IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

PERCEPTIVE AUTOMATA LLC, Plaintiff, v. TESLA INC., Defendant.	Case No. 2:25-cv-000742-JRG

DEFENDANT TESLA INC.'S MOTION TO DISMISS
UNDER FED. R. CIV. P. 12(B)(3) & 12(B)(6)

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Tesla moves the Court to dismiss each claim of Plaintiff Perceptive Automata LLC ("Perceptive") for two reasons. First, venue for this civil action is not proper because Tesla does not reside in and has not committed any alleged acts of infringement in this judicial district. Second, each patent is invalid under 35 U.S.C. § 101 for being directed to unpatentable subject matter.

With respect to venue, because Tesla does not reside in this District, venue for this civil action is only proper if Tesla committed alleged acts of infringement in this judicial district. But Perceptive's infringement allegations for each of the five asserted patents — U.S. Patent Nos. 10,614,344 ("the '344 patent," Ex. 1); 11,126,889 ("the '889 patent," Ex. 2); 11,467,579 ("the '579 patent," Ex. 3); 11,520,346 ("the '346 patent," Ex. 4); and 11,753,046 ("the '046 patent," Ex. 5), collectively, the "Asserted Patents" — all involve training and data labeling. Perceptive does not allege that Tesla performs training or data labeling in the Eastern District of Texas (EDTX). In fact, after raw data is collected from Tesla vehicles, all of Tesla's training and data labeling occurs outside of EDTX. Ex. 12 (Filed Under Seal), Declaration of Jeremy Goldman, Pars. 4-5; *see also* Ex. 13 (Filed Under Seal), Declaration of Prashant Doma, Par. 2. Thus, because no act of alleged infringement occurs in its entirety in EDTX, venue is not proper in EDTX.

With respect to unpatentable subject matter, the five Asserted Patents are directed to the abstract idea of training a machine learning model and driving a car using the model. The claim limitations correspond to conventional mental steps in driving a car or learning to drive a car. This Court, the Federal Circuit, and the Supreme Court have all confirmed that patents computerizing well-known processes that humans have performed for decades do not claim patentable subject matter. *See e.g.*, *Torus Ventures LLC v. Cawley Partners, LLC*, No. 2:24-CV-00552-JRG, 2025 WL 1799327, at *8 (E.D. Tex. June 30, 2025); *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1355 (Fed. Cir. 2016); *Alice Corp. Pty. v. CLS Bank Int'l*, 573 U.S. 208, 223, (2014).

That the Asserted Patents claim machine learning does not change this outcome. Consistent with the law on computerizing conventional tasks, the Federal Circuit recently confirmed that using and training machine learning models to perform conventional tasks cannot save a patent from ineligibility. *Recentive Analytics, Inc. v. Fox Corp.*, 134 F.4th 1205, 1213 (Fed. Cir. 2025). Moreover, the details about machine learning in the Asserted Patents concern the content of inputs and outputs, which are printed matter and are often transcribed *human mental impressions*. *See e.g.*, Ex. 5 ('046 patent) at 1[b][iv] ("generating summary statistics *describing the state of mind of the user in the image based on the received responses from the plurality of human observers*" (emphasis added)). Printed matter limitations cannot save an ineligible claim.

I. BACKGROUND

Perceptive sued Tesla for patent infringement for "Tesla vehicles with Full Self-Driving (FSD) hardware and/or software." Complaint, ECF 1 at Par. 14. In its Complaint, Perceptive accuses Tesla of infringing one method claim from each Asserted Patent: claim 1 of the '344 patent (*id*., Par. 23), claim 2 of the '889 patent (*id*., Par. 39), claim 1 of the '579 patent (*id*., Par. 59), claim 1 of the '346 patent (*id*., Par. 80), and claim 1 of the '046 patent (*id*., Par. 101).[1]

Although Perceptive's Complaint refers to Tesla vehicles, the purportedly infringing acts concern Tesla's training and data labeling operations. Perceptive's Complaint recognizes that Tesla's training and data labeling operations are separate and apart from the vehicles. *Id*., Par. 26 ("For example, Tesla's in-house team of over 1,000 people (e.g., users) provided advanced labeling to particular objects . . . ."); Par. 44 ("At its datacenters (e.g., Dojo and/or Cortex), Tesla generates a training dataset comprising

[1] Perceptive's infringement contentions assert additional system claims using the same theory as is used for the corresponding method claims. *See* Ex. 6 (Perceptive Automata Infringement Contentions Cover) at 2. In this motion, Tesla addresses both Perceptive's allegations in the Complaint and its further allegations in the infringement contentions. However, if the analysis is confined to the Complaint, the allegations in the Complaint addressed herein fully establish that no complete acts of infringement occur in EDTX for any Asserted Patent.

summary statistics of user responses describing the state of minds of road users . . . ."); Par. 62 ("On information and belief, Tesla trains a probabilistic neural network."); Par. 86 ("[…]Tesla provides an image of the one or more images, the image showing the traffic entity as input to a machine learning model configured to receive an input image showing an input traffic entity and output summary statistics of expected human responses describing a hidden context of the input traffic entity shown in the input image."); Par. 104 ("For example, Tesla's in-house team of over 1,000 data labelers provide advanced labeling that describe a state of mind of a road user displayed in one or more images"). None of these training and data labeling operations occur (or are alleged to occur) in EDTX.

Despite relying on activity that only occurs outside EDTX, Perceptive nevertheless alleges that venue is proper in this district "because Tesla has regular and established places of business in this District and has committed acts of infringement in this District." Complaint at Par. 14. Perceptive points to Tesla's "Gigafactory" and "Global Headquarters," which are both located in Austin, Texas in the Western District of Texas (WDTX). *Id*. at Par. 15. Most importantly, Perceptive identifies the Cortex 1 and Cortex 2data centers "at [Tesla's] Gigafactory in Austin, Texas" as the location where video clips are received and "used to train Tesla's FSD product/service."[2] *Id*. at Par. 16. Perceptive's reliance on data centers in Austin demonstrates that, contrary to Perceptive's assertion, the entirety of the allegedly infringing acts are not performed in this District and venue for this action is not proper in this District.

II. LEGAL STANDARD

When evaluating a motion to dismiss, "[t]he Court accepts well-pled facts as true and views all facts in the light most favorable to the plaintiff, but the Court is not required to accept the plaintiff's legal conclusions as true." *Torus Ventures*, 2025 WL 1799327 at *1 (citing *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009)). The standards of *Twombly* and *Iqbal* apply to patent

[2] Perceptive cites no evidence that Cortex 2 is operational. *See also* Ex. 13, Par. 2.

infringement claims. *See, e.g., In re Bill of Lading Transmission & Processing Sys. Patent Litig.*, 681 F.3d 1323, 1339 (Fed. Cir. 2012).

A. Venue

The patent venue statute states that venue lies "in the judicial district where the defendant resides" or "where the defendant has committed acts of infringement and has a regular and established place of business." 28 U.S.C. §1400(b). "[F]or purposes of determining venue under § 1400(b) in a state having multiple judicial districts, a corporate defendant shall be considered to 'reside' only in the single judicial district within that state where it maintains a principal place of business, or, failing that, the judicial district in which its registered office is located." *In re BigCommerce, Inc.*, 890 F.3d 978, 986 (Fed. Cir. 2018).

The Federal Circuit confirmed in 2020 that, for a defendant to have "committed acts of infringement" in a judicial district under Section 1400(b), the defendant must have infringed an entire claim *within* the district. *Valeant Pharms. N. Am. LLC v. Mylan Pharms. Inc.*, 978 F.3d 1374, 1380 n.7 (Fed. Cir. 2020). The Federal Circuit recognized that "[a] process cannot be used 'within' [a given location] unless ***each of the steps*** is performed within this country." *Id.* (emphasis added) (quoting *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1318 (Fed. Cir. 2005), *abrogated on other grounds by Zoltek Corp. v. United States*, 672 F.3d 1309, 1323 (Fed. Cir. 2012) (en banc)). Similarly, with respect to apparatus claims, "[t]he use of a claimed system under section 271(a) is the place at which the system ***as a whole*** is put into service, *i.e.*, the place where control of the system is exercised and beneficial use of the system obtained." *Id.* (emphasis added) (citing *NTP*, 418 F.3d at 1317); *see also AML IP, LLC v. Bath & Body Works Direct, Inc.*, No. 4:22-CV-216-SDJ, 2024 WL 3825242, at *3 (E.D. Tex. Aug. 13, 2024) ("Applying *NTP*'s reasoning to the Section 1400(b) context, it follows that a defendant does not use a method or process in a judicial district unless each of the steps is performed within that district.").

The Federal Circuit's analysis of "acts of infringement" under Section 1400(b) follows its prior caselaw analyzing where an act of infringement occurs for purposes of Section 271. *Valeant*, 978 F.3d at 1380 n.7 ("We answered the 'where' question with respect to traditional acts of infringement years ago in extraterritorial infringement cases."). As explained in *Valeant*, the same "where" analysis that applies to domestic versus extraterritorial infringement under Section 271 applies to venue under Section 1400(b). *Id*. And, in the context of domestic versus extraterritorial infringement, "[i]t is well established that a patent for a method or process is not infringed unless ***all steps*** or stages of the claimed process are utilized." *NTP*, 418 F.3d at 1318 (emphasis added) (quoting *Roberts Dairy Co. v. United States*, 530 F.2d 1342, 1354 (Ct. Cl. 1976)). Applying this rule, the Federal Circuit in *NTP* held that method claims including a "step that utilizes an 'interface' or 'interface switch,' which is only satisfied by the use of [a component] located in Canada," were not infringed in the United States. *Id*. By extension, under *Valeant* and *NTP*, if even one step of a method claim occurs outside a judicial district, then the defendant has not committed "acts of infringement" in the judicial district.[3]

Consistent with the *Valeant* decision, a district court in the Sherman Division recently dismissed a case under Section 1400(b) because "a method is only used within a location if each step is performed in that location." *AML IP*, 2024 WL 3825242 at *3 (citing *NTP*, 418 F.3d at 1318). As the *AML* court recognized, "[a]lthough *NTP* concerned Section 271(a), the same reasoning should apply to Section 1400(b), as both statutes consider the location of the alleged

[3] To the extent Perceptive relies on this Court's 2018 decision in *Seven Networks*, that case has been superseded by *Valeant*. *Seven Networks, LLC v. Google LLC*, 315 F.Supp.3d 933, 944 (E.D. Tex. Jul. 19, 2018) (quoting *Blackbird Techs. LLC v. Cloudfare, Inc.*, 2017 WL 9543783, at *4 (D. Del. Oct. 11, 2017)). This Court's interpretation of "acts of infringement" under Section 1400(b) in *Seven Networks* followed from an analysis of *Blackbird Technologies* that is not reconcilable with the Federal Circuit's later guidance that *NTP* controls the determination of "where" infringement occurs for venue. *See Valeant Pharms.*, 978 F.3d at 1380 n.7 (quoting *NTP*, 418 F.3d at 1317-18).

infringement." *Id*. The *AML* court held that "[b]ecause [the plaintiff] does not allege that each step was performed in this district, and likewise does not controvert Defendants' declarations that certain steps are not performed in the district, it has failed to establish that Defendants committed an act of infringement (i.e., used its patented method) in the district." *Id*. In sum, with regard to the "acts of infringement" prong of Section 1400(b), venue is not proper unless each step of a method claim is performed in the judicial district or the claimed apparatus as a whole is made, used, or sold in the judicial district.

B. Patentable Subject Matter

Patent eligibility "may be, and frequently has been, resolved on a Rule 12(b)(6) or (c) motion[.]" *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1166 (Fed. Cir. 2018); *see also PersonalWeb Techs. LLC v. Google LLC*, 8 F.4th 1310, 1314, 1319 (Fed. Cir. 2021). To determine patent-ineligibility, the Court may focus on a representative claim if all claims are "substantially similar and linked to the same abstract idea." *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass'n*, 776 F.3d 1343, 1348–49 (Fed. Cir. 2014). Claim construction is not required. *Id.* at 1349. Eligibility is "a question of law that may contain underlying issues of fact." *Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335, 1342 (Fed. Cir. 2018).

The Supreme Court has set out a two-step framework under *Alice* to determine if a patent claims unpatentable subject matter. *See generally Alice*, 573 U.S. 208. The first step is to determine if the claim is directed to ineligible subject matter, such as an abstract idea, by focusing on the claim's "character as a whole." *See Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016). "In the context of software patents (which includes machine learning patents), the step-one inquiry determines whether the claims focus on the specific asserted improvement in computer capabilities or, instead, on a process that qualifies as an abstract idea for which computers are invoked merely as a tool." *Recentive Analytics*, 134 F.4th at 1212 (internal quotation marks and alterations omitted). The second step is to

determine if a patent claim "contains an inventive concept sufficient to transform the claimed abstract idea into a patent-eligible application." *Alice*, 573 U.S. at 217, 221. "For the role of a computer in a computer-implemented invention to be deemed meaningful in the context of this analysis, it must involve more than performance of 'well-understood, routine, [and] conventional activities previously known to the industry.'" *Content Extraction & Wells Fargo Bank, Nat'l Ass'n,* 776 F.3d 1343, 1347–48 (Fed. Cir. 2014). If the claims merely recite an "application of an abstract idea using conventional and well-understood techniques," there is no inventive concept as a matter of law. *BSG Tech LLC v. Buyseasons, Inc*., 899 F.3d 1281, 1290-91 (Fed. Cir. 2018).

Printed matter that is not functionally related to its substrate cannot provide an inventive concept to transform an abstract idea into something patent eligible. *In re Marco Guldenaar Holding B.V.*, 911 F.3d 1157, 1162 (Fed. Cir. 2018). "Today, printed matter encompasses any information claimed for its communicative content, and the doctrine prohibits patenting such printed matter unless it is 'functionally related' to its 'substrate,' which encompasses the structural elements of the claimed invention." *C R Bard Inc. v. AngioDynamics, Inc.*, 979 F.3d 1372, 1381 (Fed. Cir. 2020); *see also Praxair Distribution, Inc. v. Mallinckrodt Hosp. Prods. IP Ltd.*, 890 F.3d 1024, 1032 (Fed. Cir. 2018). "[A] claim may be found patent ineligible under § 101 on the grounds that it is directed solely to non-functional printed matter and the claim contains no additional inventive concept." *C R Bard Inc.*, 979 F.3d at 1381.

III. VENUE IS IMPROPER

For this civil action, neither prong of Section 1400(b) is satisfied.

A. Tesla Does Not Reside in EDTX

Tesla is a Texas corporation. But, because Texas has multiple judicial districts, "a corporate defendant shall be considered to 'reside' only in the single judicial district within [Texas] where it maintains a principal place of business." *BigCommerce,* 890 F.3d at 986. Within Texas, Tesla's Headquarters are in Austin (again, located in WDTX), as Perceptive acknowledges.

Complaint at Paragraph 15. Thus, for the "resides" prong of Section 1400(b), Tesla "resides" only in the Western District of Texas.

B. None of the Alleged Acts of Infringement Occur Entirely in EDTX

Because Tesla does not reside in EDTX, venue can only be proper in EDTX if Perceptive has plausibly alleged acts of infringement that occur in their entirety in EDTX. *See* 28 U.S.C. §1400(b). Perceptive has not met (and cannot meet) this standard. Instead, for each Asserted Patent, Perceptive repeatedly and definitively points to training done in data centers that are either in WDTX or other states entirely, and to data labeling performed by Tesla employees in other states. Because this activity is outside EDTX, venue is improper for each Asserted Patent.

Although the below analysis focuses on the method claims in Perceptive's Complaint, the same defect would also apply to the system claims in Perceptive's Infringement Contentions. The system claims include nearly identical limitations — framed as instructions on a computer readable medium (*i.e.*, so-called *Beauregard* claims) — and Perceptive relies on the same activity to support its infringement allegations for both the method claims and system claims. *See generally* Exs. 7-11. Just like the method steps are not performed in EDTX, the computer readable medium for performing the identified steps would also not be present in EDTX. *See NTP*, 418 F.3d at 1317-18. Thus, for the same reason Tesla does not perform the method steps that involve training or data labeling in EDTX, Tesla also does not make, use, or sell in EDTX any complete system having computer readable instructions to perform those steps.

Below is a description of the extra-Division activity for each asserted patent.

1. Perceptive's allegations for the '344 patent require training

Perceptive's infringement allegations for the following claim limitation of the '344 patent involve training and data labeling that occurs outside of EDTX: "providing the sensor data as input to a supervised learning based model, the supervised learning based model configured to

receive an input sensor data displaying a particular object on a road and predicting an output statistical summary characterizing a distribution of user responses expected to be received responsive to presenting the sensor data to a plurality of users, the user responses associated with the particular object." *See* Ex. 1, 15:31-38. This limitation (or a slight variation) appears in every independent claim of the '344 patent.

For the alleged infringement of this step, Perceptive's allegations rely on Tesla's data labelers who purportedly "provided advanced labeling to particular objects (*e.g.*, vehicle stopped at light in left hand lane) in a traffic scene." Complaint at Par. 26. Perceptive does not allege that this data labeling occurs in EDTX, nor could it, as the data labeling teams are in states other than Texas. Ex. 12 Pars. 4-5. Perceptive also points to Tesla's "training networks (*e.g.*, Dojo and/or Cortex)." *Id*. at Par. 24. But all of Tesla's training networks, including Dojo and Cortex, are in either Austin or other states. *See* Ex. 13, Par. 2.

Perceptive's infringement contentions for the '344 patent confirm that venue for the '344 patent is not proper. Like the Complaint, Perceptive's infringement contentions point to alleged data labeling by human labelers and to training at Tesla's data centers. Ex. 7 ('344 Contention Chart) at 18-19. For example, Perceptive states that "[t]he Tesla servers predict statistical summaries and create new rule sets[,]" and "[n]ew rule sets within the FSD are periodically delivered to Tesla vehicles." *Id*. at 19 (emphasis added). This activity by Tesla servers, which are distinct from Tesla vehicles, confirms that the conduct at issue involves collecting and processing at data centers, none of which are in EDTX. *See* Ex. 12 Pars. 4-5; Ex. 13, Par. 2.

2. Perceptive's allegations for the '889 patent require training

Every independent claim of the '889 patent requires "generating a training dataset . . ." and "training, using the training dataset, a supervised learning based model. . ." *See* Ex. 2, 16:4-10.

As such, Perceptive's Complaint for the '889 patent relies on training networks and data centers that are not located in EDTX. Complaint at Par. 41-42. Perceptive also relies on alleged training done at Tesla's data centers, after receipt of video data at Tesla's data centers, and alleged labeling performed by a Tesla team in Buffalo, New York. Complaint at Par. 43; *see also* Ex. 12 Pars. 4-5. Perceptive also alleges that Tesla "generates a training dataset" at its data centers, which, again, are not alleged to be in EDTX. Complaint at Par. 44; Ex. 13, Par. 2. None of these steps are performed in EDTX, nor do Perceptive's allegations suggest otherwise.

Perceptive's infringement contentions for the '889 patent fare no better and confirm that no alleged acts of infringement occur in their entirety in EDTX. For limitation 1.b.3 ("generating a training dataset…"), Perceptive specifically alleges that "[t]he hardware/software in the Tesla systems (e.g., *datacenters*) comprise this limitation." Ex. 8 ('889 Contentions Chart) at 35 (emphasis added). There are no Tesla data centers in EDTX. Perceptive also describes the accused process of training data to purportedly "include the evaluation of each individual scenario by a set of users and their responses" and "evaluation of each individual scenario by a set of auto-labelers." *Id*. at 35-36. Perceptive has not and cannot identify "a set of users and their responses," nor "a set of auto-labelers" in EDTX, and all of Tesla's data label teams are in other states. Perceptive's contentions for limitation 1.b.4 ("training, using the training dataset…") similarly rely on "[t]he hardware/software in the Tesla systems (e.g., datacenters)," and human labelers identified outside of EDTX. *Id*. at 50, 58, 68 (referencing a data labeler position located in Draper, Utah). These contentions confirm that no allegedly infringing act occurs in its entirety in EDTX.

3. Perceptive's allegations for the '579 patent require training

Every independent claim of the '579 patent requires "training a probabilistic neural network." *See* Ex. 3, 22:44. Perceptive's infringement allegation for "training a probabilistic

neural network" also concerns training that occurs outside of EDTX. . Following the same pattern used for the '344 and '579 patents, Perceptive's Complaint points to data centers and training networks that are outside of EDTX. *See* Complaint at Par. 60. Perceptive also alleges that "Tesla datacenters (e.g., Dojo and/or Cortex) receive videos from the Tesla fleet that are used to train the FSD software." *Id*. at Par. 62. Perceptive further alleges that Tesla trains the FSD software at its data centers, which is then configured to generate a feature vector. *Id*. at Par. 66. But Perceptive does not (and cannot) allege that any of these data centers are in EDTX. All Tesla data centers are located in California, Austin, or in other locations outside of Texas. *See* Ex. 13, Par. 2.

Perceptive's infringement contentions for the '579 patent reflect the same flawed approach. Perceptive relies on the "probabilistic network architectures *trained at Tesla datacenters* and used in Tesla cars." Ex. 9 ('579 Contentions Chart) at 9 (emphasis added). Perceptive also emphasizes that Tesla FSD "is trained on what amounts to over 100 years of anonymous real-world driving scenarios from our fleet of over six million vehicles." *Id*. at 8. Training on such a massive amount of data from millions of vehicles happens at a data center, and no Tesla data centers are in EDTX.[4] *See* Ex. 13, Par. 2.

4. Perceptive's allegations for the '346 patent require training

Perceptive's infringement allegations for the following claim limitations of the '346 patent involve training and data labeling that occur outside of EDTX: "determining one or more motion

[4] Perceptive's allegation for the '579 patent that Tesla vehicles "self-train" by downloading and installing "updated software" does not change the analysis. *Id*. at 10. This allegation that vehicles "self-train" is so disconnected from the claim language that it does not qualify as a plausible allegation of alleged infringement. First, under any plausible interpretation, downloading a fixed software update does not constitute "training." Second, the claims require "training a probabilistic neural network," which is not the same as "training a vehicle." So, even if downloading software is considered "training" (and it should not be), this would only be "training" the car, whereas the claims require training a probabilistic neural network. A car is not a "probabilistic neural network." Ex. 3, 22:44.

parameters describing movement of the traffic entity," and "providing an image of the one or more images, the image showing the traffic entity as input to a machine learning model configured to receive an input image showing an input traffic entity and output summary statistics of expected human responses describing a hidden context of the input traffic entity shown in the input image." Ex. 4, 26:14-22. This claim limitation appears in every independent claim of the '346 patent.

Perceptive's Complaint identifies Tesla's "training networks (e.g., Dojo and/or Cortex)," in conjunction with "Tesla-owned vehicles," as allegedly infringing the '346 patent. Complaint at Par. 81. Further, Perceptive points to a machine learning model that allegedly outputs "summary statistics of expected human responses." Complaint at Par. 86. Consistent with Perceptive's other allegations (incorporated by reference for the '346 patent at Par. 77), Perceptive's allegations about the accused output of Tesla's models rely on training and data labeling done at Tesla facilities outside of EDTX. *See id*. Par. 43 ("Tesla employed an in-house team of over 1,000 data labelers that provide advanced labeling that describes a state of mind of a road user displayed in one or more images."), and Par. 44 ("At its datacenters (e.g., Dojo and/or Cortex), Tesla generates a training dataset comprising summary statistics of user responses describing the state of minds of road users displayed in the plurality of images"). Perceptive does not (and cannot) allege that such labeling and training activities take place in EDTX. All of Tesla's data labeling and training occurs in California, Austin, or in other locations outside of Texas. *See* Ex. 12, Pars. 4-5; Ex. 13, Par. 2.

Perceptive's infringement contentions have the same flaws. In its contentions for limitation 1.d.1 ("for each of the one or more traffic entities: determining one or more motion parameters . . . ."), Perceptive relies on Tesla allegedly "train[ing] a neural network in order to predict how future drivers will drive in the future." Ex. 10 ('346 Contentions Chart) at 14. There is no allegation that Tesla trains any neural networks in EDTX, and Tesla does not train neural networks in EDTX.

See Ex. 13, Par. 2. Similarly, in limitation 1.d.2 ("providing an image of the one or more images…."), Perceptive points to "[t]he hardware/software in the Tesla systems (e.g., datacenters) and/or in Tesla vehicles perform this limitation." Ex. 10 at 17. Again, there are no Tesla data centers in EDTX. Ex. 13, Par. 2.

5. Perceptive's allegations for the '046 patent require training

Except for the last step of "executing the trained model . . .", the entirety of claim 1 (and the other independent claims) in the '046 patent concerns "generating training data . . ." and "training a model using the training data." *See* Ex. 5, 15:41-64. None of Tesla's training occurs in EDTX, and Perceptive does not allege otherwise. *See* Ex. 13, Par. 2.

Perceptive's allegations for the '046 patent consistently focus on Tesla's training and data labeling. Complaint at Par. 103 ("Tesla stores, at one or more of its datacenters (e.g., Dojo, Cortex), a plurality of images displaying one or more users (e.g., vehicle, pedestrian)"); Par. 104 ("Tesla's in-house team of over 1,000 data labelers provide advanced labeling that describe a state of mind of a road user displayed in one or more images."); Par. 105 (citing Par. 104); Par. 106 ("At its datacenters (e.g., Dojo and/or Cortex), Tesla generates a training dataset comprising summary statistics of user responses describing the state of minds of road users displayed in the plurality of images."); Par. 107 ("Tesla performs this step at its AI data centers…"); Par. 108 ("On information and belief, Tesla trains a model using the training data…"). Perceptive does not and cannot allege that any of these allegedly infringing acts occur in EDTX.

Perceptive's infringement contentions for the '046 patent further confirm that no complete alleged acts of infringement occur in EDTX. For each of the following limitations, Perceptive alleges that "[t]he hardware/software in the Tesla systems (e.g., *datacenters*) comprise this limitation:"

- 1.a ("storing a plurality of images . . ."),
- 1.b.1 ("generating training data . . . comprising . . . sending the image to a plurality of human observers . . ."),
- 1.b.2, ("receiving, from each of the plurality of human observers . . ."),
- 1.b.3, ("generating summary statistics . . ."),
- 1.b.4 ("storing the summary statistics . . ."), and
- 1.c ("training a model . . ."),

Ex. 11 ('046 Contentions Chart) at 2, 12, 27, 35, 51, and 64 (emphasis added). Purported pictures of Tesla datacenters — none of which are in EDTX — appear throughout the infringement contentions. *Id*., 7-8 and 61-62. Perceptive further alleges that videos received at Tesla's datacenters "are used for generating training data that is used for training the Tesla FSD." *Id*., 12. Even if videos are collected from Tesla vehicles around the world, the videos are only (allegedly) "used for generating training data" outside of EDTX. Ex. 12, Pars. 4-5; Ex. 13, Par. 2. According to Perceptive, this alleged training also involves labeling by "human labelers, auto labeling, multi-trip reconstruction and driver actions." *Id*. at 12-13. Perceptive also includes a snapshot of a job description for a position as a data labeler. *Id.* at 24. The position is located in Draper, Utah, well outside of EDTX. *Id*. Because these contentions rely almost exclusively on training and data labeling, which does not occur (and is not alleged to occur) in EDTX, they confirm venue is improper as to the '046 patent.

* * *

In sum, Perceptive's own words show that, for every asserted patent, no infringing acts are performed entirely in EDTX. Instead, Perceptive relies, at least in part, on infringing acts that occur outside of this District (and outside of Texas). Because neither the "resides" nor the "acts

of infringement" prong of Section 1400(b) is satisfied, venue for this action is not proper in this judicial district, and Tesla respectfully requests that the Court dismiss this action.

IV. THE ASSERT PATENTS CLAIM INELIGIBLE SUBJECT MATTER

Each of the asserted claims fails the two-step *Alice* test because the claims are directed at abstract ideas and do not claim anything other than printed matter and conventional machine learning techniques. This motion addresses the patents in the order that Perceptive addresses the patents in its Complaint. While some repetition is required to address these overlapping patents, for the sake of completeness this motion addresses each patent individually in Sections A-E.

A. The '344 Patent Lacks Patent-Eligible Subject Matter

As illustrated in the chart below, the claims of the '344 patent do nothing more than computerize the steps that every human driver has always performed: looking at a road, judging what other cars will do next, and driving accordingly. The claims include nothing more than functional, result-oriented steps (receiving data, providing data to model/brain, executing model/brain, controlling vehicle) on generic hardware. Under *Alice*, the claims of the '344 patent are not patent eligible.

Claim Limitation ('344 Patent – Claim 1)	Human Activity
[1.pre] A computer-implemented method comprising:	N/A
[1.a] **receiving**, by a computing device associated with an autonomous vehicle operating on a road, **sensor data** captured by a sensor installed on the autonomous vehicle, the sensor data displaying an object on the road;	Driver sees object on the road.
[1.b] **providing the sensor data** as input **to** a supervised learning based **model**, the supervised learning based model configured to receive an input sensor data displaying a particular object on a road and predicting an output statistical summary characterizing a distribution of user responses expected to be received responsive to presenting the sensor data to a plurality of users, the user responses associated with the particular object;	Driver interprets what is seen.

[1.c] **executing** the trained supervised learning based **model** to generate a statistical summary data characterizing a distribution of user responses expected to be received responsive to presenting the sensor data captured by the sensor installed on the autonomous vehicle to users; and	Driver predicts what object will do.
[1.d] **controlling** the operation of the autonomous **vehicle** on the road based on the generated statistical summary data.	Driver steers car based on prediction.

Under *Alice* Step 1, the claims are directed to the abstract idea of using a machine learning model to drive a car. The Federal Circuit has already held that "claims that do no more than apply established methods of machine learning to a new data environment" (e.g., to driving) are patent ineligible under Section 101. *Recentive*, 134 F.4th at 1211.

For Step 2, there is no inventive concept in any individual limitation or in any combination of limitations. The specification of the '344 patent confirms that these steps may all be performed on generic hardware: "The vehicle 102 can be any type of manual or motorized vehicle . . ." (Ex. 1 at 4:10-11); "The network 104 can be any type of wired and/or wireless network . . . " (*id*., 4:17-18); "The server 106 can be any type of computer system capable of . . . " (*id*., 4:22-23); "The user response database 110 can be any type of database . . . " (*id*., 4:30-31); "The model training system 112 can be implemented in any type of computing system" (*id*., 4:34-35); "The prediction engine 114 can be implemented in any computing system" (*id*., 4:48-49). Running specific predictions or calculations on generic hardware is also not patent eligible. *In re Bd. of Trs. of Leland Stanford Junior Univ.*, 991 F.3d 1245, 1251 (Fed. Cir. 2021) ("The different use of a mathematical calculation, even one that yields different or better results, does not render patent eligible subject matter."); *see also SAP Am.*, 898 F.3d at 1163 (finding ineligible claims whose "subject is nothing but a series of mathematical calculations based on selected information and the presentation of the results of those calculations.").

The "supervised learning based model" in all of the independent claims does not provide an

inventive concept. This model is claimed in functional language that sets out only the model's input ("sensor data displaying a particular object on a road") and output ("an output statistical summary characterizing a distribution of user responses expected to be received responsive to presenting the sensor data to a plurality of users, the user responses associated with the particular object"). There is nothing in the claim about ***how*** the model uses the input to get the output. The absence of "how" is a critical defect because the content of the input and the content of the output are printed matter, with no connection to the substrate.[5] Because printed matter cannot provide an inventive concept (*Marco Guldenaar*, 911 F.3d at 1162), the claim does nothing more than recite a generic model, *e.g.*, a "supervised learning based model configured to receive [any input] and predicting [any output]."

Nor do the dependent claims add meaningful limitations. Dependent claims 2 and 11 require that the recited model be one of a number of known types of models (e.g., a "simple neural network"). Ex. 1 at 6:42-56 (listing, without further explanation, examples of supervised learning algorithms, including "any other supervised learning algorithm" capable of performing certain tasks); 11:37-44 (The algorithm may be any type of supervised learning algorithm capable of predicting a continuous label for a two or three dimensional input…"). Claims 3 and 12 narrow the "object" on the road to some of the most common types of objects on the road, such as a motor vehicle. Claims 4 and 13 limit the content of the user response to "describe an action associated with the object," but the content of the user response is printed matter with no relation to the substrate for the response. Claims 5, 6, 14 and 15 each further define the output of the model with a "parameter," but the output of the model is printed matter. Similarly, the remaining dependent claims (7-9, 16-18, and 20-22) each describe additional predictions that the model may output, which again are printed matter, and reflect generic driving decisions such as

[5] The "substrate" for all of the asserted patents would be the computer memory that holds the model and associated data. None of the claims in any of the asserted patent have anything to do with computer memory.

identifying another driver's state of mind, intention, or awareness. None of these added limitations do anything to change the analysis: the Federal Circuit's decisions in *Recentive* and the printed matter cases confirm that the '344 patent is ineligible.

Lastly, Perceptive's allegations cannot save the '344 patent. In evaluating the eligibility of claims, the allegations in the Complaint cannot change the words of the claims. *See Synopsys, Inc. v. Mentor Graphics Corp.,* 839 F.3d 1138, 1149 (Fed. Cir. 2016) ("The § 101 inquiry must focus on the language of the Asserted Claims themselves."). Although Perceptive alleges that the claimed invention is an improvement over conventional techniques for predicting "whether a person walking on a sidewalk will cross the street," nothing in the claims recite such an improvement nor do they explain ***how*** such an improvement is made. *See* Complaint at Par. 31. Instead of claiming a technical solution for making a superior prediction, the claims simply state the step of making the prediction using patent ineligible printed matter. *See also Bd. of Trs. of Leland Stanford Junior Univ.*, 991 F.3d at 1251 (using a different mathematical calculation to get a better result is not patent eligible).

B. The '889 Patent Lacks Patent-Eligible Subject Matter

Similarly, the claims of the '889 patent automate what humans have done for generations: learn about driving and apply that learning to safely drive a car. The '889 patent covers this concept broadly with functional, result-oriented steps (receiving images, generating statistics, training a model, predicting a state of mind, and navigating/driving) implemented on wholly generic computer components. The claims are also predominately directed to printed matter. Under *Alice* and the Federal Circuit's precedent, the claims of the '889 patent are not patentable.

Claim Limitation ('889 Patent - Claim 2)	Human Activity
[2.pre] A computer-implemented method for controlling an autonomous vehicle based on a predicted state of mind of road users in a scene captured by a camera of the autonomous vehicle, the method comprising:	N/A

[2.a] **receiving** a plurality of **images** displaying road scenes captured by one or more vehicles;	Driver receives driving examples.
[2.b] **receiving** a plurality of **user responses**, each user response describing a state of mind of a road user displayed in one or more images;	Driver receives descriptions of drivers in examples.
[2.c] **generating a training dataset** comprising summary statistics of user responses describing the state of minds of road users displayed in the plurality of images;	Driver makes summary of what drivers do in examples.
[2.d] **training**, using the training dataset, a supervised learning based **model** configured to predict summary statistics describing a state of mind of a road user displayed in an input image;	Driver learns from summary.
[2.e] **receiving**, by an autonomous vehicle, **a new image** captured by a camera of the autonomous vehicle, the new image of a scene including a road user;	Driver drives and sees new driver on road.
[2.f] **predicting**, by the autonomous vehicle, using the supervised learning based model, summary statistics describing **a state of mind of the road user** in the new image; and	Driver predicts what new driver will do.
[2.g] **controlling the autonomous vehicle** based on the prediction of the supervised learning based model.	Driver steers based on prediction.

Under *Alice* Step 1, the independent claims are directed to the abstract idea of training and using a machine learning model to drive a car. The inclusion of "training" as well as "predicting . . . using" the model does not change the fact that these "claims [] do no more than apply established methods of machine learning to a new data environment" (*e.g.*, to driving) and are therefore patent ineligible under Section 101. *Recentive*, 134 F.4th at 1211.

For Step 2, there is no inventive concept in any individual limitation or in any combination of limitations. The specification of the '889 patent (which is the same as that of the '344 patent) confirms that these steps may all be performed on generic hardware. *See* Section IV.A above. Again, performing specific predictions or calculations on such generic hardware is not patent eligible. *Bd. of Trs. of Leland Stanford Junior Univ.*, 991 F.3d at 1251 (*supra*); *see also SAP Am.*, 898 F.3d at 1163 (*supra*).

Moreover, as with the '344 patent, every limitation in the independent claims is defined by the content of information, *i.e.*, printed matter, with no connection to the underlying substrate. For example, limitations [2.a] and [2.b] are both "receiving" printed matter; limitation [2.c] is "generating" more printed matter; [2.d] is "training" a model using the printed matter so that the model can output further printed matter; [2.e] is "receiving" new printed matter; [2.f] is "predicting" even more printed matter; and [2.g] is "controlling" the vehicle based on the even more printed matter. When this printed matter is excluded from the analysis — as it must be (*Marco Guldenaar*, 911 F.3d at 1162) — there is nothing left but generic steps.

The dependent claims do not alter the analysis. Claims 3, 4, 13, and 14 describe the "road user" as a pedestrian or cyclist, and they further claim the road user's predicted state of mind, which is both an abstract idea and printed matter. *See Praxair*, 890 F.3d at 1033 ("Like the information claimed by printed matter, mental steps or processes are not patent eligible subject matter."). Claims 5 and 15 specify that the output printed matter ("summary statistics") should be one of a number of known data groups, such as a histogram. *C.f.*, Ex. 2 at 6:8-43 (providing no further explanation for how to generate summary statistics other than listing the names of statistical methods, implying the models were well known). Claims 6-10 and 16-20 all relate to collecting user responses to driving scenarios, which student drivers have done for years to prepare for driving exams. And claim 11 requires that the recited model be one of a number of known types of models (e.g., a "simple neural network"). *Id.* at 6:49-63 (providing a list of names of models, without further explanation); 11:42-49 ("The algorithm may be any type of supervised learning algorithm capable of predicting a continuous label…including but not limited to…). None of these added limitations change the analysis under *Recentive* and the Federal Circuit's printed matter cases: the claims of the '889 patent are ineligible.

Lastly, Perceptive's allegations do not improve the eligibility of the '889 patent. Allegations

cannot change the content of the claims. *See Synopsys*, 839 F.3d at 1149 (*supra*). Although Perceptive alleges that the claimed invention is an improvement over conventional techniques for predicting "whether a person walking on a sidewalk will cross the street," nothing in the claims recite such an improvement nor do they explain ***how*** such an improvement is made. *See* Complaint at Par. 51. Instead of claiming a ***technical*** solution for making a superior prediction, the claims recite making the prediction using patent ineligible printed matter. *See also Bd. of Trs. of Leland Stanford Junior Univ.*, 991 F.3d at 1251 (using a different mathematical calculation to get a better result is not patent eligible). Inputting data to train a computer to better predict the behavior of drivers is no more technical than providing a student driver with hypothetical road scenarios and real-world driving experience to teach the student how to predict the behavior of other drivers.

C. The '579 Patent Lacks Patent-Eligible Subject Matter

Like the '889 patent, the claims of the '579 patent automate what student drivers have done for decades: learning to drive and actually driving a car. The '579 patent covers this concept broadly with functional, result-oriented steps (training a model/neural network, receiving and generating data, executing the model/neural network, and navigating/driving) implemented on wholly generic computer components. These claims are also predominately directed to printed matter. Under *Alice* and the Federal Circuit's precedent, the claims of the '579 patent are not patentable.

Claim Limitation ('579 Patent - Claim 1)	Human Activity
[1.pre] A method for navigating autonomous vehicles, comprising:	N/A
[1.a] **training a probabilistic neural network**, the probabilistic neural network configured to perform steps comprising:	Driver learns how to drive
[1.a.1] **receiving** as input, an **image of traffic**, the image displaying a traffic entity belonging to the traffic,	Driver learns how to see traffic

[1.a.2] **generating** a **feature vector** for a plurality of features, the feature vector comprising values describing statistical distribution for each feature, and	Driver learns how to identify features of traffic
[1.a.3] **generating output** representing hidden context for the traffic entity, the output comprising a plurality of values, each value representing a likelihood of receiving a particular user response from a user presented with the image;	Driver learns how to identify what cars in traffic might do
[1.b] **receiving a new image** captured by a camera mounted on an autonomous vehicle navigating through traffic;	Driver sees road with traffic
[1.c] **executing the probabilistic neural network** to generate output representing hidden context for at least a traffic entity displayed in the new image;	Driver predicts what car in traffic will do
[1.d] **determining a measure of uncertainty** for each of the plurality of values; and	Driver decides how confident they are in prediction
[1.e] **navigating the autonomous vehicle** to avoid the traffic entity displayed in the new image, the navigation based on at least the measure of uncertainty generated by the probabilistic neural network.	Driver steers to avoid collision, based on prediction and confidence

Under *Alice* Step 1, the independent claims are directed to the abstract idea of training and using a machine learning model to drive a car. This fails under the Federal Circuit's holding that "claims that do no more than apply established methods of machine learning to a new data environment" (*e.g.*, to driving) are patent ineligible under Section 101. *Recentive*, 134 F.4th at 1211.

For Step 2, the independent claims do not set out an inventive concept in any individual limitation or in any combination of limitations. The specification of the '579 patent (which contains much of the same disclosure as the '344 patent family) confirms that the only hardware needed to perform these steps is generic. *See* section IV.A above. Again, performing specific predictions or calculations on such generic hardware is not patent eligible. *Bd. of Trs. of Leland Stanford Junior Univ.*, 991 F.3d at 1251 (*supra*); *see also SAP Am.*, 898 F.3d at 1163 (*supra*).

Moreover, the claims of the '579 patent are defined by the content of information, *i.e.,* printed matter, with no connection to the underlying substrate. For example, limitations [1.a.1] and [1.b] are

both "receiving" printed matter; limitations [1.a.2] and [1.a.3] are both "generating" more printed matter; [1.c] is "executing" a model (or "neural network") to generate more printed matter; and [1.e] is "navigating" the vehicle based on the printed matter. The only limitations that do not directly rely on printed matter ([1.a] and [1.d]) are generic steps of "training" a model and "determining" uncertainty. After excluding the printed matter from the analysis—as directed in *Marco Guldenaar*, 911 F.3d at 1162—all that is left are generic steps.

Nothing in the dependent claims changes the analysis. Claims 2 and 14 restrict the content of "values describing statistical distribution," but the content of these "values" are printed matter. Claims 3 and 15 recite additional steps for the "training" based on two "pluralit[ies] of values," but training a model is abstract under *Recentive*, and the content used to train the model is also printed matter. Similarly, claims 4 and 16 recite additional steps for "determining the measure of uncertainty" using "a plurality of samples" and "a confidence interval" for values, but this mathematical analysis is itself an abstract idea, and the underlying data used in the analysis is printed matter. Claims 5, 6, 17, and 18 recite a step of basic driving safety (maintaining a "threshold distance" away from other cars), based on printed matter ("the measure of uncertainty"). Claims 7-10 only restrict what the "hidden context" must represent — such as a "state of mind" or "awareness" of another driver — which is both an abstract idea and printed matter. *See Praxair*, 890 F.3d at 1033 ("Like the information claimed by printed matter, mental steps or processes are not patent eligible subject matter."). Claims 11 and 19 add a trivial post-solution step of generating signals to control the car based on the recited steps, which is also something every human driver does when using a steering wheel to drive a car. And claim 12 merely requires that the recited probabilistic neural network be a known type of neural network: a "probabilistic convolutional neural network." *C.f.*, Ex. 3 at 5:58-60 (listing "a probabilistic convolution neural network" as an example without further explanation, which implies this was -well-known). None of these added limitations

change the analysis under the Federal Circuit's decisions in *Recentive* and the printed matter cases; all the claims of the '579 patent are ineligible.

Lastly, Perceptive's allegations in its Complaint do not alter the analysis. Allegations about claims cannot change the content of the claims, and the content of the claims of the '579 patent render those claims ineligible. *See Synopsys*, 839 F.3d at 1149 (*supra*). Moreover, although Perceptive again suggests that the claimed invention is an improvement over conventional techniques for predicting "whether a person walking on a sidewalk will cross the street," nothing in the claims recite such an improvement nor do they explain ***how*** such an improvement is made. *See* Complaint at Par. 72. Instead of claiming a technical solution for making a superior prediction, the claims make a blanket statement that inputting data into a computer and using a known machine learning module will improve the prediction. *See also Bd. of Trs. of Leland Stanford Junior Univ.*, 991 F.3d at 1251 (using a different mathematical calculation to get a better result is not patent eligible).

D. The '346 Patent Lacks Patent-Eligible Subject Matter

The claims of the '346 patent also automate what student drivers have done for generations: learning to drive and actually driving a car. It makes no difference that the '346 patent describes pattern recognition, spatial awareness, and predictions in a computer; the same steps silently occur in the brain of every driver on every drive. The '346 patent has broad claims with functional, result-oriented steps (collecting images, creating statistics, training a model, predicting a state of mind, and driving) implemented on generic computer components. The claims also are predominately directed to printed matter. Under *Alice* and the Federal Circuit's precedent, the claims of the '346 patent are not patentable.

Claim Limitation ('346 Patent - Claim 1)	Human Activity
[1.pre] A method comprising:	N/A
[1.a] **receiving**, by an autonomous vehicle, **sensor data** from sensors mounted on the autonomous vehicle, the sensor data comprising one or more images;	Driver sees road.

[1.b] **generating** a point cloud **representation** of the surroundings of the autonomous vehicle based on the sensor data;	Driver understands road.
[1.c] **identifying**, one or more **traffic entities** based on the sensor data, the traffic entities representing non-stationary objects in traffic in which the autonomous vehicle is driving;	Driver identifies cars on road.
[1.d.1] for each of the one or more traffic entities: **determining** one or more **motion** parameters describing movement of the traffic entity;	For each car…driver determines if car is moving.
[1.d.2] **providing an image** of the one or more images, the image showing the traffic entity as input to a machine learning model configured to receive an input image showing an input traffic entity and output summary statistics of expected human responses describing a hidden context of the input traffic entity shown in the input image;	…driver thinks about other car's goal.
[1.d.3] **determining the hidden context** of the traffic entity based on the output of the machine learning based model;	…driver determines other car's likely goal.
[1.d.4] **determining a region** of the point cloud where the traffic entity is expected to reach within a threshold time interval; and	…driver predicts where other car is currently heading.
[1.e] **modifying the region** based on the hidden context of the traffic entity; and	…driver predicts modified path based on likely goal of other car.
[1.f] **navigating the autonomous vehicle** so that the autonomous vehicle stays at least a threshold distance away from the modified region of each of the one or more traffic entities.	Driver steers to avoid the car.

Under *Alice* Step 1, the independent claims of the '346 patent are directed to the abstract idea of using a machine learning model to drive a car. The Federal Circuit has held that "claims that do no more than apply established methods of machine learning to a new data environment" (*e.g.*, such as driving) are patent ineligible under Section 101. *Recentive*, 134 F.4th at 1211. For Step 2, nothing in any individual limitation or the combination provides an inventive concept. The specification of the '346 patent (which contains much of the same disclosure as the '344 patent family) confirms that these steps may all be performed on generic hardware. *See* section IV.A above. Again, performing specific

predictions or calculations on such generic hardware is not patent eligible. *Bd. of Trs. of Leland Stanford Junior Univ.*, 991 F.3d at 1251 (*supra*); *see also SAP Am.*, 898 F.3d at 1163 (*supra*).

Moreover, most of the independent claim limitations are defined by the content of information, *i.e.*, printed matter that is unrelated to its substrate, just like in the other patents. For example, limitation 1[a] is "receiving" sensor data, which is printed matter; limitation [1.b] is "generating" more printed matter (a "representation") based on the first printed matter ("sensor data"); [1.c] is "identifying" something based on the first printed matter; [1.d.1] is "determining" a "parameter," which is also printed matter; [1.d.2] is "providing" more printed matter ("an image") to a model in order to output even more printed matter ("summary statistics"); and [1.d.3] is "determining" additional printed matter ("hidden context") based on the "output" printed matter. The remaining limitations ([1.d.4], [1.e], and [1.f]) are nothing but generic driving steps: "determining" where another car is going, "modifying" where the car is predicted to go (based on the printed matter), and "navigating" accordingly. After excluding printed matter — as required (*Marco Guldenaar*, 911 F.3d at 1162) — all that is left are generic steps.

The dependent claims do nothing to alter this analysis. Claims 2, 3, 11, 12, 20, and 21 each describe predicting whether someone on the road will change the direction that they are moving (*e.g.*, "along the motion vector" or "opposite to the direction of the motion vector"), which is a routine step that human drivers perform constantly. Claims 4-7, 13-16, and 22-23 only restrict what the "hidden context" must represent — such as a "state of mind" or "awareness" of another driver — which is both an abstract idea and printed matter. *See Praxair*, 890 F.3d at 1033 ("Like the information claimed by printed matter, mental steps or processes are not patent eligible subject matter."). Claims 8 and 17 add a trivial post-solution step of generating signals to control the car based on the recited steps, which is also something every human driver does when using a steering wheel. Claims 9 and 18 simply require capturing images with a camera — something entirely conventional — or alternatively the use of a lidar

scan, which was also well-known before the '346 patent. Ex. 4 at 1:36-38 (identifying as ***background*** to the claimed invention that "an autonomous vehicle may perceive the surroundings using camera images and lidar scans"). None of these limitations add anything that would change the outcome that the '346 patent is ineligible under the Federal Circuit's decisions in *Recentive* and the printed matter cases.

Lastly, Perceptive's allegations cannot make the '346 patent eligible. The claim language controls, and the language of the claims of the '346 patent confirms that the claims are not eligible for patent protection. Although Perceptive again suggests that the claimed invention is an improvement over conventional techniques for predicting "whether a person walking on a sidewalk will cross the street," nothing in the claims recite such an improvement nor do they explain ***how*** such an improvement is made. *See* Complaint at Par. 93. Reciting a high-level visual presentation of what goes on in the head of many humans — amounting to little more than the general concept of spatial awareness — is not a technical solution. *See also Bd. of Trs. of Leland Stanford Junior Univ.*, 991 F.3d at 1251 (using a different mathematical calculation to get a better result is not patent eligible).

E. The '046 Patent Lacks Patent-Eligible Subject Matter

The defects with the '046 patent are even more glaring, as the claims are not even limited to driving. Instead, the '046 patent claims the broad concept of training and using a machine learning model, including the step of sending an image and question to human observers to obtain feedback. The claims of the '046 patent are indistinguishable from the claims that the Federal Circuit rejected in *Recentive*. And, as shown below, the claims are also directly analogous to human learning:

Claim Limitation ('046 Patent - Claim 1)	Human Activity
[1.pre] A computer-implemented method comprising:	N/A
[1.a] **storing** a plurality of **images**, each image displaying one or more users;	Collect examples

[1.b.1] **generating training data** from the plurality of images, the generating comprising, for each image: **sending** the **image to** a plurality of **human observers**, each human observer presented with a request to answer a question about a state of mind of a user in the image,	Teacher writes textbook by: Sending pictures to humans with question
[1.b.2] **receiving**, from each of the plurality of human observers, a **response** representing a judgment by the human observer of the state of mind of the user in the image,	Receiving responses from humans
[1.b.3] **generating summary statistics** describing the state of mind of the user in the image based on the received responses from the plurality of human observers, and	Tallying responses as statistics
[1.b.4] **storing the summary statistics** in association with the image as part of the training data;	Compiling statistics in a textbook
[1.c] **training a model** using the training data, the model configured to receive an input image showing a user and predict summary statistics describing a state of mind of the user in the input image; and	Student learns from textbook
[1.d] **executing the trained model** to predict a state of mind of a user in a new image.	Student makes prediction

Under *Alice* Step 1, the independent claims are directed to the abstract idea of training and using a machine learning model generally. The Federal Circuit has rejected similar "machine learning" claims as unpatentable under Section 101. *Recentive*, 134 F.4th at 1211.

For Step 2, nothing in the individual limitations or their combinations is an inventive concept. The specification of the '046 patent (which is the same as the '344 and '889 patents) confirms that these steps (some of which obtain all their value from human input) may all be performed on generic hardware. *See* section IV.A above. Again, performing specific predictions or calculations on generic hardware is not patent eligible. *Bd. of Trs. of Leland Stanford Junior Univ.*, 991 F.3d at 1251 (*supra*); *see also SAP Am.*, 898 F.3d at 1163 (*supra*).

Moreover, as emphasized by the fact that the training method relies on humans inputting their responses to various situations, every limitation in the independent claims of the '046 patent is defined

by the content of information, *i.e.*, printed matter. The actions in every step are generic data manipulation — storing, generating, sending, receiving, training, and executing—and, as a consequence, the only possible unique features are the content of the data being manipulated (*e.g.*, the content being stored, the content being generated, etc.). This content, which is a collection of human judgments obtained by asking human observers, is printed matter, and the claims again have nothing to do with the substrate for the printed matter. When this printed matter is excluded from the analysis — as required under *Marco Guldenaar*, 911 F.3d at 1162 — nothing is left beyond generic steps.

The dependent claims add nothing meaningful to the analysis. Claims 2 and 9 merely require altering images being sent to human observers, which is nothing more than abstract data manipulation, and moreover the content of the image is printed matter. Claims 3, 4, 10, 11, 17, and 18 each further claim a user's state of mind, which is both an abstract idea and printed matter. *See Praxair*, 890 F.3d at 1033 ("Like the information claimed by printed matter, mental steps or processes are not patent eligible subject matter."). Claims 5, 12, and 19 require that a human observer provide "a rating on an ordinal scale," which is not inventive and remains printed matter. Claims 6 and 13 merely require that the recited model be one of a number of known types of models (e.g., a "simple neural network"). Ex. 5 at 11:52-59 (providing a basic list of potential models without further explanation, implying the listed models are well-known). Claims 7, 14 and 16 specify that the output printed matter ("summary statistics") should be associated with certain human responses (e.g., "a content of a response"), which is simply more data manipulation and printed matter. None of these additional limitations change the analysis under the Federal Circuit's decisions in *Recentive* and the printed matter cases; the claims of the '046 patent remain ineligible.

Finally, Perceptive's allegations in its Complaint cannot save the '046 patent. Although Perceptive suggests that the claimed invention is an improvement over conventional techniques for

predicting "whether a person walking on a sidewalk will cross the street," nothing in the claims recite such an improvement nor do they explain ***how*** such an improvement is made. *See* Complaint at Par. 112. Like the other asserted patents, the '046 patent claims do not claim a technical solution for a superior prediction. *See also Bd. of Trs. of Leland Stanford Junior Univ.*, 991 F.3d at 1251 (using a different mathematical calculation to get a better result is not patent eligible). Indeed, the claims of the '046 patent are not even limited to driving. And any suggested improvement to predictions depends solely on using responses from the human observers, which are patent ineligible printed matter. The broadly claimed idea of using different information to make a better prediction is not patent eligible, no matter what Perceptive alleges. *See Synopsys*, 839 F.3d at 1149 (*supra*).

V. CONCLUSION

For all the foregoing reasons, Perceptive's Complaint should be dismissed in its entirety.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that counsel of record who are deemed to have consented to electronic services are being served with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3) on this the 14th day of October 2025.

/s/ Roger Fulghum
Roger Fulghum

CERTIFICATE OF COMPLIANCE WITH THE COURT'S
35 U.S.C. § 101 MOTION PRACTICE ORDER

_____ The parties **agree** that prior claim construction is not needed to inform the Court's analysis as to patentability.

__X_ The parties **disagree** on whether prior claim construction is not needed to inform the Court's analysis as to patentability.

/s/ Roger Fulghum
Roger Fulghum