounds are based, nor had a reasonable expectation of success in doing so.

For at least these reasons, the Board should deny institution and terminate this proceeding.

II. BACKGROUND

A. The Invention of the '004 Patent

The '004 patent is titled “Controlling Driving Modes of Self-Driving Vehicles,” EX1001 at (54), and generally relates to “controlling whether self-driving vehicles operate in autonomous mode or manual mode.” *Id.* at 1:27-28. The '004 patent names Michael S. Gordon, James R. Kozloski, Ashish Kundu, Peter K. Malkin, and Clifford A. Pickover as inventors. *Id.* at (72). The '004 patent claims priority through a chain of continuation applications to a non-provisional application filed September 25, 2015, *id.* at (63), and issued on July 16, 2024. *Id.* at (45).

The '004 patent describes its disclosure as relating “specifically to the field of self-driving vehicles” or SDVs, which it describes as, *e.g.*, “vehicles that are able to

autonomously drive themselves through private and/or public spaces.” *Id.* at 1:24-25, 1:29-31. “[A]t any point in time[,] the SDV may be in autonomous mode or manual mode.” *Id.* at 6:16-17. “While in manual mode, SDV 202 operates as a traditional motor vehicle, in which a human driver controls the engine throttle, engine on/off switch, steering mechanism, braking system, horn, signals, etc. found on a motor vehicle.” *Id.* at 6:39-42. “While in autonomous mode, SDV 202 operates without the input of a human driver, such that the engine, steering mechanism, braking system, horn, signals, etc. are controlled by the SDV control processor 303,” which is “under the control of the SDV on-board computer 301.” *Id.* at 6:49-53.

The '004 patent also relates “to the field of controlling whether self-driving vehicles operate in autonomous mode or manual mode.” *Id.* at 1:26-28. The patent teaches that, to determine the mode in which the SDV should operate in certain embodiments, the SDV can calculate both the competence level of the vehicle’s control processor and the competence level of the human driver. *See id.* at 10:7-13, 10:61-11:6. Then, for example, “a query is made as to which competence level is higher: the control processor competence level (CPCL) or the human driver competence level (HDCL).” *Id.* at 11:58-61. Based on the results of said query, the SDV either remains in autonomous mode or switches to manual mode. *Id.* at 11:61-67.

Although the '004 patent has several points of novelty over Petitioner's combinations of references, for purposes of this preliminary response, Patent Owner will focus on its use of *active learning data* and *determining weighted voting results*.

For example, claim 10 recites, in part:

10. A self-driving vehicle (SDV) comprising:
a sensor system having a plurality of sensors, comprising:
 a first camera;
 a second camera;
 . . .; and
 a speedometer;
a display . . .
vehicle controls . . .;
a non-transitory computer readable storage medium
 comprising a first plurality of weights, and *the first
 plurality of weights comprising first active learning data
 from a first cohort of other SDVs[;]*
the non-transitory computer readable storage medium
 comprises a second plurality of weights, and *the second
 plurality of weights comprising second active learning
 data from the first cohort of other SDVs;*
. . .
a computer system . . ., wherein the computer system is
 capable of performing operations comprising:
 receiving a first plurality of inputs . . .;

receiving a *second plurality of inputs comprising readings from the second camera and the speedometer;*
determining a first weighted voting result comprising multiplying a first input from among the first plurality of inputs by a weight from among the first plurality of weights;
determining a second weighted voting result comprising multiplying a second input from among the second plurality of inputs by a weight from among the second plurality of weights;
....

Id. at 24:15-59 (italics added). Claims 17 and 20 each recite similar limitations involving using *weights comprising first and second active learning data* to generate *first and second weighted voting results*. *Id.* at 26:40-53, 27:13-27. Claims 11-14 depend from claim 10, claims 18 and 19 depend from claim 17, and claims 21-24 and 27 depend from claim 20. *Id.* at 25:2-41, 26:54-27:12, 27:28-28:12, 28:36-42.

The '004 patent teaches that, in an embodiment, the SDV utilizes weighted voting “to weight the various variables used in making [a] decision that is triggered by faults.” *Id.* at 8:58-9:4. The patent further teaches an embodiment in which “processor(s) weight each of the sensor readings for different anomalous operational conditions of the vehicle, and then sum the weighted sensor readings for the anomalous operational conditions of the vehicle.” *Id.* at 13:61-14:9. Depending on

the outcome of this determination, the SDV could be required to go into autonomous mode, or it could be required to go into manual mode. *Id.* at 14:9-25.

The '004 patent also teaches that, in an embodiment, “active learning is employed so that the system as a whole learns from the experiences of many SDVs and drivers, in different geographies and among cohorts.” *Id.* at 9:6-8. More specifically, “the SDV 202 ‘learns’ about how significant operational anomalies are . . . by taking information from other SDVs and their driving history as well as the driving history of the SDV 202 itself.” *Id.* at 14:26-30. Thus, in certain embodiments, the SDV “learns” about the weight to be given certain detected operational anomalies by using active learning.

B. Patent Owner’s Disclaimer

On August 22, 2025, Patent Owner disclaimed claims 15 and 16. EX2013. Because of this disclaimer, Ground 2 (challenging claim 15) is now moot, and Ground 3 is moot as to the challenge to claim 16. *See* 37 C.F.R. § 42.107(e). The Grounds asserted against claims 10-14, 17-24, and 27 remain.

III. LEVEL OF ORDINARY SKILL IN THE ART

Petitioner proposes a person of ordinary skill in the art (“POSITA”) “would have had a bachelor’s degree in computer engineering, computer science, electrical engineering, mechanical engineering, physics, or a related field, with at least four years of experience in the field of vehicle telematics and safety systems, or a master’s

degree in the same fields with at least three years of experience in the field of vehicle telematics and safety systems.” Petition at 1-2. It is unnecessary for Patent Owner to propose a competing definition at this time because, even under Petitioner’s proposed definition, Petitioner has failed to demonstrate a reasonable likelihood of success on any of the challenged claims. Patent Owner reserves the right to propose a different POSITA definition if the Board institutes IPR.

IV. CLAIM CONSTRUCTION: “ACTIVE LEARNING DATA”

The Petition must identify “[h]ow the challenged claim[s] [are] to be construed.” 37 C.F.R. § 42.104(b)(3). Petitioner purports to apply “the plain and ordinary meaning [*sic*] of all claim terms.” Petition at 4. Instead, Petitioner ignores the plain language of the claims to arrive at an improperly broad construction of the term “active learning data,” which is present in every challenged claim. According to Petitioner, “active learning data” can be any data whatsoever, regardless of how it is used or where it comes from. This is inconsistent with the plain language of the claims. *First*, Petitioner ignores the word “learning” in “active learning data.” *Second*, Petitioner ignores the requirement, found in every claim, that the “active learning data” must come from “other SDVs.” By completely ignoring these claim elements, Petitioner has failed to show that any reference discloses “active learning data” within the plain meaning of the claims.

Petitioner implicitly construes the term “active learning data” as “any data” that comes from sources other than the self-driving vehicle of the invention, regardless of whether the data is used for “learning” and regardless of whether the data comes from other SDVs. For example, Petitioner argues that *Gunderson’s* “event data for a group of drivers” constitutes “*active learning data from a first cohort (Gunderson’s group of drivers) of other SDVs*” without any evidence or argument that those drivers operate SDVs. Petition at 22; *see also id.* at 25 (“[B]ecause these weights [from *Grimm*] are derived from different properties reported from the other vehicles, the weights *compris[e] second active learning data from the first cohort of other SDVs.*”) (third alteration in original). Petitioner has no choice but to ignore the plain claim language because none of Petitioner’s references disclose using data for learning, and *Gunderson* (at least) does not disclose data obtained from other SDVs.

A. The Plain Meaning of “Learning”

The word “learning” in the phrase “active learning data” is a claim limitation and has its plain meaning. The claimed “active learning data” must be used for learning; data that is not used for learning cannot satisfy this “learning” claim limitation. The specification provides examples of active learning:

In one or more embodiments of the present invention, *active learning* is employed so that the system as a whole *learns* from the *experiences of many SDVs and drivers*, in different geographies and among cohorts.

EX1001 at 9:5-8 (emphasis added). This shows “active learning data” is data that enables the system to “learn[] from the experiences” of other SDVs or their drivers.

The specification goes on to provide examples of things the system can learn:

In one or more embodiments of the present invention, the SDV 202 “*learns*” about how significant operational anomalies are. That is, by taking information from other SDVs and their driving history as well as the driving history of SDV 202 itself, SDV 202 is able to autonomously “*learn*” what operational anomalies are significant to the safe operation of SDV 202 (e.g., faulty brakes, faulty throttle controls, tires with little or no tread, etc.) and those which are comparatively insignificant (e.g., a cabin air conditioning system that is low on refrigerant, etc.).

EX1001 at 14:26-35 (emphasis added). This passage shows an example of the SDV improving its ability to operate by learning from experience about how significant various operational anomalies are. This confirms that the '004 patent uses the term “learning” in the usual sense to refer to a process of using experience or data to improve some capability in the future. A person who learns Spanish improves their ability to speak Spanish in the future. A person who learns how to ride a bike improves their ability to ride a bike in the future. An SDV that “learns” from data improves its ability to operate in the future.

The specification also distinguishes “active learning data” from mere “data.” The specification does not use the word “learning” in situations where data inputs are merely used to make one-off (i.e., non-learning) determinations without the system learning or improving its capabilities. For example, the specification describes an embodiment where the SDV uses data from a positioning system to “determine[] a real-time current location” of the SDV. EX1001 at 5:37-40. The specification does *not* describe this one-off determination of position as “learning” because no learning or improvement is occurring. The system is simply using the data to make a one-shot determination about its current position. In another embodiment, the specification describes receiving an “environmental report” via a “data link” and using “the environmental report to describe the current condition of the roadway.” *Id.* at 13:6-24. Again, the specification does *not* describe this process as “learning” and does *not* describe the environmental report data as “active learning data,” because no learning or improvement is happening in this embodiment. The SDV is simply making a one-off determination about the current condition of the roadway using the environmental report data.

Taking these differences into account, the specification and claims confirm that the claim term “learning” has its ordinary meaning and cannot be ignored. Therefore “active learning data” does not simply mean “any data” as the Petition tries to argue.

The Petition fails on all challenged claims because it does not identify data in the prior art that is used for “learning” or improvement of the system’s capabilities.

B. The Plain Meaning of “Other SDVs”

Every claim of the ’004 patent that recites “active learning data” recites that such “active learning data” comes from “other SDVs.” EX1001 at 22:23-25, 23:43-45, 24:30-37, 26:41-44, 27:14-17, 29:50-52, 29:65-67. The specification defines “SDV” to mean “Self Driving Vehicle.” *Id.* at 1:29-30. All the remaining claims challenged in this IPR require Petitioner to show that the claimed “active learning data” comes from other self-driving vehicles.

This further undermines Peititioner’s faulty position that “active learning data” can be “any data.” Data that does not come from SDVs but instead comes from other sources (e.g., the internet, GPS satellites, other vehicles that are not capable of self-driving) does not satisfy the plain language of the claims. The Petition again fails on all challenged claims because it does not identify any data that comes from other SDVs.

V. THE PETITION FAILS TO SHOW A REASONABLE LIKELIHOOD OF PREVAILING AS TO ANY CLAIM

The Petition should be denied because it fails to show a likelihood of prevailing as to any of claims 10-14, 17-24, and 27.¹ Claims 10, 17, and 20 all recite *first* and *second pluralities of weights* that *comprise* respective *first* and *second active learning data*. EX1001 at 24:30-37 (Claim 10), 26:41-44 (Claim 17), 27:14-17 (Claim 20). Each of these claims also recites using the *first* and *second pluralities of weights* in particular ways to *generate* (or *determine*) respective *first* and *second weighted voting results*. *Id.* at 24:52-59 (Claim 10), 26:46-53 (Claim 17), 27:19-26 (Claim 20). Each of the other remaining challenged claims depends (directly or indirectly) from one of claims 10, 17 and 20. *Id.* at 25:3-41 (Claims 11-14 depend from Claim 10), 26:54-27:12 (Claims 18-19 depend from Claim 17), 27:28-28:12 (Claims 21-24 depend from Claim 20), 28:36 (Claim 27 depends from Claim 20). Accordingly, these limitations are required by all the remaining challenged claims.

First, Petitioner fails to show that any of the cited references disclose or render obvious the claimed “active learning data.” In fact, Petitioner fails to show that either

¹ Claims 15 and 16 have been disclaimed, and “[n]o [IPR] will be instituted based on disclaimed claims.” 37 C.F.R. § 42.107(e). No other claims were challenged in this IPR.

Gunderson or *Grimm* (cited for the *first* and *second active learning data* limitations, respectively) disclose “learning” or that *Gunderson* discloses data that comes from other SDVs; both are explicit requirements of the *active learning data*. Second, Petitioner fails to show that *Grimm* discloses or renders obvious a *second plurality of weights* that satisfies the associated limitations recited in every remaining challenged claim. Third, the Petition fails to explain how or why an ordinary artisan would have combined all the multitudinous references in the particular manner proposed, relying on hindsight and using the claims themselves as a roadmap.

A. Petitioner Cannot Prevail Because It Fails to Show That Any Reference Teaches or Suggests *Active Learning Data*

Petitioner relies on *Gunderson* to teach the *first active learning data* and *Grimm* to teach the *second active learning data* required by every claim. See Petition at 21-26, 75, 81. Neither of these two references teaches *active learning data*. In particular, the Petition fails to show (i) that either of these references discloses “learning” or (ii) that the alleged *active learning data* in *Gunderson* comes from other SDVs. The Petition relies on both *Gunderson* and *Grimm* because there are different limitations associated with the *first* and *second pluralities of weights*. Petition at 37-43, 75-76, 81; see EX1001 at 24:47-64, 26:6-10, 26:40-44, 27:14-18 (claim limitations). Thus, the failure of either reference to teach or suggest *active learning data* is fatal to all the Grounds in this proceeding.

1. Gunderson Does Not Teach or Suggest Active Learning Data

Petitioner cannot prevail as to any of the challenged claims because *Gunderson* does not teach or suggest *first active learning data*. As discussed above, the claims all require a *first plurality of weights comprising first active learning data*.

Petitioner argues that *Gunderson* describes aggregating and analyzing “event data” at a server, Petition at 21, and that this “event data” is the *first active learning data*. *Id.* at 22. But the Petition does not show the “event data” is used for “learning” or that it comes from “other SDVs.” Instead, the Petition assumes that *any* data from sources other than the SDV of the claims must be *active learning data*. *Id.* As shown above, such an interpretation of the claims is contrary to the plain language of the claims and the intrinsic evidence. *See* §§ IV.A, IV.B, *supra*.

Gunderson’s “event data” is *not* used for “learning.” Petitioner does not even attempt to show that *Gunderson*’s “event data” is used for “learning,” or that it would have been obvious to use it for “learning.” *See* Petition at 21-24 (conclusory discussion of *Gunderson*). Rather than being used for learning, Petitioner only alleges the event data is aggregated into a “database” and analyzed to rate the risk associated with the drivers from whom the data is collected. *Id.* at 21. As shown above, the ordinary meaning of “learning” requires using experience to improve some capability for the future. *See* § IV.A, *supra*. There is no evidence or argument that *Gunderson* teaches using the “event data” to improve a system capability, e.g., to improve future

operations of the server. *See* Petition at 21-22. Petitioner therefore fails to show that *Gunderson's* data is “active *learning* data.”

Petitioner also fails to support its assertion that “*Gunderson's* group of drivers” constitutes a *cohort of other SDVs*. *Id.* at 22. Petitioner merely alleges that “event data” comes from a “vehicle 10,” *id.* at 21, and assumes that the “group of drivers” is associated with a group of such vehicles, *id.* at 22. But Petitioner offers no evidence (or even argument) that *Gunderson's* “vehicle 10” would be a self-driving vehicle other than the SDV of the claim. Having failed to show *Gunderson* teaches or suggests even a single SDV, Petitioner necessarily also fails to show that it teaches or suggests a *first cohort of other SDVs*, as the claims require. *Id.* at 21-24.

2. ***Grimm* Does Not Teach or Suggest *Active Learning Data***

Grimm also does not teach or suggest a *second plurality of weights comprising second active learning data*, as required by every remaining challenged claim.

Similar to *Gunderson*, there is no evidence or argument that *Grimm* discloses any “learning.” Petitioner relies on generic disclosure from *Grimm* regarding “crowd-sourced data from vehicles to determine traffic conditions and events.” *Id.* at 24 (quoting EX1031 at 1:9-10). Petitioner also cites *Grimm's* disclosure of “computing a ‘threat level TL_i of a particular [surrounding] vehicle i ,’” which involves using various properties p^i_j , which Petitioner alleges “can be ‘of multiple vehicles.’” *Id.* at 24-25 (quoting EX1031 at 5:59-65, 6:18-30). Petitioner also asserts (without any

supporting evidence) that *Grimm*'s weights (w_j) “are derived from different properties reported from the other vehicles.” *Id.* at 25 (no citation).

Petitioner's argument treats data from other vehicles as equivalent to “active learning data.” *Id.* at 24-25. This is the same incorrect and overly broad interpretation of *active learning data* that Petitioner applied regarding *Gunderson*; its effect is to read the word “learning” out of the limitation. *See* § IV.A, *supra*. Because the Petition again equates any data from other vehicles with *active learning data from a cohort of other SDVs*, the argument fails under **any** construction that gives meaning to the word “learning.”

None of the other cited passages from *Grimm* disclose any “learning” happening in connection with *Grimm*'s threat level equation calculation. *Grimm*'s disclosure is limited to vehicles sending “hazardous condition reports to the server.” EX1031 at 6:18-30. *Grimm* contemplates that the server uses this collected data to determine whether to issue warnings to other vehicles in the area, *id.* at 4:50-56, but no “learning” is contemplated. Thus, *Grimm* uses data to make isolated, one-time determinations about driving conditions. *Grimm* does not teach these determinations lead to any learning or improvement of the system.

The cited disclosure from *Grimm* therefore cannot constitute “active learning data.”

B. Petitioner Cannot Prevail Because *Grimm* Does Not Disclose or Render Obvious the Limitations Associated with the *Second Plurality of Weights*

Petitioner cannot prevail on any of the remaining challenged claims because the cited art does not disclose or render obvious a *second plurality of weights comprising* the alleged *second active learning data* (independent of the fact that such data is not *active learning data*, as shown above). In addition, the cited art does not disclose or render obvious *generating or determining a second weighted voting result by multiplying* an alleged *second input* by one of the *second plurality of weights*.

Petitioner fails to show that any of the cited art, individually or collectively, discloses or renders obvious these limitations. In particular, the Petition relies on *Grimm* for each of them, *see* Petition at 24-26, 38, 75-76, 81, but Petitioner fails to show that *Grimm* teaches either of the two limitations associated with the *second plurality of weights*. In addition, the Petition fails to show a motivation to combine *Grimm* with the other cited references to achieve the claimed invention, including these limitations. Indeed, the proposed combinations would not even satisfy these limitations and, thus, do not render the claims obvious.

1. *Grimm* Does Not Disclose the *Second Plurality of Weights*

Petitioner fails to show that *Grimm* discloses either (1) a *second plurality of weights comprising* the alleged *second active learning data* or (2) *generating or*

determining a second weighted voting result comprising multiplying an alleged second input by one of the second plurality of weights.

In particular, the Petition cites *Grimm's* Equation 1 as allegedly teaching *determining* (and *generating*) a *second weighted voting result* in the manner claimed. Petition at 38 (citing EX1031 at 5:59-65). *Grimm* teaches using this equation (reproduced below) to compute a “threat level TL_i of a particular vehicle i .”

$$TL_i = \sum_{j=1}^m w_j p_j^i$$

EX1031 at 5:59-65, Eq. 1. In this equation, p_j^i represents a property j of vehicle i , and w_j a weighting value associated with the property j . *Id.*, Petition at 38. Petitioner alleges that the property p_j^i is the recited *second input* and weighting value w_j is the recited *weight from among the plurality of second weights*. Petition at 38.

Petitioner offers no evidence whatsoever to support its assertion that “these weights [w_j] are derived from different properties reported from the other vehicles.” Petition at 25. *Grimm* does not teach how the weights (w_j) are derived; it only teaches that each weight (w_j) is “associated with a specific property j .” EX1031 at 5:63-64. Thus, there is no evidence that a given weight (w_j) comprises information from any particular vehicle rather than being predetermined for each “property (such as braking, acceleration, or speed)” in the abstract. *Id.* at 5:64-65. Thus, the value of w_j

where the “property j ” is “braking” would always be the same in any threat level calculation for any vehicle.

Hence, *Grimm* describes the values of p^i_j coming from other vehicles, but it does not show that the alleged *weights* are based on such information. *Id.* at 5:65-6:4; *see id.* at 6:18-20 (“The above example describes calculating a threat level of a surrounding vehicle based on several different properties of the particular surrounding vehicle.”). Indeed, the Petition alleges that it is the properties (p^i_j) that are inputs measured from one or more “other vehicles,” rather than the alleged *second input* that (according to the claims) must be multiplied by the alleged *second weight*. Petition at 25. The information that allegedly comes from other SDVs is thus represented by the alleged *input* (for a vehicle other than the instant vehicle) and does not, as the claims require, comprise the alleged *weight*.

Accordingly, *Grimm* does not teach or suggest a *second plurality of weights* that meet all the limitations recited for that element. The alleged *weights* do not comprise the alleged *active learning data*, even under Petitioner’s implicit construction of the term *active learning data*.

2. An Ordinary Artisan Would Not Have Been Motivated to Overcome *Grimm*’s Deficiencies

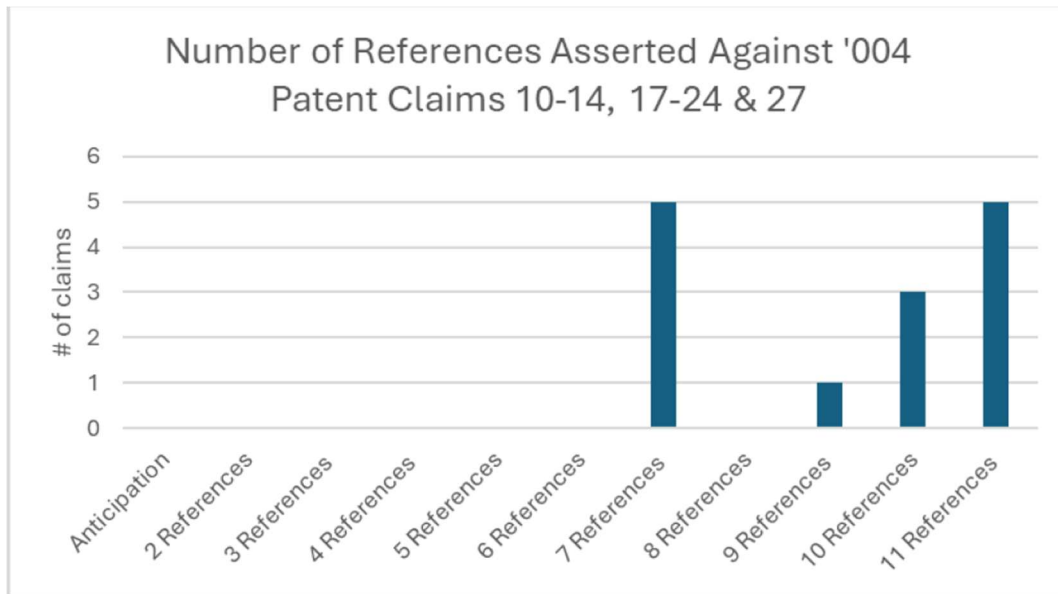
The Petition never explains why an ordinary artisan would have applied a technique from computing a threat level of another vehicle to use the *second inputs*

required by the claims. For example, claim 10 recites the *second plurality of inputs comprising readings from the second camera and the speedometer*, which are part of the *sensor system* of the SDV. But Petitioner alleges that *Grimm's* property p_j^i is the *second input*, even though none of *Grimm's* properties p_j^i comprise *readings from the second camera and the speedometer* of the SDV of the claims.

The Petition makes no effort to establish a motivation to combine that would address this inconsistency, instead cross-citing to “10(e)(i)” and “10(g)(vi).” Petition at 38. Neither of those sections explain why an ordinary artisan would have used the claimed *readings from the second camera and the speedometer*, which are part of the *sensor system* of the claimed SDV, in place of *Grimm's* properties p_j^i , which measure the properties of a **different** vehicle (*i.e.*, **not** the claimed SDV). In fact, Section 10(e)(i) seems to acknowledge this inconsistency, stating that *Grimm's* properties p_j^i can originate from “multiple vehicles,” and that weights are derived from “different properties reported from the **other** vehicles[.]” *Id.* at 25 (emphasis added). *Grimm* thus fails to disclose using the claimed *second plurality of inputs comprising readings from the second camera and the speedometer* to generate the alleged *weighted voting result*, and the Petition lacks any evidence of motivation to adapt *Grimm's* teachings in such a manner. The Petition fails to show a reasonable likelihood of prevailing on any Ground for this reason, as well.

C. Petitioner Cannot Prevail on Any Ground Because It Fails to Establish a Motivation to Combine the Cited References

Just as the Petition fails to establish a motivation to combine *Grimm* with the other cited art to reach the claimed invention, the Petition’s other motivation-to-combine analyses are likewise perfunctory and deficient. This flaw is unsurprising, given the raw number of references (shown in the chart below) involved in the Petition’s scattershot, “see what sticks” approach:



Petition at 2-3; EX2013. For example, the Petition only has a perfunctory explanation of the central combination (*Hampiholi-Attard*), see Petition at 7, despite *Attard* being directed to an SDV, according to the Petition, and *Hampiholi* to a manually operated vehicle with very limited automatic functions. See EX1007 at [0057] (describing the vehicle automatically braking or coming to a complete stop when driver is not attentive). Thus, contrary to Petitioner’s assertion, *Hampiholi* is not “capable of

driving automatically.” Petition at 6. Given that the Petition cites *Attard* for teaching confidence assessments (Φ) of an SDV’s ability to operate in an autonomous mode, *see, e.g., id.* at 42, the proposed combination with *Hampiholi*’s almost fully manual vehicle reeks of hindsight and speculation. Indeed, *Hampiholi* does not contemplate an SDV at all, so it cannot contemplate “increasing ... safety by controlling a driving mode of an SDV,” as Petitioner contends. *Id.* at 7.

The Petition’s explanations are worse for the many peripheral references used in the asserted combinations. Petitioner focuses only on attaching each of the disparate references to a core combination, ignoring any potential impacts of the peripheral references on one another. *See, e.g., id.* at 16-18 (combining *Yamada* with *Hampiholi-Attard* but not *McNew*), 22-24 (combining *Gunderson* with *Hampiholi-Attard* but not *McNew* or *Yamada*), 25-26 (treating *Grimm* in the same manner), 29-32 (*Frazer*). Therefore, while the Petition relies on a *six-reference* combination in Ground 1, there is never an explanation of why an ordinary artisan would have been motivated to combine any more than *three* of those cited references with one another. In other words, the Petition relies on a series of three reference combinations, each of which fails to disclose one or more limitations in the challenged claims. The Petition makes the same style of omission in each of the remaining grounds. *See, e.g., id.* at 68-72 (Ground 2), 74-76 (Ground 3), 79-80 (Ground 4), 82-83 (Ground 5).

VI. CONCLUSION

For at least the reasons set forth herein, Patent Owner respectfully requests the Board deny the Petition and decline to institute IPR in this proceeding.

Dated: September 24, 2025

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned certifies that pursuant to 37 C.F.R. § 42.6(e), a copy of the foregoing **Patent Owner’s Preliminary Response Pursuant to 37 C.F.R. § 42.107** was served to the following counsel of record for Petitioner addressed as follows:

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CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), the undersigned hereby certifies that this brief complies with the type-volume limitation of 37 C.F.R. § 42.24 because this brief contains 5,193 words.

Dated: September 24, 2025

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