

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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TESLA, INC.,  
Petitioner

v.

AUTONOMOUS DEVICES, LLC,  
Patent Owner

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Case: IPR2024-00745  
U.S. Patent No. 11,663,474

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**PATENT OWNER'S SUR-REPLY**

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**EXHIBIT LIST**

| <b>Exhibit</b> | <b>Description</b>                                                                | <b>Previously Submitted</b> |
|----------------|-----------------------------------------------------------------------------------|-----------------------------|
| 2001           | Declaration of Dr. Eli Saber                                                      | X                           |
| 2002           | Dr. Eli Saber CV                                                                  | X                           |
| 2003           | Deposition transcript of Dr. Jason Janet dated December 19, 2024 in IPR2024-00745 | X                           |
| 2004           | File History of U.S. Patent App. No. 15/340,991 (“the ‘991 Application”)          | X                           |
| 2005           | Deposition Transcript of Dr. Jason, Janet dated May 16, 2025, in IPR2024-00745    |                             |

## **I. INTRODUCTION**

Patent Owner timely files this Sur-Reply pursuant to the Parties' stipulation (Paper 24). Petitioner's Reply (Paper 19) contains numerous errors regarding Petitioner's prior art analysis of claims 56 and 57. This is unsurprising, given the cursory discussion of these claims in the Petition (Paper 2). Petitioner's Reply immediately tries to distract the Board by attempting to draw comparisons to claims of other patents in other IPRs. Reply, 1. But claims 56 and 57 are not "highly similar" to claims in other patents—as Petitioner contends—and in any event, Petitioner's arguments regarding the claims and prior art references of this IPR must be evaluated on their own. As explained below, both of Petitioner's unpatentability grounds are flawed with respect to two critical limitations of claims 56 and 57.

## **II. GROUND 1A: BUIBAS IN VIEW OF SINYAVSKY DOES NOT DISCLOSE OR SUGGEST THE INPUTS BEING CORRELATED WITH ANOTHER ONE OR MORE INSTRUCTION SETS FOR OPERATING A THIRD DEVICE (Claims 56/57)**

### **A. Petitioner Ignores That Buibas' Network Merge Just Merges Weights and Has Nothing to Do With Instruction Sets.**

Claim 56 requires that the claimed one or more inputs are further correlated with another one or more instruction sets for operating a third device (first and second devices are recited in base claim 45), and Buibas in view of Sinyavskiy does not disclose or suggest this limitation. Petitioner starts its Reply by asserting that "PO does not directly dispute that Buibas discloses the allegedly core feature of the

patents in this family, reflected in claims 56 and 57, of a ‘mixed’ knowledgebase that produces instruction sets learned by operating multiple devices” and that “Buibas similarly shows that this concept was well known before the earliest effective filing date of the patents at issue (e.g., the ’974, ’344, and ’474 Patents).” Reply, 3. That is incorrect and misleading, because Patent Owner certainly does dispute the applicability of Buibas’ disclosures regarding brain images (the focus of Petitioner’s mapping, *see* Pet., 42; Reply, 7 *et seq.*) to the claimed instruction sets, and especially to the claimed correlations involving them.

Notably, Petitioner attempts to minimize or ignore the claim language. Reply, 4 (“But there is little, if any, evidence that the requirement for a further “correlation” of knowledgebase inputs to instruction sets bears any significance to the alleged invention. ... [T]he ’474 Patent identifies no criticality or particular significance to the disputed feature of a mixed knowledgebase that correlates its same inputs to an additional set of instructions.”). Petitioner cannot just read out limitations that it finds inconvenient for its prior art mapping. The claim language in claim 56 recites that inputs previously recited in base claim 45 (in the context of a correlation between such inputs and instruction sets for operating a *second* device) are further correlated with other instruction sets for operating a *third* device. To the extent Petitioner is arguing that there is no “particular significance” to including such functionality regarding operating two separate devices (both a second device and a

third device) using the same inputs, that is incorrect. Clearly, the ability to operate a device (first device) using a correlation involving the same inputs and instruction sets for operating another device (second device) and instruction sets for operating an additional device (third device) has significance.

As to the merging of Buibas' brain images (Reply, 7 *et seq.*), Buibas has an entire section about this (entitled "Network Merges"), which is clear that the merge is about merging *weights* (weight vectors 402 and 406 that are combined via operation 404 to obtain an "offspring" weight vector 408). Ex. 1005, ¶[0095]; *see also id.*, ¶¶[0094] ("network weight updates comprising two or more sources, also referred to herein as 'merges'"), [0096]-[0098]; PO Response (Paper 13, "POR"), 15 (discussing this issue with numerous citations to Buibas). The equations that Buibas provides regarding merges only involve weight vectors. Ex. 1005, ¶¶[0097]-[0098] ("the off-spring weight vector may be determined by ..."). Petitioner's expert Dr. Janet confirmed at his deposition that equations (3) and (4) only contain weight vector terms. Ex. 2005, 8:8-15 ("that weight vector or subset of weights is then what constitutes the weight vector for the offspring"); *see also id.*, 8:21-9:7, 9:21-10:15, 11:20-12:9 (discussing equation (3)), 13:8-14:19 (discussing equation (4)), 17:1-19:10 ("Q. And all of the terms in equations 3 and 4, both the input terms and the resulting output of those equations, are all weight vectors; correct? A. The weight vectors are represented in these equations, but as I mentioned

before, you're not logically comparing non-logic-level values. ... Q. Are there any other terms in equation 3 other than WA and WB that go into the input of the OR function? A. Those are the only terms that are represented. ... [A POSA] would look at this and ... would understand that ... we're talking about weights that would enhance or play a role in those traits”), 24:1-4. Further, Petitioner’s citations of Buibas clearly show that a network merge is a merge of weight vectors of the neural networks. Ex. 1005, ¶[0028] (“FIG. 4 is a functional block diagram illustrating a **network merge** in accordance with one or more implementations” and **showing merging of weight vectors**), FIG. 4 (showing an example of merging of weight vectors and using the resulting merged weight vector to update weights of another neural network); Ex. 2001, ¶68.

Apparently recognizing that Buibas’ merges just involve weights (Reply, 7, Petitioner admitting “it is true that the discussion of FIG. 4 centers on merging network weights”), Petitioner provides various cites and arguments regarding Buibas’ brain images. Reply, 7-10. But, **none of those cites disclose or suggest instruction sets at all, much less correlation of inputs with instruction sets** for operating any device. The statement in the Reply that “Buibas specifically explains that a brain image (or a partial brain image) fully defines a neural network including not just weights but also the neurons, topology, and pathways of the network” is conclusory. *Id.*, 8. One of the two paragraphs of Buibas (¶[0203]) cited by Petitioner

for that proposition shows that “[t]he brain image is expressed as a sparse matrix”—i.e., a matrix of weights. *Id.* And the other (§[0205]) merely says that “[t]he brain image is modified by training” and that “the *robotic learning process* is achieved by adding or removing neurons, and/or generating new links between neurons”—which does not say anything about the brain image containing more than weights, let alone containing instruction sets. When asked about the sparse matrix at his deposition, Dr. Janet was unwilling to say clearly what a sparse matrix is and instead gave a long, evasive, and unresponsive answer—which shows his lack of credibility on this point and about Buibas’ brain images generally. Ex. 2005, 28:9-32:12; *see also id.*, 24:5-28:8.

Petitioner states that “a POSITA would have understood, or at least found obvious, that a network merge in Buibas would involve a merge of the neural networks themselves—including but not limited to the weights of the networks.” Reply, 9. That is an improper new argument. Also, it is wrong. **First**, the predicate assumption that Petitioner makes for arriving at that conclusion is that “brain images are comprised not only of weights but also of neurons and other information that fully defines a trained neural network” (*id.*), and, as explained above, that assumption regarding brain images is wrong. For example, Buibas’ disclosures regarding brain images do not say anything about inputs and instruction sets, much less correlations between such inputs and instruction sets that a neural network has.

**Second**, Buibas discusses only weights in its “Network Merges” section, including the equations (eq. 3, 4) that specifically explain how to implement a network merge involving only weights, and no inputs and instruction sets, much less their correlations, as explained above. Ex. 1005, ¶¶[0094]-[0098]. Petitioner is stretching Buibas’ disclosure regarding brain images (that Petitioner relies on for this claimed limitation) far beyond what Buibas actually discloses or even suggests. Notably, Petitioner’s cited passages from Buibas fail to even mention inputs, instruction sets, and their correlations and Petitioner is ignoring what Buibas’ disclosure actually states regarding brain images and network merges that involve only weights.

Petitioner’s argument in the Reply regarding combining capabilities is also wrong. Reply, 9-10. Petitioner’s argument has nothing to do with the claim language and is unsupported. **First**, capabilities is such a generality that if the claimed “instruction sets” would be allowed to be included in the definition of “capabilities,” anything could be included without a meaningful limit, which is clearly unreasonable. **Second**, “capabilities” is actually a different thing than the claimed “instruction sets” by any definition or interpretation that a POSITA would use. For example, an instruction set may be code that instructs a device to turn right such as `Device.turnRight()`, whereas a capability does not include such code. **Third**, merging Buibas’ brain images updates or combines capabilities without involving inputs or instruction sets since Buibas’ brain images only include weights.

In other words, updating or combining capabilities is due to the updating or merging weights of brain images, not inputs or instruction sets. **Fourth**, the Reply states that “[t]he incorporated aspects of the parent networks would include weights, but would also include additional aspects such as additional neurons and the like to the extent necessary for the offspring to implement the combined capabilities of the parents as described in Buibas.” *Id.*, 10. As support, the Reply only cites paragraph 17 of Dr. Janet’s reply declaration (Ex. 1022), but that portion of the declaration just repeats the Reply and is conclusory. *TQ Delta, LLC v. Cisco Sys., Inc.*, 942 F.3d 1352, 1358 (Fed. Cir. 2019). There is no support in Buibas for Petitioner’s proposition, and Petitioner’s argument still does not relate to inputs and instruction sets (especially for operating the second and third devices), let alone their correlations. Petitioner cites a related patent application (Ex. 1031), but that is impermissible new argument/evidence that should be disregarded.

Petitioner’s attempt to map the merger of Buibas’ brain images to the claimed feature of correlating the same inputs with instruction sets for operating the third device (and also the second device) is groundless. Reply, 10-15. Nothing in Buibas’ merging of brain images comes remotely close to this claim limitation. The network merges discussed at page 11 of the Reply are just about weights, as explained above regarding Buibas’ “Network Merges” section. Petitioner mentions “interleaved merges” (*id.*, 11), but that, again, just involves “interleaved segments of *weights*

from parent A and parent B ... to produce the off-spring weight vectors 516, 526, respectively.” Ex. 1005, ¶[0102] (emphasis added). The part of Buibas’ disclosure regarding interleaved merges still does not mention or have anything to do with inputs and instruction sets (especially for operating the second and third devices), let alone their correlations.

Petitioner’s Reply includes arguments about Buibas’ partitioned neuromorphic apparatus with reference to Figure 11D of Buibas. Reply, 12-14. Those are improper new arguments and should be rejected. The Reply states that “[a] single partition in a brain image after successive merges can thus itself include (sub-)partitions from a prior merge, and by the same logic described above, the input(s) to that partition would be correlated with the outputs of each (sub-)partition such as instructions sets for operating a second device and additional instruction sets for operating a third device.” *Id.*, 13-14 n. 2. Petitioner annotated Buibas FIG. 11D as follows in its Reply, and made arguments relating to such annotations (*e.g.*, about allegedly different devices and instruction sets for operating such allegedly different devices):

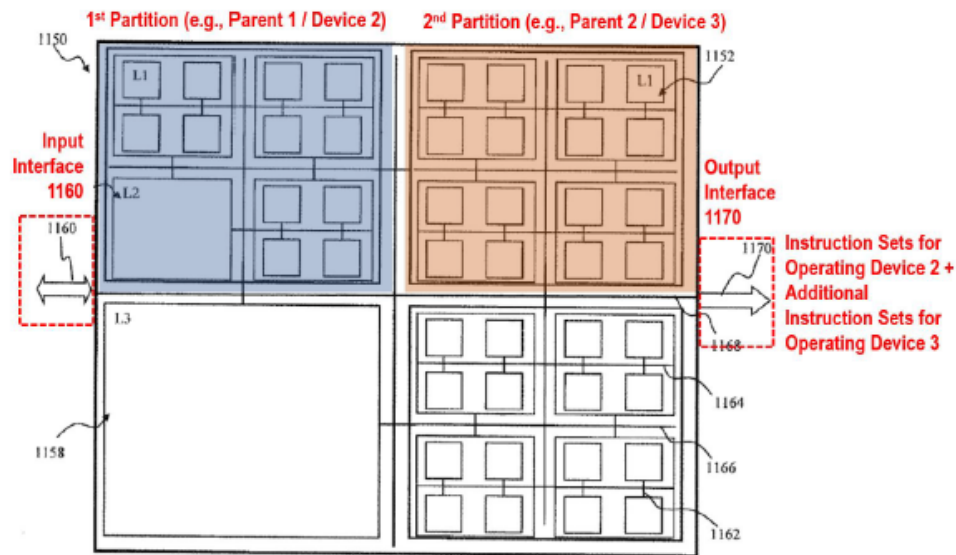


FIG. 11D

Reply, 13 (showing Petitioner's annotations to Buibas Fig. 11D).

But Buibas does not say anything about one partition (annotated by Petitioner in blue) producing an instruction set for one device (annotated by Petitioner as Device 2) and another partition (annotated by Petitioner in orange) producing an instruction set for another device (annotated by Petitioner as Device 3). Petitioner's arguments and annotations are unsupported in Buibas and are speculative, conclusory, and should be rejected. Similarly, the Reply states that, in Buibas, the inputs to all the partitions "are then correlated by downstream connections to the outputs of each partition, including instruction sets for operating a second device and additional instruction sets for operating a third device." Reply, 13-14. But that is conclusory and not supported by Buibas.

Furthermore, the “neuromorphic apparatus” is a hardware apparatus. Buibas discloses that “neuromorphic system 1150 of FIG. 11D comprises a hierarchy of processing blocks (cells block),” where “the lowest level L1 cell 1152 of the apparatus 1150 may comprise logic and memory and may be configured similar to the micro block 1140 of the apparatus shown in FIG. 11B.” Ex. 1005, ¶[0155]. Further, “[a] number of cell blocks may be arrange[d] in a cluster and communicate with one another [via] local interconnects 1162, 1164,” and “several L2 clusters may communicate with one another via a second level interconnect 1166.” *Id.*; *see also id.*, ¶¶[0144]-[0146], [0150]-[0154], [0158]. There is no disclosure or suggestion that Buibas’ hardware partitions (i.e. pieces of hardware) include instructions sets for operating different devices that are then are merged into the partitioned neuromorphic apparatus as Petitioner asserts.

Contrary to merging hardware partitions, Buibas discloses that weights of a brain image are loaded into the neuromorphic apparatus. *See id.*, ¶[0179] (“The training menu may be used to load active ‘brain images’ (e.g., synaptic **weight** data configurations or profiles) onto the neuromorphic apparatus.”); ¶[0144] (“The system 1100 further comprises a random access memory (RAM) 1108, configured to store neuronal states and connection parameters (e.g., **weights** 526 in FIG. 5), and to facilitate synaptic updates.”). Thus, Buibas is clear that only weights of a brain image (not inputs or instruction sets for operating different devices) are loaded into

the hardware neuromorphic apparatus (and thus its hardware partitions), and that no hardware partitions (i.e. pieces of hardware) that include instructions sets for operating different devices are merged.

Petitioner's Reply states that "PO's additional argument that Buibas's "merge" operation precludes instruction sets from multiple devices from being combined and correlated with the same inputs in the absence of re-training is not correct" because "PO's argument is inapplicable to non-interleaved merges in which the system produces a partitioned brain image comprised of individual parent networks integrated into separate portions of the offspring image." Reply, 15. In support of that improper new argument by Petitioner, the Reply cites numerous paragraphs of Buibas, but that portion of Buibas only pertains to weights. *See* Ex. 1005, ¶¶[0092]-[0098]. Whether a merge of Buibas' brain image that includes only weights is interleaved, non-interleaved, or partitioned, it still produces only weights because weights are the only thing that are merged as Buibas clearly describes in the "Network Merges" section and many other places (*see* brain image quotes from Buibas above and in POR) of Buibas' disclosure.

Also, as Patent Owner explained in its POR, Petitioner's proposed obviousness modification for arriving at correlating the same one or more inputs with another instruction set for operating a third device would require retraining the neural network of Buibas with training sets that include the additional instruction set

for operating the third device since additional instruction sets cannot simply be added to existing instruction sets that are already correlated with existing same inputs in a neural network. POR, 20. Buibas simply does not disclose or suggest such retraining. *See id.*, 20-21. Petitioner's various cites to general training concepts (Reply, 17) regarding updating a trained network or collection of networks; modifying a brain image by training; altering weights of synapses through the training process; continuing training a previous routine; the user rewriting the brain image at various times; and self-transformation, clearly have nothing to do with retraining a neural network with additional instructions sets for operating a third device in the manner that the POR argued (with expert support of Dr. Saber) would be required for the proposed obviousness modification. POR, 20-23 (citing Ex. 2001, ¶¶77-81).

The Reply states that “[a] POSITA would have known how to perform re-training if desired, and Buibas explains that continual training can be performed to further improve performance of the brain image.” Reply, 16. **First**, that is an improper new argument. **Second**, Buibas does not disclose, and the Petition certainly did not discuss or explain, the type of retraining of a knowledgebase (*i.e.*, neural network) with training sets that include additional instructions sets (*i.e.*, for operating a third device) that the POR and Dr. Saber explained would be necessary regarding Petitioner's prior art mapping. Buibas' brain images include only weights and do not

involve instruction sets (especially for operating a third device) as discussed above and in the POR. Integrating additional instruction sets into a neural network requires expertise in retraining to ensure that the additional instruction sets integrate properly and seamlessly with existing instruction sets. This is not disclosed or suggested in Buibas. POR, 20-23 (citing Ex. 2001, ¶¶77-81).

**B. Petitioner’s Belated Backup Argument Regarding Merging Weight Vectors Is Also Wrong.**

Apparently recognizing that the foundation of its prior art mapping is irretrievably flawed, Petitioner attempts to salvage its obviousness argument by stating that “[e]ven if one accepts *arguendo* that Buibas’ merge operation is limited to merging only network *weights* as PO contends ..., Buibas would still render claims 56 and 57 obvious.” Reply, 17. Petitioner is wrong. As Patent Owner noted above and in the POR, Buibas’ network merge has nothing to do with instruction sets. And indeed, *Petitioner admitted that “weights and instruction sets are not the same”*—a fatal flaw in Petitioner’s prior art mapping. Reply, 17-18. Petitioner’s Reply states that “[a] POSITA therefore would have understood that Buibas does not need to specifically discuss how instruction sets are combined in a merge operation because the merging of weights itself has the effect of configuring connections between the input and output neurons that allow the offspring to produce instructions sets corresponding to the combined capabilities of the parents.”

Reply, 18. But the merging of weights does not involve instructions sets as discussed above and Buibas simply does not describe capabilities as having anything to do with instruction sets, much less correlating the same inputs with instruction sets for operating different devices. *See generally* Ex. 1005.

Furthermore, weights of connections of a knowledgebase (*i.e.*, neural network) can be loaded, updated, or merged without involving any instruction sets at the outputs and Buibas specifically describes weights of connections being loaded, updated, or merged without involving any instruction sets. *See id.*, ¶¶ [0094]-[0098] (“Network Merges” section), [0028] (“FIG. 4 is a functional block diagram illustrating a **network merge** in accordance with one or more implementations” and **showing merging of weight vectors**), [0094] (“network **weight** updates comprising two or more sources, also referred to herein as ‘merges’”), [0097]-[0098] (equations (3) and (4), showing calculations regarding **weight** vectors) [0179] (disclosing training application that includes a “training menu [that] may be used to load active ‘brain images’ (e.g., synaptic **weight** data configurations or profiles) onto the neuromorphic apparatus.”). Petitioner’s statement that “Dr. Saber acknowledged that weights can be combined in neural networks provide a combined set of instruction sets” (Reply, 18) ignores Dr. Saber’s testimony that in such a circumstance, the neural network would have to be properly retrained with additional

instruction sets to correctly select appropriate instructions sets, and Buibas discloses nothing like that. POR, 20-21 (citing Ex. 2001, ¶¶77-78).

The Reply further states that “merely because a ‘merge’ at its lowest/most granular level is carried out by combining weight vectors does not mean that the merge does not also provide a combined set of instruction sets at the output of the merged network.” Reply, 18. This is an improper new argument. And other than the extremely general statement that “[a]ll computer functions involve low-level operations that can be clinically characterized in terms of manipulations to bits, bytes, weights, or the like, but the higher-level effect can be much more meaningful to the resulting function of the system, as it is here” (*id.*, 19) and a vague citation to Buibas’ “combined set of capabilities” in offspring (an offspring *weight vector*), which themselves are completely divorced from and don’t even mention the claimed inputs, instruction sets, and their correlations, there is no support in the Reply for Petitioner’s new argument.

The Reply also makes an improper new obviousness argument that “a POSITA would have understood and found obvious from Buibas that merging weight vectors serves to combine the capabilities of the parents by weighting connections between the input and output neurons such that the output neurons would be configured to produce outputs corresponding to the capabilities of the parents, e.g., instructions sets for operating a second device and additional

instruction sets for operating a third device.” Reply, 19. Again, Patent Owner has explained in the POR, with expert support from Dr. Saber, that such a modification of Buibas’ system/process would have required skilled retraining of a knowledgebase (i.e. neural network) with training sets that include additional instructions sets (i.e. for operating a third device), which Buibas does not disclose. POR, 20-23 (citing Ex. 2001, ¶¶77-81)

As explained in the POR, Petitioner did not rely on Sinyavskiy for this limitation of claims 56/57. POR, 26.

**III. GROUND 1A: BUIBAS IN VIEW OF SINYAVSKIY DOES NOT DISCLOSE OR SUGGEST THAT AT LEAST A PORTION OF THE INSTRUCTION SETS FOR OPERATING THE THIRD DEVICE IS LEARNED IN ANOTHER LEARNING PROCESS THAT INCLUDES OPERATING THE THIRD DEVICE BY ANOTHER USER (Claim 56)**

As explained in the POR, Ground 1A (Buibas-Sinyavskiy) also fails regarding the limitation of claim 56 “at least a portion of the another one or more instruction sets for operating the third device or at least an information related to the another one or more instruction sets for operating the third device is learned in another learning process that includes operating the third device at least partially by another user.” Petitioner’s Reply states that “[i]n addressing this limitation, the POR repeats many of the same arguments addressed above in §II.A of this Reply, but those arguments fail against this limitation for substantially the same reasons.” Reply, 20.

But it is actually Petitioner that is wrong regarding those arguments, as explained above in Section II.

The Reply further states that “[b]rain images configured to perform the various tasks/behaviors learned on different devices by training routines carried out by different users operating their different robots can then be shared with other users, and users can then select and incorporate different ones of the learned tasks/behaviors into a *merged brain image* can be loaded on a single device.” Reply, 20 (emphasis added). But as explained above in Section II and in the POR, a merged brain image is a group (*i.e.*, vector) of weights from parent brain images that does not include instruction sets. *See, e.g.*, Ex. 1005, ¶¶ [0094]-[0098] ( “Network Merges” section). Petitioner ignores that Buibas’ brain image is not a full neural network with inputs, instruction sets, and weights, but instead is a group of weights (even if these weights may be from different sources) that are loaded into a neural network of a neuromorphic apparatus per Buibas’ explicit disclosure *See id.*, ¶ [0179] (“[t]he training menu [that] may be used to load active ‘brain images’ (e.g., synaptic *weight* data configurations or profiles) onto the neuromorphic apparatus.”). And a group (*i.e.*, vector) of weights does not include instruction sets, much less instruction sets for operating different devices learned in different learning processes involving different users.

The Reply states, incorrectly, that “[b]ased on Buibas’ teachings, a POSITA would have recognized, and found obvious, that when the parents to a merged brain image are networks that have been trained by different users on different devices (i.e., a second device and a third device), the instruction sets produced by the merged brain image are instruction sets for operating each of the different devices by different users.” Reply, 21. This is an improper new obviousness argument not presented in the Petition, and should be rejected for that reason alone. The Petition at pages 41-43 (the only pages addressing claim 56 in Ground 1A) only has one sentence mentioning “obvious” (Pet., 42), but that sentence addresses a different point than the aforementioned new argument in the Reply. The Petition did not argue obviousness regarding the alleged instruction sets produced by the merged brain image being instruction sets for operating each of the different devices by different users. Anyway, this argument in the Reply is unsupported and conclusory. For this argument, the Reply only cites paragraph 32 of Dr. Janet’s declaration (Ex. 1022), which just restates the Reply argument in a conclusory manner. Reply, 21; *TQ Delta*, 942 F.3d at 1358.

Petitioner then criticizes Patent Owner for “present[ing] no affirmative evidence that Buibas’ separate training routines on different devices would **not** amount to separate learning processes in the context of the ’474 Patent.” Reply, 21. But Petitioner misses that “[i]n an [IPR], the petitioner has the burden from the onset

to show with particularity why the patent it challenges is unpatentable,” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016), and the burden of persuasion never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). Additionally, Buibas’ separate training routines on different devices produce trained weights of brain images on different devices, not the claimed instruction sets for operating different devices since a brain image is not a neural network, includes only weights, and does not include instruction sets. Ex. 1005, ¶¶[0028], [0094]-[0095], [0097]-[0098], [0183]. Thus, Buibas’ separate training routines on different devices produce something different (trained weights) than the claimed instruction sets for operating different devices.

Petitioner’s Reply states that “[t]he term ‘learning process’ is never defined in the ’474 Patent; it is used in passing in just a single paragraph of the ’474 Patent’s lengthy disclosure, with no specific explanation of its meaning.” Reply, 21-22. But Petitioner’s expert appears to have had no difficulty mapping the prior art to the claims, and Petitioner (which is the master of the IPR) did not raise any claim construction issues in the Petition regarding this term. Pet., 8.

Finally, referring to factors such as different users, different devices, and operating devices at different times, the Reply states that “[a]ll of those factors are nonetheless present in Buibas, whose platform allows different users to

independently carry out different training routines on different devices at different times” and “[t]hese factors strongly show that the instruction sets learned on a parent third device in Buibas are learned in another learning process separate from the learning process on the second device.” Reply, 22. But again, in support of that statement the Reply just cites paragraph 33 of Dr. Janet’s declaration (Ex. 1022), which is conclusory and provides no explanation. *TQ Delta*, 942 F.3d at 1358. Also, Petitioner’s factors do not mention the claimed instruction sets. Additionally, Buibas’ different training routines on different devices produce trained weights of brain images on different devices, not the claimed instruction sets for operating different devices since a brain image is not a neural network, includes only weights, and does not include instruction sets. Ex. 1005, ¶¶[0028], [0094]-[0095], [0097]-[0098], [0183]. Thus, Buibas’ different training routines on different devices produce something different (trained weights) than the claimed instruction sets for operating different devices. Furthermore, Petitioner’s statement that “Dr. Saber[] acknowledged that different learning processes may involve different users, different devices, and operating device(s) at different times” ignores Dr. Saber testimony that any additional instruction sets (especially instruction sets learned in an additional learning process involving an additional user operating an additional device) cannot be simply integrated with the existing instruction sets that are already correlated with the existing inputs without appropriately retraining the network in order to update

the weights to allow for the proper integration of the added instruction sets. POR, 30-31 (citing Ex. 2001, ¶91).

Thus, in all of Petitioner's cites and arguments regarding Buibas, Petitioner never showed that Buibas' disclosures regarding brain images disclose instruction sets for operating the third device that is learned in another learning process that includes operating the third device by another user as claimed in the '474 patent. Hence, Petitioner has not established that the prior art discloses or suggests this limitation of claim 56.

Finally, as explained in the POR, Petitioner did not rely on Sinyavskiy for this limitation of claim 56. POR, 32.

**IV. GROUND 2C: GROTMOL IN VIEW OF BUIBAS DOES NOT DISCLOSE OR SUGGEST THE INPUTS BEING CORRELATED WITH ANOTHER ONE OR MORE INSTRUCTION SETS FOR OPERATING A THIRD DEVICE (Claims 56/57)**

For Ground 2C (Grotmol-Buibas), Petitioner's Reply initially states that Patent Owner's "arguments lack merit and fail to refute the Petition's showing of obviousness in Ground 2C for substantially the same reasons addressed above in §II." Reply, 22-23. But as shown above, Petitioner's analysis in Section II of its Reply is wrong.

Petitioner then states that "[a] POSITA would have understood from these disclosures that Grotmol's controller can first be trained on a third device to learn

instruction sets for operating a third device; the trained configuration of the controller can be shared with and loaded on a second device where the trained configuration is updated through additional learning of instruction sets for operating the second device (e.g., in the override/correct modes); and the updated trained configuration can be shared with and loaded on a first device.” Reply, 24. This is conclusory. Nothing like this convoluted scheme is disclosed or suggested in Grotmol. In fact, Grotmol does not even mention instruction sets for operating a third device, let alone inputs that are further correlated with instruction sets for operating a third device. Furthermore, Grotmol does disclose that a “trained configuration may be loaded to one or more other robots in order to provide learned behaviors,” but that has *nothing* to do with the claim limitation in claims 56/57: “the one or more inputs are further correlated with another one or more instruction sets for operating a third device.”

Notably, Petitioner apparently did not find this disclosure of Grotmol to be particularly relevant for the foregoing limitation either, because in the Petition, Petitioner relied instead on an obviousness modification/configuration of Grotmol’s system in view of Buibas’ disclosures. Pet., 81 (“To the extent it is argued or determined that Grotmol does not expressly disclose that the inputs to an adaptive controller on a first device are correlated with control outputs (instructions sets) learned on at least two other devices (i.e., a second device and a third device), these

features nonetheless would have been obvious when further considering the teachings of *Buibas*.”) (emphasis added). That is, Petitioner has made an improper new argument in its Reply that changes its obviousness theory for this ground—now Petitioner is arguing that the limitation would have been obvious in view of Grotmol alone, with no mention of Buibas on pages 22-24 of the Reply (the portion of the Reply addressing this limitation in Ground 2C). Reply, 24 (“As Dr. Janet explains, this *predictable* situation would have been expected and *obvious* to a POSITA reviewing *Grotmol’s disclosure*, as it would allow multiple devices to gain the benefit of *Grotmol’s capabilities* for sharing and updating training configurations. [] The *predictable* result would be ...”) (emphases added). Petitioner had the chance to craft its obviousness theories however it wanted in its Petition, but is stuck with them now. That Patent Owner has pointed out numerous errors in Petitioner’s Buibas-related analysis does not enable Petitioner to change its obviousness theories like this.

**V. GROUND 2C: GROTMOL IN VIEW OF BUIBAS DOES NOT DISCLOSE OR SUGGEST THAT AT LEAST A PORTION OF THE INSTRUCTION SETS FOR OPERATING THE THIRD DEVICE IS LEARNED IN ANOTHER LEARNING PROCESS THAT INCLUDES OPERATING THE THIRD DEVICE BY ANOTHER USER (Claim 56)**

The Reply states regarding this limitation that Patent Owner’s “arguments on this limitation mirror the same flawed arguments that it earlier advanced in Ground 1A” and “lack merit and fail to refute the Petition’s showing of obviousness for each

of the reasons addressed above in §§II and III.A.” Reply, 25. But it is Petitioner that is wrong about such arguments, for the reasons discussed above in Sections II-IV.

## **VI. CONCLUSION**

For the reasons above and in Patent Owner’s Response, Patent Owner respectfully requests that the Board confirm the patentability of claims 56 and 57 and enter judgment against Petitioner.

Dated: May 30, 2025

Respectfully submitted,

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**CERTIFICATION OF WORD COUNT**

The undersigned hereby certifies that the portions of the above-captioned **PATENT OWNER'S SUR-REPLY** specified in 37 C.F.R. § 42.24 have 5,388 words, in compliance with the 5,600 word limit set forth in 37 C.F.R. § 42.24(c). This word count was prepared using Microsoft Word.

Respectfully submitted,

Dated: May 30, 2025

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**CERTIFICATION OF SERVICE**

The undersigned hereby certifies that a copy of this **PATENT OWNER'S SUR-REPLY** has been served on Petitioner via email on the following counsel of record for Petitioner:

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