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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TESLA, INC.,

Petitioner

v.

AUTONOMOUS DEVICES, LLC,

Patent Owner

Case: IPR2024-00745

U.S. Patent No. 11,663,474

Deposition of JASON JANET, PH.D.

Conducted Remotely

Friday, May 16, 2025

10:03 a.m.

Reported by: Matthew Goldstein, RMR, CRR

DIGITAL EVIDENCE GROUP

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1 Deposition of JASON JANET, PH.D., conducted
2 remotely:

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9 Pursuant to Notice, before Matthew Goldstein,
10 RMR, CRR, Notary Public in and for the State of
11 Maryland.

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1 A P P E A R A N C E S

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1 C O N T E N T S

2 EXAMINATION OF JASON JANET, PH.D. PAGE

3

4 By MR. JAIRAM 5

5

6 E X H I B I T S

7 DEPOSITION EXHIBIT PAGE

8

9 Exhibit 1003 Declaration of Jason A. Janet, 6
10 Ph.D., Previously Marked11 Exhibit 1005 United States Patent 6
12 Application Publication

13 2014/0089232 A1, Previously Marked

14 Exhibit 1008 United States Patent 9,604,359 50
15 B1, Previously Marked16 Exhibit 1022 Supplemental Declaration of Dr. 6
17 Jason Janet, Previously Marked

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1 P R O C E E D I N G S

2 Whereupon,

3 JASON JANET,

4 being first duly sworn or affirmed to testify to
5 the truth, the whole truth, and nothing but the
6 truth, was examined and testified as follows:

7 EXAMINATION BY COUNSEL FOR THE PATENT OWNER

8 BY MR. JAIRAM:

9 Q. Good morning, Dr. Janet.

10 A. Good morning.

11 Q. As you know, we've had a deposition
12 previously in this IPR, and we are now having
13 another deposition.

14 Do you understand that?

15 A. Yes, sir.

16 Q. And this is regarding the IPR about the
17 patent that I will call the '474 patent because
18 those are the last three digits of the patent
19 number. Okay?

20 A. Yes, sir.

21 Q. And you have submitted two declarations
22 in this IPR; right?

1 A. Yes, I believe that's true.

2 Q. And I have put both of those
3 declarations, Exhibit 1003 was your first
4 declaration and Exhibit 1022 is your second
5 declaration, in the chat window of this video
6 conference.

7 (Exhibit 1003, Previously Marked.)

8 (Exhibit 1022, Previously Marked.)

9 BY MR. JAIRAM:

10 Q. Do you have those?

11 A. Yes.

12 Q. And I've also put one of the prior art
13 references, Exhibit 1005, and I'll spell it out,
14 it's B-U-I-B-A-S, Buibas, in the chat window,
15 also.

16 Do you have that?

17 A. Yes.

18 (Exhibit 1005, Previously Marked.)

19 BY MR. JAIRAM:

20 Q. Do you have any other documents with you
21 today?

22 A. No, just work-related -- regular

1 work-related stuff.

2 Q. Okay. And I'm going to ask you
3 questions about the second declaration that you've
4 submitted, Exhibit 1022. But if there's any
5 confusion at any point on your part about whether
6 I'm referring to your first declaration or your
7 second declaration, please let me know, and I will
8 be sure to clarify. Okay?

9 A. Okay.

10 Q. Dr. Janet, you have testified about the
11 Buibas reference in your second declaration;
12 right?

13 A. Yes, sir.

14 Q. And you are aware that the Buibas
15 declaration describes something that it calls
16 network merges; correct?

17 A. That is, I believe, close to at least,
18 if not exactly, the term that's used, yes.

19 Q. Do you see the section in the Buibas
20 reference called Network Merges that appears
21 before paragraph 94?

22 A. I'm at paragraph 94. What was your

1 question, I'm sorry?

2 Q. I was just asking if you see that
3 section that's called Network Merges?

4 A. Yes.

5 Q. And do you see a couple of equations in
6 that section, equations 3 and 4?

7 A. Yes.

8 Q. Can you explain to me how equation 3 of
9 Buibas works?

10 A. So my recollection is that this is an
11 ORing function where a decision is made between a
12 weight or weight vector of parents A and parent --
13 parents A and B. And that weight vector or subset
14 of weights is then what constitutes the weight
15 vector for the offspring.

16 Q. And just to make the record clear, when
17 you are talking about the ORing function, you were
18 referring to the Boolean OR operation called OR;
19 correct?

20 A. Correct.

21 Q. And can you tell me how the OR -- the
22 Boolean OR operation works?

1 A. Well, there are a lot of ways to
2 implement an ORing function when it comes to
3 deciding what weights to bring from which source.
4 It might depend on whether the weight shows that
5 it had any sort of value to the trained neural
6 network and/or if it's saturated or caused any
7 sort of saturation.

8 So, typically, an activation function
9 for a neural network, like what's in Model A of
10 the '474, might be a sigmoidal function where if a
11 weight is very high and the circumstance
12 representation values that are pushed through the
13 inputs get extremely amplified, there's a
14 saturation at one end, it might go to one. If
15 it's very low it might go to zero, or it might go
16 to negative one, depending on what kind of sigmoid
17 is being used.

18 So that's just one of many examples.
19 This is something that I used back in the '90's to
20 figure out how to prune and graft neural networks.

21 Q. So when the term that is called WA is
22 put as one input into the Boolean OR operation and

1 the term that is called WB is put as another input
2 into the Boolean OR operation, equation 3 says
3 that the result of that operation will be called
4 WOFF; is that right?

5 A. Yes. And I think it's important to
6 maybe clear up any potential confusion. The
7 Boolean operation doesn't necessarily have to mean
8 that the values are zeros or ones in the weight
9 vectors.

10 It simply means that the values of the
11 weights and the weight vectors have some sort
12 of -- you know, they meet some threshold. They
13 meet some criteria. So the Boolean value might be
14 valuable, invaluable -- I'm sorry, valuable or not
15 valuable.

16 Q. When you're referring to Boolean -- and
17 I'll spell it for the court reporter,
18 B-O-O-L-E-A-N -- this is in the context of Boolean
19 logic, which has two states or logic values; is
20 that correct?

21 A. It does. But, again, I'm trying to
22 clarify for you, it's -- I'm not taking a 5 and

1 ORing it with a 3.1, or a 5 and ORing it with a
2 negative 1.6. What I'm doing is I'm looking at
3 whether those weights are anemic, that they had
4 value or didn't have value, or that they weren't
5 even trained.

6 Let's just say parent A operated without
7 all of its sensory inputs. Then the weights
8 associated with the inputs for those types of
9 sensors would probably be random or set to zero.

10 Alternatively, if the -- you know, for
11 the regions of the circumstance representation
12 that parent A did train on, those weights would
13 have value, in which case they might have, in the
14 context of this ORing function, a logic level of,
15 say, one.

16 Q. And this OR function is what Buibas
17 describes in paragraph 97 as combining traits from
18 parent A and parent B; correct?

19 A. Correct.

20 Q. And parent A corresponds to the variable
21 that is labeled as WA, and parent B is the thing
22 that corresponds to WB in equation 3; right?

1 A. When you say "the thing" --

2 Q. The variable or parameter.

3 A. Again, I just want to clarify. You're
4 not ORing non-logic level values. What you're
5 doing is you're using the non-logic level values,
6 i.e., these weights, the synoptic weights, to
7 ascertain whether there was utility if the neural
8 network even trained on it. And then that defines
9 your logic level zero or one.

10 Q. Okay.

11 A. This is a common practice. Again, you
12 know, you're welcome to look at my dissertation
13 from the mid-'90s and lots of other references
14 from the mid-'90s and on and maybe even prior,
15 where pruning and grafting were predicated on the
16 utility of the weights themselves and/or how the
17 neural network was trained.

18 In the context of the '474, it would
19 like what fraction of the circumstance
20 representation was parent A trained on versus
21 parent B trained on.

22 Q. Okay. I'm just trying to understand

1 when there's parent A and parent B, those
2 correspond to the WA and WB terms written in
3 equation 3; correct?

4 A. There is a correspondence, yes. But,
5 again, you're not logic level or Boolean ORing
6 something that is not at a logic level or in the
7 context of a logic level.

8 Q. And then what is equation 4 in Buibas?

9 A. Equation 4 is an ANDing function.

10 Q. And just for the record being clear,
11 ANDing refers to the Boolean AND operation or the
12 logical AND operation, A-N-D; correct?

13 A. Yes, sir.

14 Q. And in equation 4, there are two input
15 terms, WA corresponding to parent A, and WB
16 corresponding to parent B. And they are put into
17 the AND operation, and the result of that is
18 called WOFF; is that correct?

19 A. For offspring, correct.

20 Q. Why are there two variations of this
21 type of an operation to combine traits from two
22 parent -- two parents?

1 A. Well, this just shows that there are
2 lots of criteria that can be used to determine
3 whether to prune, graft, augment a neural network
4 with the knowledge that was gained by another
5 neural network. Buibas tried to simplify it in
6 this equation -- or these two equations.

7 But, again, it's a very well-known
8 process, dating back decades, where if there's
9 value, which can usually be determined by looking
10 at the weights or by operating a network without
11 the weight to see what the difference might be,
12 adding the neurons and associated weights and
13 seeing what the difference might be.

14 So this is the most simplified way of
15 describing what would otherwise be a very broad
16 spectrum of criteria to determine whether
17 something of weight or a set of weights has value
18 within a neural network. And then if it does, how
19 to fold it in.

20 If you have limited memory or
21 computational resources, then you might have to
22 just go with what's best. If you can endure added

1 computational complexity and data storage
2 requirements, then you can build on your neural
3 network, which would be like an ANDing.

4 Q. Do you see the last sentence of
5 paragraph 96 of Buibas?

6 A. Yes.

7 Q. The last sentence of paragraph 96
8 mentions combining capabilities of two or more
9 parents to add a capability to one of the parent
10 network; right?

11 A. Well, specifically that last sentence
12 reads, The non-interleaved network merge, such as
13 illustrated in Figure 4, may be used, for example,
14 to combine capabilities of two (or more) parents
15 or to add a capability to one of the parent
16 network.

17 Q. And paragraph 97 and 98 and the
18 equations in those paragraphs mention combining
19 the traits from two parents; right?

20 A. Paragraph 97 reads, Various operations
21 404 of Figure 4 may be used to produce
22 contributions by one or more parent. In one or

1 more implementations -- which, again, is the
2 acknowledgment of the very broad strum of
3 implementations -- the off-spring weight vector
4 may be determined by combining the traits from
5 parent A and parent B are combined as follows.

6 And then it provides that ORing function
7 in equation 3.

8 Q. So that paragraph is saying that the
9 ORing function of equation 3 is showing one way to
10 combine traits from parent A and parent B;
11 correct?

12 A. Correct.

13 Q. And paragraph 98 is showing apparently a
14 way to determine traits in parent B that are not
15 in parent A and adding them to parent A; is that
16 correct?

17 A. Well, specifically the paragraph reads,
18 "In one or more implementations, the off-spring
19 weight vector may be determined by determining
20 traits in the parent B that are not in the
21 parent A and adding these to the parent A as
22 follows."

1 Q. And all of the terms in equations 3 and
2 4, both the input terms and the resulting output
3 of those equations, are all weight vectors;
4 correct?

5 A. The weight vectors are represented in
6 these equations, but as I mentioned before, you're
7 not logically comparing non-logic-level values.
8 There's a criteria -- again, if you look at the
9 paragraph that talks about whether there are
10 traits in parent B that are not in parent A.

11 And so one way, one of probably
12 thousands of ways to do this, as I mentioned
13 before, is to take a look at the weights and see
14 if there simply wasn't -- you know, if there
15 weren't values in those weights or that those
16 weights, when combined with the bias and the
17 activation function, produce nothing that
18 contributes to, in the context of the '474, an
19 instruction set or an instruction set that deals
20 with a particular scenario.

21 And so if that's the case, then it would
22 make sense to bring that trait over.

1 Q. In equation 3, the only two input terms
2 for the OR function of that equation are WA and
3 WB; correct?

4 A. The representations of WA and WB are
5 there, correct. But, again, a person of ordinary
6 skill would know that you're not going to logic
7 level -- you're not going to logically compare
8 things that are not in context of a logic level.

9 So there's a criteria, there's a
10 bridging criteria, but it's a very high-level
11 way -- again, a person of ordinary skill would
12 look at this and recognize what it is. This isn't
13 a bunch of ones and zeros. This doesn't mean that
14 WA is a matrix of ones and zeros and that WB is a
15 matrix of ones and zeros.

16 It's going to have values to it, and
17 those values are going to fit a criteria that puts
18 them into a logic level zero or a logic level one.

19 Q. Are there any other terms in equation 3
20 other than WA and WB that go into the input of the
21 OR function?

22 A. Those are the only terms that are

1 represented. I don't know how to make this any
2 more clear, but a person of ordinary skill would
3 look at this and for a practical implementation
4 would understand that we're talking about traits,
5 we're talking about weights that would enhance or
6 play a role in those traits.

7 And if those traits exist, then it might
8 sit in a logic level one category. If they don't
9 exist and they might otherwise have value, then
10 they might sit in a logic level zero.

11 Q. Are you saying that there is something
12 else in equation 3 that is not written in
13 equation 3?

14 A. The practical implementation would
15 require more than just a simple Boolean comparison
16 of the values in the weight vector. That's all
17 I'm saying. And, again, a person of ordinary
18 skill would recognize that.

19 You know, if I'm trying to ascertain
20 whether parent A has the ability to avoid a
21 problem that parent B never trained on, then
22 that's a trait that would be ultimately

1 transformed into or translated to logic levels for
2 the purposes of ORing or ANDing.

3 Q. Do you think that a person of ordinary
4 skill in the art would have been able to implement
5 what Buibas is describing at equation 3?

6 A. I think I got most of your question, but
7 because of the interruption there, maybe can I
8 just get you to say it again?

9 Q. Sure.

10 Do you think a person of ordinary skill
11 in the art would have been able to implement what
12 Buibas is describing at equation 3?

13 A. Absolutely.

14 Q. And a person of ordinary skill in the
15 art would have implemented that equation by doing
16 what is shown on the right side of the equal sign
17 in equation 3?

18 A. Yes, a person of ordinary skill would
19 know what those two equations are for. There
20 would representations --

21 Q. And would a person of ordinary skill --
22 I'm sorry.

1 A. -- representations of deciding whether
2 to bring forth or combine traits from two
3 parents -- two or more parents.

4 Q. And would a person of ordinary skill
5 have been able to implement what Buibas is
6 describing at equation 4?

7 A. Yes.

8 Q. And a person of ordinary skill would
9 have implemented that functionality by doing the
10 operation shown on the right side of the equal
11 sign in equation 4?

12 A. Yes. Again, you're looking at this as a
13 simple equation, and it's a very high-level
14 representation of a process. If parent A has a
15 trait that parent B doesn't have and that trait is
16 valuable to producing instruction sets so that the
17 offspring stays safe, then you would -- you would
18 put it in a category, logic level one or logic
19 level zero, let's just say logic level one, if
20 it's valuable.

21 But that's not really represented in
22 this very simple high-level description of

1 deciding whether to bring over traits or to
2 exclude traits. But it does get to the heart of
3 the process. And a person of ordinary skill would
4 understand it when they see it.

5 Q. Do you think that equations 3 and 4 are
6 not simple?

7 A. Well, I'm pretty sure that I referred to
8 it as a simple high-level representation of
9 deciding whether to add or subtract or substitute
10 traits from parent A and parent B, or more parents
11 for that matter.

12 Q. So I'm just trying to understand your
13 view.

14 So then is it your view that equations 3
15 and 4 are, in fact, simple, high-level
16 representations?

17 A. Yes, I believe that they're simple,
18 high-level representations.

19 Q. Are there any other equations in the
20 Network Merges section of Buibas?

21 A. Buibas didn't go into any more detail
22 about this, but wouldn't really need to. Again,

1 this is something that's been done since the
2 '90's, maybe earlier.

3 Q. And the Network Merges section, just to
4 be clear, is the portion from paragraphs 94 to 98,
5 because after that there's a different section
6 heading that precedes paragraph 99; correct?

7 A. Yes, the network heading preceding
8 paragraph 99 is Network Evolution.

9 Q. So when Buibas refers to the term
10 "merges," Buibas explains what that means at
11 paragraph 94; correct?

12 A. I think Buibas explains at a very high
13 level what is being disclosed, which would be
14 these -- at paragraph 94 through paragraph 98.
15 But, again, this really is not a new concept.

16 Q. Could you please read aloud paragraph 94
17 of Buibas?

18 A. Yes. Paragraph 94 reads, "In some
19 implementations, the network life cycle may
20 compromise network weight updates comprising two
21 or more sources, also referred herein to as
22 'merges.'"

1 Q. So Buibas is defining the term "merges,"
2 in the context of Buibas, as network weight
3 updates comprising two or more sources; correct?

4 A. Correct.

5 Q. When Buibas mentions at paragraph 203 a
6 sparse matrix, can you please explain what a
7 sparse matrix is?

8 A. Paragraph -- paragraph 203?

9 Q. Yes, sir, paragraph 203, do you see that
10 paragraph?

11 A. Yes, I do. Paragraph 203 says, "In an
12 exemplary implementation, the brain image serves
13 as a spatial mapping (in a simulated space) of the
14 neurons and synapses of an artificial neural
15 network. The brain image is expressed as a sparse
16 matrix (allows for empty space, growth, and
17 connectivity mapping). Other approaches may be
18 used consistent with the disclosure as well."

19 Q. Yeah. And I'm asking about the sparse
20 matrix. Can you please explain what that is?

21 A. Well, the parenthetical after the term
22 "sparse matrix" I believe defines what that is,

1 which is that memory might have been allocated to
2 accommodate additional synapses and neurons in the
3 artificial neural network, but was not used, at
4 least initially, and it allows for empty space,
5 growth, and connectivity mapping.

6 Q. I think paragraph 203 says in that
7 parenthetical what the sparse matrix allows for,
8 but I'm asking a different question, sir.

9 I'm asking, what is a sparse matrix?

10 A. Well, I think that the -- what it allows
11 for is what defines it as a sparse matrix. So
12 it's a matrix where, and I'll be repeating myself
13 here, memory might have been allocated, more
14 memory than was necessary, and a subset of that
15 matrix is used initially for training purposes.

16 And if neurons or synapses are added,
17 which is referenced in the parenthetical, and/or
18 pointers to allow for the connectivity, then that
19 matrix -- the values in that matrix, more might
20 be -- more might hold values instead of, you know,
21 a subset of that matrix. The subset might grow
22 bigger, let's say.

1 Q. Are you familiar with the term "sparse
2 matrix" for mathematics generally, outside of the
3 context of Buibas?

4 A. Well, I'm aware of a variety of
5 definitions of "sparse matrix," but just sticking
6 with what I believed Buibas is getting at, again,
7 looking at this now as a refresher, I believe
8 that's what Buibas is describing.

9 Q. What is a matrix?

10 A. A matrix is a collection of values,
11 usually in the form of rows, columns. It's
12 typically two-dimensional, but there are -- there
13 can be more dimensions to a matrix.

14 Q. Let's take an example of a
15 two-dimensional matrix with dimensions that are
16 called rows and columns, as you said. Then each
17 cell of the matrix corresponds to a particular row
18 and column; correct?

19 A. Yes.

20 Q. And the matrix values are the values of
21 each cell of the matrix; right?

22 A. If you're saying that a cell is

1 described by row and column and the matrix value
2 is the value associated with that cell, then I
3 think I understand where you're going. Now, it
4 doesn't have to be a value. I mean, it could be a
5 symbol. It could be an equation. It could be
6 something else.

7 Q. And are you familiar with what it means
8 for a matrix to be a sparse matrix in terms of
9 something about its cells?

10 A. Well, again, I've heard different
11 definitions over my lifetime where sparse matrix
12 has been used, and I believe where Buibas is going
13 with that is described in this paragraph, and that
14 is that the matrix -- the brain image is expressed
15 as a sparse matrix that allows for empty space,
16 growth, and connectivity mapping, which is to say
17 as it evolves, that -- you know, if your initial
18 start -- if your initial neural network isn't
19 performing, then you might add traits, again, from
20 say a different parent from a neural network that
21 was working or part of it was working.

22 And this sparse matrix, which is to say

1 this sparsely-populated matrix, gives room for
2 this growth and connectivity mapping by adding
3 neurons or adding synaptic weights.

4 Q. When you say a "sparsely-populated
5 matrix," are you referring to a matrix where most
6 of the elements are zero?

7 A. It could be. They don't have to be, but
8 they could be.

9 Q. When Buibas is referring to a sparse
10 matrix, is Buibas referring to a matrix where most
11 of the elements are zero?

12 A. So I think that clarity can be achieved
13 by looking at paragraphs 204, 205, possibly 6 and
14 7. 204, it mentions -- Buibas mentions that if
15 the robotic device is exposed to stimuli -- well,
16 The activity states of this network correspond to
17 all of the activities of a robotic device.

18 If the robotic device is exposed to
19 stimuli, the raw data received from the sensors
20 detecting the stimuli generates a specific
21 activity state based on the stimuli. The activity
22 state varies with all aspects of the stimuli. For

1 example, for a robotic device with color sensing
2 capabilities, exposure to a red ball activates a
3 given activity state.

4 Subsequently, first exposure to a green
5 ball activates a related response. However,
6 neurons related to the new events are active and
7 neurons related to the green sensor are active.
8 The activity states also guide the actions of the
9 robotic device.

10 Further, activity states bridge actions
11 and stimuli. For example, the robotic device is
12 able to pick up red balls and not green balls
13 because the red color sensor data excites an
14 activity state that maps red stimuli to the
15 actuation of an arm. The brain image is modified
16 by training.

17 Thus, the robotic learning process is
18 achieved by adding or removing neurons, which was
19 described in that parenthetical, and/or generating
20 new links between neurons, also described in that
21 parenthetical.

22 Rules for growth and pruning of these

1 pathways and neurons may also be applied. Again,
2 not specific because, again, a person of ordinary
3 skill would know that there are many of those, and
4 they've been around for a long time.

5 For example, if a given neuron is active
6 and less than a given percentage of states in
7 which neighboring neurons are active, then it is
8 pruned. Alternatively, if a group of neurons are
9 often active together, a link may form among them.

10 In this implementation, the rules are
11 enforced by the bSTEM, which is their product.
12 Further, the weights of various models -- modeled
13 synapses may be altered through the training
14 process. And it goes on.

15 But, basically, this allows for a way to
16 be open to stimuli by having a large enough
17 architecture of this sparse matrix, starting with
18 what you think is critical, but allowing it to
19 determine whether there's stimuli that is
20 pertinent.

21 And if it's not, then it's pruned. If
22 there's something that is and maybe wasn't

1 previously accommodated or populated in that
2 matrix, then it is added. So I think that that
3 helps answer your question, if not entirely.

4 Q. I don't think you responded to the
5 question, sir. So I'll ask it again.

6 When Buibas refers to a sparse matrix at
7 paragraph 203, is Buibas referring to a matrix
8 where most of the elements are zero?

9 If you could please -- if you're able to
10 answer that with a yes or a no.

11 A. I don't know if that was a yes-or-no
12 question. Say again, please.

13 Q. When Buibas is referring to a sparse
14 matrix at paragraph 203, is it referring to a
15 matrix where most of the elements are zero?

16 A. Again, the term "zero" may not be used
17 in Buibas. The point, though, is that what it's
18 telling a person of ordinary skill is that you
19 open up, let's just call it a field or a matrix,
20 and allow for a broad as spectrum as possible of
21 stimuli to effect or dictate whether you keep,
22 add, or prune neurons and synaptic weights

1 associated.

2 So whether it assumes a value of zero or
3 not, I don't believe, at least in these
4 paragraphs, that Buibas says that they're zero
5 value. It's just that -- or that they have a
6 value of zero in the cells.

7 It's just that you have a sufficient
8 matrix or, you know, allocation to detect whether
9 there's stimuli, and fill that matrix or modify
10 that matrix to accommodate any additional
11 connections, neurons, pruning, grafting, that sort
12 of thing.

13 Q. In the matrix that's described at
14 paragraph 203, what are the matrix values or, in
15 other words, the values of the matrix?

16 A. Well, as I mentioned before, and I'm
17 just looking at this from a person of ordinary
18 skill, they may assume a scaler value. They may
19 be an equation. They may point to another matrix.
20 They may point to another cell in that same
21 matrix.

22 So I think what you might be asking me

1 is: Are there purely scaler values? And I, from
2 a perspective of a person of ordinary skill, don't
3 think that they would necessarily have to be.
4 Again, if you're looking at the purpose here,
5 which is described in that parenthetical, is to
6 allow empty space, growth, and connectivity
7 mapping.

8 Q. I'm not asking if they are purely scaler
9 values. I'm just trying to understand what the
10 values of the matrix are supposed to be. If
11 somebody is looking at this and is trying to
12 figure out what is this a matrix of, are you able
13 to explain that?

14 A. It's -- again, as described in 203 and
15 clarified in the subsequent paragraphs, it's a
16 means to register stimuli, define connectivity,
17 allow for growth or -- which is in 203, but later
18 on in '04 and '05, it talks about pruning. It
19 might not use that term -- yes, it does, it uses
20 that term.

21 So it's a register, if you will, with
22 rows and columns that allow for those things to be

1 defined. And they aren't necessarily just scalar
2 values.

3 Q. Paragraph 203 mentions the brain image,
4 what is a brain image?

5 A. Well, the -- as 203 says, it's a spacial
6 mapping in a simulated space of the neurons and
7 synapses of an artificial neural network.

8 Q. We're not talking like an image of
9 someone's brain?

10 A. Say again, please.

11 Q. We're not talking like a picture or an
12 image of a brain?

13 A. Oh, I don't think we're talking about a
14 portrait. But the term "image," if I image my
15 hard drive, then I have a copy of my hard drive,
16 regardless of what's on my hard drive. It may be
17 scalar values, it may be equations, it may be
18 documents, it may be a variety of things.

19 So I believe that's more what is meant
20 by an "image." And the simplified -- excuse me,
21 somewhat simplified clarification for that image
22 would be or could be, as Buibas describes, and I'm

1 being emphatic here, as an exemplary
2 implementation. It could be a matrix.

3 Q. Paragraph 203 is saying that the brain
4 image is expressed as a sparse matrix; right?

5 A. In an exemplary implementation, yes,
6 sir.

7 Q. And do you see where Buibas specifically
8 says that the brain image is not just any matrix,
9 but it's a sparse matrix?

10 A. I'm sorry, are you asking me if Buibas
11 is not limiting it to a sparse matrix?

12 Q. I'm just asking if you see that in
13 paragraph 203, Buibas is specifically saying that
14 the brain image is expressed as a certain type of
15 matrix, in particular a sparse matrix.

16 Do you see that?

17 A. As an exemplary implementation, it can
18 be described as a sparse matrix, correct. That's
19 not -- I'm sure that's not what Buibas is limiting
20 it to.

21 Q. Does Buibas say that the brain image is
22 expressed as some other kind of matrix in some

1 other implementation?

2 A. Well, Buibas entertains the idea of a
3 matrix period. And, again, the beginning of that
4 paragraph says "an exemplary implementation." So
5 as I mentioned before, sparse, as a qualifier to
6 matrix, can take on -- it can be a little bit
7 subjective.

8 So is it sparse if I have a row at the
9 top, a row at the bottom, and a column on both
10 sides that's free, or is it sparse if I only have
11 20 percent of that memory allocated to my initial
12 start as a neural network and then it may change
13 over time during training.

14 Q. Have you ever designed a neuromorphic
15 apparatus?

16 A. Well, what are you defining as a
17 neuromorphic apparatus? Or what definition were
18 you referring to, maybe I should ask that?

19 Q. Are you familiar with a neuromorphic
20 apparatus?

21 A. Well, neuromorphic would mean that
22 you're basically -- you have some neurological

1 type of model that has the ability to evolve. And
2 so that's just a very quick and dirty definition.
3 But if you're referring to something specific to
4 any of the patents, we probably should just stick
5 with whatever that definition is, and then I can
6 give you a better answer.

7 So what are you referring to?

8 Q. Have you testified about a neuromorphic
9 apparatus in this IPR?

10 A. I can't rule it out. I mean, I've had
11 several depositions in this -- well, this IPR, I
12 guess this is my second deposition, but, you know,
13 I don't remember my testimony by heart.

14 Is there something specific that you
15 want to look at?

16 Q. Have you described a neuromorphic
17 apparatus in any of the prior art in this IPR?

18 A. Well, I'm happy to search through my
19 documents, or if you want to, you can point me to
20 what you're referring to.

21 Counsel, I'm just using a word search.
22 Hopefully that's permissible. When I do simple

1 word searches on my original declaration and my
2 supplemental declaration, I'm not seeing the word
3 "neuromorphic" come up. But, again, I can't rule
4 out having addressed it in some way.

5 I think that I did certainly in my last
6 deposition make reference to, among other things,
7 my Ph.D. work where that was -- depending on how
8 you define "neuromorphic," that was a very clear
9 example of how the neural network structure
10 changes over time, and that weights can be removed
11 or pruned, other weights and associated neurons
12 can be added, and that the results yielded a
13 variety of benefits.

14 One is reduced subsequent training time.
15 One was actually starting out with pretty good
16 functionality, even though there wasn't any
17 training. And these were bringing together two
18 different types of robots to create an offspring,
19 for lack of a better word, set of neural networks.

20 And, again, you're welcome to look at my
21 dissertation, I'm happy to bring it up, but I
22 believe that I at least referenced that in my last

1 deposition. And I believe that that would fit the
2 definition of "neuromorphic." I don't know that I
3 used that term specifically, though.

4 MR. JAIRAM: We've been going for about
5 an hour. Why don't we take a break.

6 Let's go off the record.

7 (Recess from the record.)

8 BY MR. JAIRAM:

9 Q. Dr. Janet, you've addressed the
10 combination of Buibas in view of Sinyavskiy -- and
11 I'll spell that out, S-I-N-Y-A-V-S-K-I-Y -- in one
12 of your prior art grounds; correct?

13 A. Yes, sir.

14 Q. And for Claim 56, what have you mapped
15 from the prior art to the claimed instruction
16 sets?

17 And if you need to, sir, you can look at
18 either of your declarations.

19 A. Okay. To start, Figure 10 from Buibas
20 describes a brain image related techniques
21 implemented according to, quote, any number of
22 different artificial neuro -- I'm sorry,

1 artificial intelligence models and paradigms,
2 including, for example, an artificial spiking
3 neural network.

4 And so if you look at Figure 10, the
5 output of that artificial spiking neural network
6 would be your instruction set.

7 Q. So in Figure 10 of Buibas, are you
8 referring to what is shown as 1010_1 and 1010_n?

9 A. I see what you're referring to. It was
10 small in my original figure. So, yes, that would
11 be -- a person of ordinary skill would recognize
12 this as the output to a neural network. And there
13 are N of them, I guess. But the output -- so the
14 values of those output -- I should say, the
15 outputs contain the instruction sets, and the
16 values are what is the action essentially of
17 what's executed.

18 Q. You're saying that the outputs contain
19 the instruction sets, and you're referring to the
20 outputs of the neural network; is that right?

21 A. Correct.

22 Q. And just to be clear, when you say the

1 output of the neural network in Figure 10, that's
2 the stuff on the rightmost portion of the figure?

3 A. I know what you mean. In the document,
4 it's the topmost, but it's turned. So when you
5 turn it so that the numbers are reading
6 horizontally and everything else is reading
7 horizontally, then --

8 Q. Just to be clear, I've rotated the -- I
9 guess the PDF document so that I can see it, and
10 it looks normal to me.

11 A. Yeah, I --

12 Q. I'm not trying to be confusing here.
13 When you see Figure 10 written across
14 the bottom, then what appears on the far right
15 side of that figure is the output. And on the far
16 left side of the figure is sensor input 1020.

17 Is that the --

18 A. Correct.

19 Q. -- orientation that you -- okay.

20 What is a neural network, sir?

21 A. Well, that's a loaded question. A
22 neural network is a model of how the brain or any

1 other form of intelligence, let's just say in an
2 animal, might function and then might be trained,
3 later might be tuned, later might share its
4 knowledge with something else.

5 But there are many, many manifestations
6 of neural networks, and I believe that this was
7 acknowledged by the '474 with its very broad
8 inclusion of neural networks of all flavors.

9 Q. What are neurons of a neural network?

10 A. Well, there are two. It depends on the
11 type of neural network. If we're talking about
12 something like what's in, let's just say,
13 Figure 10, the neurons might be the circular
14 objects or some might call them nodes.

15 If you're talking about a
16 self-organizing neural network, which could be a
17 Kohonen type of neural network, sometimes
18 k-nearest neighbors, then --

19 Q. Can you just spell that for the court
20 reporter's benefit, Kohonen, please?

21 A. Yes, Kohonen is K-O-H-O-N-E-N.

22 Q. Sorry to interrupt, please continue your

1 response.

2 A. Not a problem.

3 The neuron for that is a different kind
4 of act -- it has a different type of activation
5 function to it. But the neural network that might
6 be in, for example, Figure 10, there's a very
7 broad spectrum of activation functions for those
8 neurons, as well. It can be a sigmoid, it can be
9 stairstep.

10 I think it's Buibas that talks about
11 spiking neural networks, and those are
12 accumulators with a threshold to fire, meaning
13 that the -- let's just say, circumstance
14 representation data, so like 1026 on Figure 10
15 would be your circumstance representation.

16 Passing through those inputs, they might
17 be, you know, spikes themselves or they'll have
18 values and they -- it's not just a continuous.
19 You know, it feeds it and then it's all
20 accumulated and run through a sigmoid function
21 that provides an output, for example, 1008_1.

22 Instead, like a spiking neural network

1 would have -- it would look at the timing on
2 these. And there's a decay associated with
3 something going through inputs, for example,
4 1004_1. But if they accumulate quickly enough
5 before they decay, then the neuron 1002_1 would
6 fire or emit a signal, emit a spike, if you will.

7 But my major point here is that neurons
8 take on a very broad spectrum of manifestations.
9 In general, though, they are what aggregates the
10 information that is channeled through the synapses
11 that feed it and provide some sort of output, even
12 if it's just a local output.

13 Q. And by "synapses," you're referring to
14 what's spelled as S-Y-N-A-P-S-E-S?

15 A. Yes. And, again, that's a general term.
16 That doesn't necessarily mean that's what
17 everybody describes them. But it's essentially
18 what you see on, for example, 1004_1 or 1008_1.
19 It's the connections between the neurons. And
20 they usually have a --

21 Q. In Figure --

22 A. -- associated with them.

1 Q. In Figure 10 of Buibas, is 1002_1 a
2 neuron or a node of the neural network?

3 A. In paragraph 137, it describes it as a
4 neuronal node, but essentially a neuron or a node.

5 Q. Is that node, which is 1002_1, is that
6 an output node of the neural network?

7 A. No, it's actually described in
8 paragraph 138 as the first detector of the layer
9 1002.

10 Q. Where is the output node in Figure 10?

11 A. Paragraph 139 says, In Figure 10 the
12 designators 1008_1, 1008_n denote output of the
13 detectors 1002_1, 1002_n, respectively.

14 So the neural network may continue to
15 the right, but from what I believe you're seeing
16 in Figure 10, is the output of the neural network
17 on the back of Figure 10. And that would be a
18 mapping to instruction set.

19 Q. I'm sorry, what would be a mapping to
20 the instruction set?

21 A. The output -- I'm sorry, maybe I'm
22 getting a little turned around here. Your

1 question -- could you repeat that, just to be sure
2 I'm addressing this one?

3 Q. I'm just trying to understand what you
4 were saying in your last response. You said, and
5 that would be a mapping to the instruction set.
6 And I was just trying to clarify what you meant by
7 "that."

8 A. Oh. Again, if you turn the Figure 10
9 90 degrees clockwise, the rightmost portions, I
10 believe -- let me just clarify.

11 So -- and I believe I mentioned this
12 earlier, but I wanted to make sure I factored in
13 contextual information. So the outwardly-facing
14 or oriented arrows annotated 1010, that's what I
15 as a person of ordinary skill would map to the
16 instruction sets.

17 And 1010 in the broadest sense. So
18 there are multiple of them, one of them has an_n
19 implying that there are multiple of them. It
20 could just be one, but -- you know, it may just be
21 the value of that output of that neuron versus a
22 collective value or a set of outputs.

1 Q. Do you stand by your first declaration?

2 Is there anything that had you fixed in your first
3 declaration when you did your second declaration?

4 A. Is there anything that I fixed? Is that
5 what you said?

6 Q. Yeah. Were there any errors in your
7 first declaration that you wish to note for the
8 record, or do you instead stand by your first
9 declaration?

10 A. I believe in the previous deposition I
11 mentioned that there were a couple of smaller
12 things, like I repeated some terms, I can't
13 remember exactly what they were, like no go, no
14 go, something to that effect.

15 I believe that I -- nothing comes to
16 mind right now of anything that I would wish to
17 change. You know, obviously if there is a
18 transformation from the previous declaration to
19 the supplemental, then I defer to the
20 supplemental.

21 Is there something specific that you
22 want to ask me about?

1 Q. When you say that if something
2 transformed from the first declaration to the
3 supplemental declaration, you defer to the
4 supplemental declaration, are you saying that the
5 supplemental declaration overrides the first
6 declaration if there are any inconsistencies?

7 A. Again, I don't know what specifically
8 you're referring to where you feel there might be
9 a discrepancy. I'm happy to address anything
10 specifically.

11 Q. I'm just trying to understand what you
12 mean when you say that in the instance that you
13 just now described, you would defer to the
14 supplemental.

15 What do you mean by that?

16 A. What I mean just in general is that if
17 the supplemental addressed something and said this
18 is a -- this is a more appropriate interpretation
19 or we'll just go with how the patent owners
20 interpret this for purposes of this analysis, then
21 that's what I'm referring to as deferring to the
22 supplemental.

1 But, again, in the absence of a specific
2 example, it's hard for me to comment. So what
3 specifically are you asking about?

4 Q. Dr. Janet, is there any reason that your
5 answers today would be anything other than
6 completely accurate and truthful?

7 A. I can't imagine what I could possibly
8 point to that would say that what I'm telling you
9 is untruthful. So --

10 Q. Are you --

11 A. Go ahead.

12 Q. Are you under any medication or any
13 health conditions that would prevent you from
14 fully testifying accurately today?

15 A. No.

16 Q. In your second declaration, you provided
17 testimony regarding the Grotmol in view of Buibas
18 ground; correct?

19 A. Yes, for ground 2C.

20 MR. JAIRAM: And I'll just spell that
21 for the court reporter's benefit. That's
22 G-R-O-T-M-O-L, Grotmol. And I will put Grotmol in

1 the chat box so that you will have a copy of it.

2 (Exhibit 1008, Previously Marked.)

3 BY MR. JAIRAM:

4 Q. And that is Exhibit 1008. You should
5 see it in the chat.

6 Do you see it?

7 A. Yes.

8 Q. And you may refer to Exhibit 1008 in
9 answering these questions if you need to. For the
10 Grotmol in view of Buibas ground, what are you
11 relying on Buibas for with respect to Claim 56?

12 A. Paragraph 34 says that --

13 MR. COLVIN: Of which declaration or of
14 Grotmol?

15 THE WITNESS: The supplemental. Or the
16 second declaration.

17 BY MR. JAIRAM:

18 Q. You're referring to Exhibit 1022, your
19 second declaration?

20 A. Yes.

21 Q. Please continue.

22 A. Okay. Paragraph 34 says, "As explained

1 in my Prior Declaration, claims 56 and 57 are
2 further rendered obvious by the Grotmol-Buibas
3 combination."

4 My prior declaration explained that,
5 quote, To the extent it is argued or determined
6 that Grotmol does not expressly disclose that the
7 inputs to an adaptive controller on a first device
8 are correlated with the control outputs learned on
9 at least two other devices, a second device and a
10 third device, these features nonetheless would
11 have been obvious when further considering the
12 teachings of Buibas.

13 And while we might not have touched on
14 that in detail here, but we did refer to Buibas
15 earlier in this deposition. So to your question,
16 Buibas describes, as you alluded to when we
17 discussed equations 3 and 4, how there are --
18 there are the two parents, A and B, there can be
19 more than two parents, but those could be the
20 second and third device that on which there is
21 training or where the learning takes place and
22 from which a -- the control outputs or the

1 instruction sets is correlated to the inputs for
2 the offspring or the first device. That's where
3 that's disclosed.

4 Q. I'm trying to understand what part of
5 that claim limitation you're bringing in Buibas
6 for and what part you're saying Grotmol itself
7 has.

8 Could you explain, please?

9 A. Yes, you know, this is why the paragraph
10 is prefaced with, To the extent it is argued or
11 determined that Grotmol does not expressly
12 disclose that the inputs to an adaptive controller
13 on a first device are correlated with control
14 outputs, i.e., instruction sets, learned on at
15 least two other devices.

16 I actually believe that Grotmol does
17 disclose this, but I'm just saying that to the
18 extent that one believes that Grotmol does not,
19 then the combination of Grotmol and Buibas further
20 makes that obvious. Grotmol describes training a
21 neural network with, for example,
22 human-in-the-loop, and then that that neural

1 network, in the generic sense, can be shared with
2 other robots.

3 And then Grotmol also describes ways in
4 which the neural networks can be tuned, for
5 example, the override, and there's another
6 function that I mentioned in both declarations.
7 And then that tuned neural network can then be
8 shared, in which case under Grotmol, you actually
9 do have a disclosure of inputs to an adaptive
10 controller on a first device that are correlated
11 with control outputs, i.e., instruction sets,
12 learned on at least two other devices, a second
13 device and a third device.

14 Q. When you said that, I actually believe
15 that Grotmol does disclose this, what did you mean
16 by "this"?

17 A. "This" is disclosure of inputs to an
18 adaptive controller on a first device that can be
19 or are correlated with control outputs, i.e.,
20 instruction sets, learned on at least two other
21 devices, i.e., a second device and a third device.

22 Q. Well, if Grotmol does disclose that

1 claimed feature, then why are you even talking
2 about bringing in Buibas for that feature?

3 MR. COLVIN: Objection; asked and
4 answered.

5 THE WITNESS: This is why I said, to the
6 extent it is argued or determined that Grotmol
7 does not. It doesn't mean I believe Grotmol does
8 not. I believe Grotmol does.

9 BY MR. JAIRAM:

10 Q. So why would you even put in something
11 that you don't think is needed? In other words,
12 why would you bring in secondary reference Buibas
13 for this analysis? Is there a specific concern
14 that you had about Grotmol's disclosure about that
15 limitation?

16 MR. COLVIN: Objection; form.
17 Objection; asked and answered.

18 THE WITNESS: Personally, I don't feel
19 that there's a concern. There is an
20 acknowledgment that that's a dispute. And so
21 putting on the lenses of whoever might have that
22 dispute and showing yet another example of a very

1 obvious combination proves the obviousness of an
2 end result of a situation or a disclosure where
3 inputs to an adaptive controller on a first device
4 are correlated with control outputs, i.e.,
5 instruction sets learned on at least two other
6 devices, i.e., a second device and a third device.

7 BY MR. JAIRAM:

8 Q. You're referring in paragraph 34 to
9 something that you explained in your prior
10 declaration, which is your first declaration;
11 correct?

12 A. Correct.

13 Q. And your first declaration accompanied
14 the petition that petitioner filed; correct?

15 A. I believe so.

16 Q. And that petition was the first thing
17 that happened in this IPR before patent owner did
18 anything; correct?

19 A. I'm not sure what about the process. I
20 don't know.

21 Q. Well, I'll represent to you that the
22 petition is where the petitioner started off this

1 whole IPR and filed the petition, along with your
2 declaration, as the very first event in this IPR.

3 Do you understand what I'm saying, just
4 explaining the context for this IPR?

5 A. Yes, I understand that. You did add
6 something when you previously asked the question,
7 and that is that the patent owner did nothing.
8 And I don't know what the patent owner might have
9 done to prompt the IPR or lay out some opinions
10 that might be factored into the IPR.

11 Q. So you're -- sorry, please continue.

12 A. Well, you know, there's -- I can
13 imagine, I guess, that there are things that could
14 have happened before a petition was filed. And
15 that's really what I hesitated on, was that the
16 patent owner did nothing. And I'm not sure that
17 the patent owner didn't do anything, because I'm
18 not sure what I haven't seen.

19 Q. If the petition, along with your
20 declaration, your first declaration, was the very
21 first thing filed by anybody in this IPR, how
22 could it have been in dispute whether Grotmol

1 discloses those claimed features that you are
2 bringing in Buibas for?

3 MR. COLVIN: Objection; scope.

4 THE WITNESS: Yeah, I'm curious what
5 specifically you're referring to in what I've
6 provided, what I've produced in my declarations or
7 my prior deposition.

8 BY MR. JAIRAM:

9 Q. You said, in a recent response to a
10 question, Personally, I don't feel that there's a
11 concern. There is an acknowledgment that there is
12 a dispute.

13 And I'm asking, what dispute are you
14 acknowledging, given that you and petitioner
15 submitted the very first things in this IPR?

16 MR. COLVIN: Objection; asked and
17 answered.

18 THE WITNESS: So I'm aware of the
19 dispute, at least from the patent owner response.
20 And I mentioned that in paragraph 34, Patent
21 owner's arguments in the patent owner response are
22 based on the same flawed logic and

1 misunderstanding of Buibas' teachings that were
2 earlier advanced against Buibas in ground 1A, but
3 these arguments lack merit and fail to refute the
4 showing in my prior declarations that these
5 features were disclosed and would have been
6 obvious to a person of ordinary skill in the art
7 based on Buibas for the same reasons addressed in
8 2A.

9 Patent owner's additional arguments
10 against Grotmol are likewise deficient. Patent
11 owner's response contends, for instance, that in
12 Grotmol, quote, All of the instruction sets for
13 operating the first robot where they were learned
14 are still the same instruction sets for operating
15 the same first robot, not a third robot, when they
16 are loaded into a second robot and, quote, nothing
17 in Grotmol even remotely suggests that the same
18 inputs are further correlated with another
19 instruction for operating that third device, end
20 quote.

21 And that's from the patent owner
22 response. Again, I do not agree.

1 So when I describe a dispute, I'm aware
2 at least of that dispute. Now, what you're asking
3 me, I think, is would I have been aware of a
4 dispute prior to submitting my declaration?

5 And I think that there were probably a
6 lot of things that I anticipated, not necessarily
7 agreed with, but -- and may have found, you know,
8 firm conversations with counsel that might be in
9 dispute prior to or during the drafting of that
10 declaration, but I guess it turns out I was kind
11 of right because of the patent owner response that
12 I just read for you.

13 BY MR. JAIRAM:

14 Q. Are you aware that the patent owner
15 response was filed after the petition and thus
16 after your first declaration?

17 A. Yes, that's my impression.

18 Q. So at the time of filing your first
19 declaration, you -- let me see the exact words you
20 just said -- you anticipated that there may be a
21 dispute about whether Grotmol discloses these
22 features that you talk about in paragraph 34 of

1 your second declaration, the features for which
2 your first declaration brought in Buibas as a
3 secondary reference?

4 A. I'm sorry, was there a question?

5 Q. At the time of filing your first
6 declaration, you anticipated a future dispute
7 about whether Grotmol discloses certain features
8 for which you brought in Buibas as a secondary
9 reference; is that right?

10 A. Correct.

11 Q. Why did you anticipate that there would
12 be a dispute about whether or not Grotmol
13 discloses those features that you talk about in
14 paragraph 34 of your second declaration?

15 A. Well, as I mentioned, I try to put on
16 the lenses of somebody who would be on the other
17 side of this conflict, "this conflict" being in
18 this situation an IPR. And -- pardon me? Did I
19 interrupt somebody? Okay. I'm getting some weird
20 feedback all of a sudden.

21 So it's -- just generally speaking, it's
22 a dispute, that's the way I see this. An IPR

1 would be a dispute. Filing infringement in court
2 is a dispute. So I try to look at this from the
3 perspective of somebody or an entity that
4 desperately wants to hold on to their
5 believed-to-be intellectual property and the
6 opinions that they might take.

7 This is not the only example where I
8 would have used "to the extent" and try to
9 anticipate something, but this one seemed to be
10 accurate.

11 Q. You mentioned somebody desperately wants
12 to hold on to their believed-to-be intellectual
13 property, do you think that the '474 patent is not
14 intellectual property?

15 A. I believe that the '474 patent is at
16 least what was asserted, and what we have
17 petitioned is not valid. This is a rehash of a
18 lot of -- and we're talking about decades worth of
19 work. And different names are created.

20 I believe that, you know, complex terms
21 that can be much simpler, object representation,
22 data structure, you know, segmented image or

1 identified -- something to that effect. I mean,
2 these are terms that, you know, are regularly
3 used. But then they've become more complicated in
4 the '474 and other patents, you know, that have
5 been at issue here.

6 But even drilling down and in light of
7 the art that is mentioned here in these
8 declarations, I think that it speaks for itself
9 that the '474 really should not have been granted
10 as a patent.

11 Q. Dr. Janet, have you ever obtained any
12 patents yourself?

13 A. Yes.

14 Q. How many?

15 A. Pardon me?

16 Q. How many?

17 A. Where I'm a named inventor?

18 Q. Where you are any of the named
19 inventors, how many patents would that be
20 approximately?

21 A. Oh, I don't know. I'm not sure. Maybe
22 eight, where I'm the named inventor -- a named

1 inventor would be eight. Now, I've helped
2 prosecute probably 100 or more, most of which I'm
3 not a named inventor.

4 Q. How did you help prosecute 100 or more?
5 In what capacity was that help?

6 A. As an executive in different companies,
7 for example -- gosh, I'm trying to figure out how
8 far to go back, but one might be when I was with
9 Avionic Instruments or TransDigm and I helped with
10 the prosecution of the VRAM, V-R-A-M, patents.

11 I'm not a named inventor. That was
12 Illingworth, but helping with the refinement of
13 some of those. You know, I wasn't an inventor. I
14 was more of somebody who was converting it to
15 something that's commercialized.

16 And in my current capacity here, though
17 I have research associates, I'm the director of
18 intellectual property of the products. And so I
19 oversee the entire portfolio of hundreds of
20 patents, copyrights, trademarks, and trade
21 secrets.

22 And since I've been here -- I don't know

1 what the actual count is, but since I've been
2 here, I believe that the total is in excess of
3 100, if not more.

4 MR. JAIRAM: Doctor, we've been probably
5 going another hour. So why don't we take a --
6 maybe a five-minute break.

7 MR. COLVIN: Maybe let's do ten, unless
8 you're thinking you're done.

9 MR. JAIRAM: Let's do ten. We can go
10 off the record.

11 (Recess from the record.)

12 MR. JAIRAM: I have no further
13 questions.

14 MR. COLVIN: Okay. Let's take a -- go
15 off the record, take a ten-minute break.

16 (Recess from the record.)

17 MR. COLVIN: We have no questions. That
18 will conclude the deposition.

19 (Off the record at 12:19 p.m.)

20

21

22

1 STATE OF MARYLAND)

2 ss:

3 COUNTY OF MONTGOMERY)

4

5 I, Matthew Goldstein, Notary Public
6 within and for the State of Maryland, do hereby
7 certify:

8

9 That I reported the proceedings in the
10 within entitled matter, and that the within
11 transcript is a true record of said proceedings.

12

13 I further certify that I am not related
14 to any of the parties to the action by blood or
15 marriage, and that I am in no way interested in
16 the outcome of this matter.

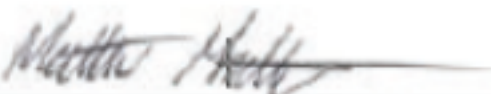
17

18 IN WITNESS WHEREOF, I have hereunto set
19 my hand this 20th day of May, 2025.

20

21

22



Matthew Goldstein, RMR, CRR

1 Jason Janet, Ph.D., c/o
FISH & RICHARDSON, P.C.
2 60 South Sixth Street
Minneapolis, Minnesota 55402

3
Case: Tesla, Inc. v. Autonomous Devices, LLC
4 Date of deposition: May 16, 2025
Deponent: Jason Janet, Ph.D.

5
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7 The deponent may come to this office to sign the transcript,
8 a copy may be purchased for the witness to review and sign,
9 or the deponent and/or counsel may waive the option of
10 signing. Please advise us of the option selected.
11 Please forward the errata sheet and the original signed
12 signature page to counsel noticing the deposition, noting the
13 applicable time period allowed for such by the governing
14 Rules of Procedure. If you have any questions, please do
15 not hesitate to call our office at (202)-232-0646.

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5 Witness Name: Jason Janet, Ph.D.
Deposition Date: May 16, 2025

6
I do hereby acknowledge that I have read
7 and examined the foregoing pages
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9 (Check appropriate box):
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10 complete transcription of the answers given by
me to the questions therein recorded.
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9 Witness Name: Jason Janet, Ph.D.

10 Deposition Date: May 16, 2025

11 Page No. Line No. Change

12

13

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21

22

Signature_____
Date

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