

**UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF TEXAS
WACO DIVISION**

Health Discovery Corporation,

Plaintiff,

v.

Intel Corporation,

Defendant.

Civil Action No. 6:20-cv-666

JURY TRIAL DEMANDED

INTEL CORPORATION'S MOTION TO DISMISS

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I. INTRODUCTION

Mathematical algorithms are categorically ineligible for patent protection. This was the law 40 years ago. This is the law today. HDC describes all four asserted patents as covering mathematical algorithms for recognizing patterns in data. Accordingly, it is clear from the face of the pleadings that all of the asserted claims are categorically ineligible for patent protection, under 35 U.S.C. § 101.

While this Court has historically declined to resolve patent eligibility at the pleading stage, it has not foreclosed the possibility that a “rare case” may come along, where claim construction or fact discovery are unnecessary to resolve this issue on the pleadings.

This is that rare case. The Complaint makes clear that the claims are directed to a method of analyzing information using a mathematical algorithm named SVM-RFE. The law is emphatic that a process for analyzing information to produce more information is categorically ineligible. The question is then whether the claims add “significantly more.” They do not—only computer implementation and a requirement that the analyzed information be biological. Those limitations cannot confer eligibility, as a matter of law.

Claim construction and fact discovery will not change this. No subtle or unidentified twist of claim interpretation will unexpectedly reveal that—contrary to the pleadings—the claims are actually *not* directed to algorithms for analyzing information. Moreover, any factual dispute over the conventionality of those algorithms is irrelevant; the Court can accept that the claimed algorithms were unconventional, even groundbreaking, and they would still be categorically ineligible because they are still algorithms for analyzing information.

Setting aside the patents’ ineligibility, the Complaint should also be dismissed because it presents no viable infringement theory. HDC alleges infringement of 103 claims across four asserted patents, but its allegations are insufficient to state a claim. *First*, HDC’s allegations of

direct infringement are deficient in numerous respects. For example, HDC fails to allege that Intel sells the accused hardware products with software, as every asserted claim requires. For the 70 method claims at issue, HDC does not support its joint infringement claims because it fails to allege that Intel directed or controlled its end-users. Additionally, HDC provides no factual support for its allegations concerning the 87 dependent claims. While the Complaint asserts infringement against three broad categories of Intel’s products, it provides no factual support for its allegations concerning entire classes of accused products: FPGAs and SoCs.

HDC’s allegations of indirect infringement – both as to induced and contributory infringement – fare no better. HDC fails to support its induced infringement claims because it fails to allege that Intel acted with the requisite specific intent. Additionally, HDC fails to support its contributory infringement claims because it provides only “threadbare recitals” that the accused products are not staple articles of commerce suitable for substantial non-infringing use.

Intel’s motion should come as no surprise to HDC. Intel warned HDC years ago that its patent claims were directed to ineligible subject matter and that Intel did not practice the patents. HDC’s Complaint fails to remedy those flaws, reflecting the unfounded nature of its case. Because the asserted patents are ineligible and the infringement allegations are fatally defective, the Court should dismiss HDC’s Complaint with prejudice.

II. BACKGROUND

HDC’s asserted patents are all related: U.S. Patent No. 7,117,188 is a common parent to U.S. Patent Nos. 7,542,959; 8,095,483; and 10,402,685.¹

According to HDC, “[e]ach of the HDC patents-in-suit relate to ... using learning machines (e.g., Support Vector Machines [SVMs]) to identify relevant patterns in datasets. Compl. at ¶ 27.

¹ The patents are cited here by their last three digits.

“[M]ore specifically,” they are directed to a process of using SVMs to “select[] features within the datasets that best enable classification of the data.” *Id.*

According to HDC, “SVMs are *mathematical algorithms* that allow computers to sift through large, complex datasets to identify patterns.” *Id.* at ¶ 28.² The Complaint’s exhibits detail the “Mathematical Background of SVM.” Dkt. 1-8 a § 2.1; *see also* Dkt. 1-7 at 14-18. SVMs are prior art. *See* Compl. at ¶ 22; Dkt. 1-5 at ¶ 17; ’188 at 15:4-11.

HDC explains that “SVMs identify patterns” based on “features” in the data being analyzed. Compl. at ¶ 29. The patents describe combining SVM with another algorithm—“recursive feature elimination” (“RFE”)—to determine *which* features are most important for the SVM to consider. *Id.* The combined “SVM-RFE” algorithm operates by (1) executing the SVM algorithm on a dataset, (2) eliminating those features of the dataset that contributed least to the result, and (3) repeating the process “until the optimal feature set is obtained.” *Id.* SVM-RFE is therefore a process that employs mathematical algorithms (SVM) to manipulate existing information to generate additional information.

All asserted claims require these basic steps of the SVM-RFE algorithm. For example, claim 1 of the ’188 patent recites a “method for identifying patterns in data.” It begins by “inputting” “training” data into an SVM, which applies different “weights” to different “features” in that training data. The method then requires “optimiz[ing]” the weights so that “error is minimized,” “ranking” the features based on those weights, and “eliminating” the lowest ranked feature[s].” These steps are “repeat[ed]” until only “a subset of features ... remains.” The claim then recites executing the SVM on “live” data, based on the identified subset of features.

² Emphasis added unless otherwise noted.

The independent claims provide only minimal variations on this algorithm. For example, several claims leave open whether SVM or another classification algorithm is used. *See* '685 at claims 1, 12, and 18. Others require that the data analyzed be of a certain type, such as “gene expression data” or “biologic data.” *See, e.g.*, '188 at claims 8, 13, 19; '959 at claim 1; *see also* '483 at claims 5, 17, 36. Others require outputting the results of the analysis, such as by printing or displaying. *See, e.g.*, '959 (all claims); '483 (all claims).

The dependent claims provide additional mathematical aspects of the SVM-RFE algorithm, such as “squaring the optimized weight,”³ using a “quadratic” decision function,⁴ using a “Lagrange multiplier,”⁵ using different kinds of SVMs,⁶ eliminating more or fewer features in each iteration,⁷ analyzing the input or output data,⁸ using an “observation tree,”⁹ using a “kernel,”¹⁰ using multiple training samples,¹¹ dividing the sample set,¹² using features values corresponding to certain “function[s],”¹³ and using a “decision function” to decide on the number of iterations.¹⁴

III. RELEVANT LAW

A. *Patent Eligibility under 35 U.S.C. § 101*

“Patent eligibility can be determined on the pleadings ... when there are no factual allegations that, when taken as true, prevent resolving the eligibility question as a matter of law.”

³ '188 at claim 3.

⁴ '188 at claim 4.

⁵ '685 at claims 6, 11, 17, 23.

⁶ '188 at claims 2, 10, 17, and 20.

⁷ '188 at claims 5-7, 14-16, 21-23; '959 at claims 2-4, 13-15, 17-19; '483 at claims 2-4, 10-12, 14-16, 19-21, 23-25, 33-35; '685 at claims 5, 16, 19-22.

⁸ '188 at claims 9, 11, 12, 17.

⁹ '483 at claim 6.

¹⁰ '685 at claims 3, 4, 14, 15.

¹¹ '685 at claims 2, 8, and 13.

¹² '959 at claim 7.

¹³ '483 at claims 8 and 9.

¹⁴ '685 at claim 9.

Data Engine Techs. LLC v. Google LLC, 906 F.3d 999, 1007 (Fed. Cir. 2018). The Supreme Court has prescribed a two-step framework for determining when a claim is ineligible for preempting an abstract idea. See *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208 (2014). First, the Court examines the claims' "character as a whole" to determine whether it is "directed to" an abstract idea. *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015). If so, the Court then examines whether the claim contains "significantly more" than that abstract idea. *Alice*, 573 U.S. at 217. "Insignificant extra-solution activity," such as generic computer implementation, field-of-use restrictions, or presenting results, are legally insufficient. *Data Engine Techs.*, 906 F.3d at 1012; see also *Alice*, 573 U.S. at 222; *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353-54 (Fed. Cir. 2016). Rather, "significantly more" requires that the additional limitations "transform the nature of the claim into a patent-eligible application" of the underlying abstract idea. *Alice*, 573 U.S. at 217.

B. Failure to State a Claim under Rule 12(b)(6)

To state a claim, a complaint must contain "more than labels and conclusions, and a formulaic recitation of the elements of a cause of action will not do." *Bell Atlantic Corp. v. Twombly*, 550 U.S. 544, 555 (2007). Rather, it must contain factual allegations sufficient to "raise a right to relief above the speculative level." *Id.* It must allege facts sufficient to "state a claim for relief that is plausible on its face." *Id.* at 570. "A claim has facial plausibility when the plaintiff pleads factual content that allows the court to draw the reasonable inference that the defendant is liable for the misconduct alleged." *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009). The plausibility standard "asks for more than a sheer possibility that a defendant has acted unlawfully." *Id.*

IV. THE ASSERTED CLAIMS ARE DIRECTED TO INELIGIBLE SUBJECT MATTER.

No one may patent an abstract idea, such as "a process that employs mathematical algorithms to manipulate existing information to generate additional information." *Digitech Image*

Techs., LLC v. Elecs. for Imaging, Inc., 758 F.3d 1344, 1351 (Fed. Cir. 2014); see also *Elec. Power Grp.*, 830 F.3d at 1353 (holding that a process of “collecting information, analyzing it, and displaying certain results” is an abstract idea). Yet the pleadings are unequivocal that the asserted claims are directed to such an algorithm—SVM-RFE—and no claim construction dispute or fact discovery will change this. The claims add to the abstract idea only insignificant extra-solution activity that is insufficient to confer eligibility as a matter of law—generic computer-implementation, restrictions on the type of information to analyze, and a requirement to output the results. The claims are ineligible, and nothing in the pleadings prevents the Court from reaching that conclusion at this stage.

A. Step 1: The claims are directed to SVM-RFE, a mathematical algorithm for analyzing data.

The Complaint makes clear that the asserted claims are directed to SVM-RFE. The Complaint repeatedly describes the asserted claims as HDC’s “SVM-RFE patents” (Compl. at ¶¶ 22, 49, 98, 147) and alleges infringement based solely on Intel’s purported “use of SVM-RFE” (*id.* at ¶ 35; see also *id.* at ¶¶ 30-38 (“Intel’s use of HDC’s SVM-RFE Technology”). HDC also dedicates entire sections of its Complaint to describing “HDC’s SVM-RFE Inventors” (*id.* at ¶¶ 22-26) and “HDC’s SVM-RFE technology” (*id.* at ¶¶ 27-29).

The Complaint is likewise clear that SVM-RFE is a process that employs mathematical algorithms to manipulate existing information to generate additional information. The Complaint declares that “SVMs are mathematical algorithms” and characterizes those algorithms as “improvement[s] to ... mathematical techniques.” (Compl. at ¶ 28). It explains that “SVM-RFE is an ... algorithm” (Dkt. 1-5 at ¶ 19) that uses the SVM mathematical algorithm “to identify relevant patterns in datasets, and more specifically, [to] select[] features within the datasets that best enable classification of the data” *Id.* at ¶¶ 5, 27.

The patents mirror HDC's statements. The written description of all four patents declares that "the present invention is directed to methods, systems and devices for knowledge discovery from data." See '188 at 9:8-10; '959 at 10:13-16; '483 at 6:40-45; '685 at 6:49-54. Every claim recites aspects of the SVM-RFE algorithm. The claim preambles declare that this algorithm is "for predicting patterns in data" ('959 at claims 1, 12, 16) or "for identifying patterns in data" ('188 at claims 1 and 19). The claims' "character as a whole" is therefore "directed to" SVM-RFE—a process that employs mathematical algorithms to manipulate existing information to generate additional information.

The law is clear: "a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible." *Digitech*, 758 F.3d at 1351. "If a claim is directed essentially to a method of calculating, using a mathematical formula, even if the solution is for a specific purpose, the claimed method is nonstatutory." *Parker v. Flook*, 437 U.S. 584, 595 (1978); see also *Elec. Power*, 830 F.3d at 1353 (a method of "collecting information, analyzing it, and displaying certain results of the collection and analysis" is abstract).

Perhaps no eligibility principle is more salient in the eligibility jurisprudence. Indeed, it was the Supreme Court's very first eligibility decree of the computer age that "a procedure for solving a given type of mathematical problem" is an unpatentable "abstract intellectual concept[]." *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972). Since *Alice*, the Federal Circuit has uniformly "treated analyzing information ... by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category." *Elec. Power Grp.*, 830 F.3d at 1354 (collecting cases).

For example, the claims in *Elec. Power Grp.* described "real-time performance monitoring of an electric power grid." *Id.* at 1351. They were ineligible for the same reason the claims here

are: “[t]he focus of the asserted claims ... [was] on collecting information, analyzing it, and displaying certain results of the collection and analysis.” *Id.* at 1353.

Many Federal Circuit decisions echo that reasoning. For example, in *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1165 (Fed. Cir. 2018), the Federal Circuit considered a “method for providing statistical analysis of investment data.” The claims recited various mathematical particulars, including “selecting a sample space,” “generating a distribution function using a resampled statistical method and a bias parameter” reflecting a “degree of randomness in the sampling process,” and so forth. *Id.* at 1164-65. The court held the claims ineligible because they “focused on collecting information, analyzing it, and displaying certain results of the collection and analysis.” *Id.* at 1167.¹⁵ Such claims “are directed to an abstract idea.” *Id.*

The examples go on. In *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1338-40, (Fed. Cir. 2017), the court held that a method of “dynamically managing eXtensible Markup Language (“XML”) data” was ineligible because “an invention directed to collection, manipulation, and display of data [i]s an abstract process.” In *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1093 (Fed. Cir. 2016), the court held that a “method of detecting fraud ... based on analyzing data” was ineligible because “analyzing information by steps people go through in their minds, or by mathematical algorithms, without more” is abstract. In *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1055-56 (Fed. Cir. 2017), the court held that a method of analyzing financial information “to create a financial package” was ineligible because “collecting [and analyzing] information ... [is] within the realm of abstract ideas.”

In short, the case law is unequivocal. No one may patent a process of “collecting information, analyzing it, and displaying certain results.” *Elec. Power*, 830 F.3d at 1353. Yet that

¹⁵ Internal quotations and citations omitted unless otherwise noted.

is exactly what each asserted claims are directed to—the SVM-RFE algorithm, “a process that employs mathematical algorithms to manipulate existing information to generate additional information.” *Digitech*, 758 F.3d at 1351. The claims are therefore “directed to” an abstract idea.

B. Step 2: The claims do not recite “significantly more” than SVM-RFE.

At step two of the *Alice* inquiry, the Court sets aside the abstract idea to which the claim is directed (here, SVM-RFE and its details) and asks “[w]hat else is there in the claims before us?” 573 U.S. at 217. The claims are eligible only if they add some “element or combination of elements that is sufficient to ensure that the patent in practice amounts to *significantly* more than a patent upon the ineligible [SVM-RFE] concept itself.” *Id.* at 218.

Importantly, “a claimed invention’s use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention significantly more than that ineligible concept.” *BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018); *see also ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 774 (Fed. Cir. 2019). “The abstract idea itself cannot supply the inventive concept, no matter how groundbreaking the advance.” *Trading Techs. Int’l, Inc. v. IBG LLC*, 921 F.3d 1378, 1385 (Fed. Cir. 2019); *see also buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1352 (Fed. Cir. 2014). Thus, “the relevant inquiry [at step two] is not whether the claimed invention as a whole is unconventional or non-routine,” but “whether the claim limitations *other than* the invention’s use of the ineligible concept to which it was directed were well-understood, routine and conventional.” *BSG*, 899 F.3d at 1290.

Because SVM-RFE is the ineligible concept to which the claims here are directed, that algorithm and its details cannot supply the inventive concept. The relevant question is therefore, after the SVM-RFE algorithm is set aside, “[w]hat *else* is there in the claims before us?” *Alice*, 573 U.S. at 217.

The answer is: “the application of [the] abstract idea using conventional and well-understood techniques.” *BSG*, 899 F.3d at 1290. Aside from additional details of the SVM-RFE algorithm, the claims require (1) computer implementation, (2) certain types of input data, and (3) outputting the results. That is not “significantly more,” as a matter of law.

First, all of the claims require performing the SVM-RFE algorithm on a computer. The idea of automating a process using a generic computer is insignificant, as a matter of law. “[S]imply implementing a mathematical principle on a physical machine, namely a computer, [i]s not a patentable application of that principle.” *Alice*, 573 U.S. at 222. Indeed, “precedent is clear that merely adding computer functionality to increase the speed or efficiency of the process does not confer patent eligibility on an otherwise abstract idea.” *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1370 (Fed. Cir. 2015).

Second, several claims require analyzing a particular type of input data, such as “gene expression data” or “biologic data.” *See, e.g.*, ’188 at claims 8, 13-23; ’959 at claims 1-11; ’483 at claims 5, 17, 36. That too is insignificant, as a matter of law. “As many cases make clear, even if a process of collecting and analyzing information is limited to particular content or a particular source, that limitation does not make the collection and analysis other than abstract.” *SAP*, 898 F.3d at 1168. “[M]erely selecting information, by content ... for collection, analysis, and display does nothing” to confer eligibility. *Elec. Power Grp.*, 830 F.3d at 1355. Accordingly, the asserted claims cannot be saved by confining their use to “biologic” or “gene expression data.”

Third, several claims require outputting the results of the analysis, such as by printing, displaying, or recording. *See, e.g.*, ’959 (all claims); ’483 (all claims). That too is insignificant extra-solution activity because “analyzing using mathematical techniques, *and reporting or displaying the results of the analysis* ... is all abstract.” *SAP*, 898 F.3d at 1167. As the Federal

Circuit has explained, “merely presenting the results of abstract processes of collecting and analyzing information, without more (such as identifying a particular tool for presentation), is abstract as an ancillary part of such collection and analysis.” *Elec. Power Grp.*, 859 F.3d at 1044; *see also Credit Acceptance*, 859 F.3d at 1056.

Here, there is no plausible argument that the generic “display device,” “printer,” and “media” recited in the claims refers to some inventive concept sufficient to “transform the nature of the claim into a patent-eligible application” or to “ensure that the patent in practice amounts to *significantly more* than a patent upon the ineligible [SVM-RFE] concept itself.” *Alice*, 573 U.S. at 217. If that were the case, the Complaint would have at least mentioned these limitations and explained their critical importance. It does not. To the contrary, the Complaint treats these outputting steps as the ancillary limitations they are. *See, e.g.*, Compl. at ¶ 162 (“independent claim 22 is also directed to a computer implemented method for identifying a determinative list of features ... with differences related to how the determinative list of features is presented, either by print or displaying in claim 1 versus transferring the list to a form of media in claim 22.”). Nothing in the pleadings indicates that this outputting is significant.

Every other limitation of the asserted claims provides only additional details about the abstract mathematical analysis (*see supra* Section II) and must therefore be ignored at step two. Because the claims are directed to an abstract idea and lack an inventive concept, they are ineligible as a matter of law.

C. The eligibility inquiry is ripe for resolution on the pleadings.

“Subject matter eligibility under § 101 may be determined at the Rule 12(b)(6) stage of a case.” *ChargePoint*, 920 F.3d at 765. Because Intel’s argument does not rely upon any facts or claim constructions that are or reasonably could be disputed, dismissal is appropriate.

1. *This motion presents no fact disputes impacting eligibility.*

At step two of the *Alice* inquiry, one way a defendant may show the claims lack an inventive concept is by proving that the limitations added to the abstract idea involve only “well-understood, routine, conventional activity.” *Mayo*, 566 U.S. at 73. Because the conventionality of a claim element is a question of fact, resolving a genuine dispute on that issue for defendants requires “clear and convincing evidence.” *Slyce Acquisition Inc. v. Syte - Visual Conception Ltd.*, 2020 WL 278481, at **4-5 (W.D. Tex. January 10, 2020).

This evidentiary hurdle is inapplicable here because Intel’s argument raises no genuine and material factual disputes over conventionality. For purposes of this motion, the Court can accept the Complaint’s characterization of SVM-RFE as “innovative” and credit “the recognition and acceptance that SVM-RFE has achieved in the field.” Compl. at ¶¶ 26-27. Even if SVM-RFE were unconventional, it is still an abstract idea, which cannot be considered at step two, “no matter how groundbreaking, innovative, or even brilliant” it was. *buySAFE*, 765 F.3d at 1352. The same is true for every limitation that provides further aspects of the SVM-RFE algorithm. None of these additional details of the abstract SVM-RFE algorithm can be considered at step two. Thus, their conventionality—or lack thereof—is immaterial.

The only relevant factual issue here is “whether the claim limitations *other than* [SVM-RFE and its aspects] were well-understood, routine and conventional.” *BSG*, 899 F.3d at 1290. As set forth *supra* in Section III.B, there is no material factual dispute on this issue either because the other claim limitations—computer implementation, input data type, and output means—are insignificant *as a matter of law*. Because Intel’s argument does not require showing that these limitations were conventional, the heightened evidentiary burden for proving they were is irrelevant.

For these same reasons, fact discovery is also unnecessary. As this Court has noted, “[i]nsufficient discovery is another factor that can affect a court’s analysis because whether something is well-understood, routine, and conventional to a skilled artisan at the time of the patent is a factual determination.” *Slyce*, 2020 WL 278481, at *6. Because this motion presents no factual disputes regarding conventionality, discovery on the issue is unnecessary for a ruling.

In sum, the pleadings contain “no factual allegations that, taken as true, prevent resolving the eligibility question as a matter of law.” *ChargePoint*, 920 F.3d at 765.

2. *Claim construction is unnecessary to resolve eligibility.*

Claim construction is likewise unnecessary. As a general matter, “claim construction is not an inviolable prerequisite to a validity determination under § 101.” *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass’n*, 776 F.3d 1343, 1349 (Fed. Cir. 2014). Accordingly, “evaluation of a patent claim’s subject matter eligibility under § 101 can proceed even before a formal claim construction.” *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1373 (Fed. Cir. 2016). The Federal Circuit has “repeatedly recognized that in many cases it is possible and proper to determine patent eligibility under 35 U.S.C. § 101 on a Rule 12(b)(6) motion.” *Id.*

If the parties raise a relevant claim construction dispute, the court must “resolve the dispute to whatever extent is needed to conduct the § 101 analysis.” *MyMail, Ltd. v. ooVoo, LLC*, 934 F.3d 1373, 1379 (Fed. Cir. 2019). And if that dispute arises “at the Rule 12(b)(6) stage ... either the court must proceed by adopting the non-moving party’s constructions ... or the court must resolve the disputes to whatever extent is needed to conduct the § 101 analysis.” *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1125 (Fed. Cir. 2018). But where “there is no claim construction dispute relevant to the eligibility issue,” resolving that issue without construction is proper. *Genetic Techs.*, 818 F.3d at 1374.

Here, no claim construction dispute is relevant to the eligibility issue. To be sure, the asserted claims contain mathematical terminology and claim construction may prove useful to the trier of fact. But it is *not* necessary for resolving the eligibility issue because no plausible construction can either (a) redirect the claims to something other than SVM-RFE or (b) uncover some obscured inventive concept, gone curiously unmentioned among the pleadings' 582 pages.

First, claim construction will not impact the step-one analysis because the parties agree that HDC's "SVM-RFE patents" are "directed to" the SVM-RFE algorithm. The pleadings confirm that SVM-RFE is an ineligible method of "collecting information, analyzing it, and displaying certain results of the collection and analysis." *SAP*, 898 F.3d at 1167. With near invariance, all limitations of the asserted claims simply recite aspects of that ineligible mathematical algorithm. No claim construction is necessary to discern that limitations like "squaring the optimized weight" or using a "Lagrange multiplier" or employing a "quadratic" decision function concern the abstract mathematical nuances of the abstract SVM-RFE algorithm. Construction of such limitations cannot plausibly redirect the claims' "character as a whole" to something other than SVM-RFE. *Internet Patents*, 790 F.3d at 1346.

The only limitations not directed to particular aspects of SVM-RFE recite computer implementation, various types of input data, and various output means. Construction of those limitations is unnecessary to understand that they will not redirect the claims to something other than SVM-RFE. If such potential existed, the Complaint would have at least suggested that the invention was something beyond or in addition to SVM-RFE. It does not.

Second, claim construction will not impact the step-two analysis because the SVM-RFE algorithm is discarded for that analysis. Once the SVM-RFE algorithm is set aside, so too are any potentially relevant construction disputes. The only limitations remaining for consideration at step

two are the computer implementation, field-of-use limitations, and output limitations. No plausible claim construction can render these limitations significant. Nothing in the pleadings even hints that the claims recite any innovative hardware or software for performing the SVM-RFE algorithm or for outputting its results.

3. *Relevant caselaw governing eligibility is established and clear.*

While the law of Section 101 following *Alice* has been a moving target (*see Slyce*, 2020 WL 278481, at **6-7), the categorical ineligibility of mathematical algorithms has been clear for nearly half a century. *See Benson*, 409 U.S. 63; *Parker v. Flook*, 437 U.S. 584, 595 (1978). As the Supreme Court held nearly half a century ago, “a procedure for solving a given type of mathematical problem” is unpatentable because it is an “abstract intellectual concept[.]” *Benson*, 409 U.S. at 67. The line between eligibility and ineligibility in this space is not “very thin,” and no analogies are required to discern the side on which HDC’s claims fall. *Slyce*, 2020 WL 278481, at *7. The Complaint is clear that the asserted claims are “directed to” “a process that employs mathematical algorithms to manipulate existing information to generate additional information.” *Digitech*, 758 F.3d at 1351. Decades of pre- and post-*Alice* caselaw are uniform that such claims are ineligible.

V. HDC’S INFRINGEMENT ALLEGATIONS FAIL AS A MATTER OF LAW

A. The Complaint fails to state a claim of direct infringement.

1. *Deficient allegations as to the accused hardware products.*

Each asserted claim requires the execution of a computer program or machine-readable instructions (*e.g.*, software). HDC’s Complaint fails to allege the accused processors and/or FPGAs/SoCs¹⁶ include any software when sold by Intel—let alone software sufficient to satisfy

¹⁶ The Complaint accuses three broad categories of Intel’s products: (1) processors, (2) Field Programmable Gate Arrays (“FPGAs”) and Systems on a Chip (“SoCs”), and (3) certain software

any claim. When the Complaint does accuse certain software, there is no allegation that it is provided with any of the hardware products at the time of sale. Without such allegations, the Complaint fails to state a plausible claim as to the hardware products.

While computers can be programmed to perform software functions, Federal Circuit law is clear that selling such a computer alone does not constitute infringement if the purchaser must program the computer to carry out the claimed functions. *Telemac Cellular Corp. v. Topp Telecom, Inc.*, 247 F.3d 1316, 1330 (Fed. Cir. 2001) (“[T]hat a device is capable of being modified to operate in an infringing manner is not sufficient, by itself, to support a finding of infringement.”); *Nazomi Comm., Inc. v. Nokia Corp.*, 739 F.3d 1339, 1346 (Fed. Cir. 2014) (explaining there can be no infringement where new functionality in terms of software must be added to the accused hardware devices).

HDC’s Complaint is devoid of any allegation that the accused Intel hardware products include the required software. As a result, HDC failed to allege that the accused hardware products “contain[] *each and every limitation* of the asserted claims.” *Ericsson, Inc. v. D-Link Sys.*, 773 F.3d 1201, 1215 (Fed. Cir. 2014) (emphasis in original).

2. *Deficient allegations of joint infringement of the method claims.*

To state a claim for joint infringement, the Complaint must plead “facts sufficient to allow a reasonable inference that all steps of the claimed method are performed and either (1) one party exercises the requisite ‘direction and control’ over the other’s performance or (2) the actors form a joint enterprise such that performance of every step is attributable to the controlling party.” *Lyda v. CBS Corp.*, 838 F.3d 1331, 1339 (Fed. Cir. 2017). Complaints failing to set forth factual allegations that one entity directed or controlled others are properly dismissed. *Id.*

products. See Compl. at ¶¶ 52-54. For convenience, the processors and FPGAs/SoCs will be referred to herein as “the hardware products.”

The allegations of HDC's Complaint, even if accepted as true, do not provide factual allegations to support an inference of joint infringement. The Complaint vaguely asserts that Intel "directs or controls the other actor(s)" by "condition[ing] participation in activities, as well as the receipt of benefits, upon performance of any such step by any such third party or end-user." *See, e.g.*, Compl. at ¶120. This is not sufficient. No concrete acts of direction or control are alleged. No actual third parties or end-users are identified. "Threadbare recitals of the elements of a cause of action, supported by mere conclusory statements, do not suffice." *Lyda*, 838 F.3d 1331, 1337 (Fed. Cir. 2017) (citing *Iqbal*, 556 U.S. at 678 and *Twombly*, 550 U.S. at 555).

3. *Deficient allegations as to dependent claims.*

Dependent claims constitute a significant majority of HDC's allegations: 87 of the 103 asserted claims. Yet HDC is silent as to how the accused products allegedly satisfy any dependent claim. The Complaint only states that the "accused products and software embody each limitation of the dependent claims" with no support. *See, e.g.*, Compl. at ¶ 69. The Complaint attempts to "backfill" this deficiency by stating that "discovery will confirm this interpretation and confirm exactly which Intel products" (*id.*), but this is insufficient to put Intel "on notice as to what [it] must defend," rendering the pleading deficient. *See Artrip v. Ball Corp.*, 735 Fed. App'x 708, 714 (Fed. Cir. 2018).

Twombly and *Iqbal* require plaintiffs to plead sufficient facts supporting their infringement allegations with respect to each asserted patent claim. *See, e.g., Oil-Dri Corp. of America v. Nestle Purina*, 2017 WL 1197096, at *15 (N.D. Ill. Mar. 31, 2017) (granting motion to dismiss where failed "to plead sufficient facts supporting [its] infringement allegations with respect to each asserted patent claim"); *Werteks Closed Joint Stock Co. v. Vitacost.com, Inc.*, 2016 WL 5076169, at *2 (S.D. Fla. Sept. 20, 2016) (granting motion to dismiss as to asserted claims 2 and 3, where complaint only addressed the elements of claim 1 of the patent but not claims 2 and 3); *Asghari-*

Kamrani v. United Services Automobile Assoc., 2016 WL 1253533, at *4 (E.D. Va. Mar. 22, 2016) (granting motion to dismiss where “Plaintiff fail[ed] to identify how USAA’s website infringes each of the claims they allege have been infringed”).

Here, HDC has asserted all 103 claims, including each of the 87 dependent claims. In accordance with its pre-suit investigation pursuant to Rule 11(b), HDC should already know the basis for its allegations concerning all its asserted claims and, therefore, should have set forth sufficient facts to plausibly allege that the accused products embody every limitation of a particular asserted claim, in conformance with *Twombly* and *Iqbal*. As the Complaint fails to do so with respect to the dependent claims, HDC’s Complaint should be dismissed with respect to each dependent claim.

4. *Deficient allegations as to FPGAs and SoCs.*

Similarly, the Complaint does not provide any factual allegations as to how Intel’s FPGAs and SoCs allegedly satisfy any asserted claims. *See* Compl. at ¶¶ 59-65 (’188 Patent), 105-112 (’959 Patent), 154-160 (’483 Patent), and 206-213 (’685 Patent). These allegations therefore, fail to even rise to the level of “labels and conclusions, and a formulaic recitation of the elements of a cause of action” that are insufficient under *Twombly*. 550 U.S. at 555; *see also Lantiq N.A. v. Ralink Tech. Corp.*, 2011 WL 2600747, **6-8 (N.D. Cal. June 30, 2011) (granting motion to dismiss where complaint only identified categories of products: “Plaintiffs must do more than conclusorily allege the means by which Defendants are infringing on their [patents] and provide fair notice to Defendants of the specific infringements alleged”).

B. The Complaint fails to state a claim of indirect infringement.

1. *Failure to plead a plausible claim of induced infringement.*

To adequately plead an induced infringement claim, a plaintiff must demonstrate that “the defendant knew of the patent and that the induced acts constitute patent infringement.” *Commil*

USA, LLC v. Cisco Sys., Inc., 135 S. Ct. 1920, 1926 (2015). A plaintiff must also allege a specific intent to induce infringement, which is “evidence of culpable conduct, directed to encouraging another’s infringement, not merely that the inducer had knowledge of the direct infringer’s activities.” *DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1306 (Fed. Cir. 2006).

Although HDC alleges that Intel had actual and constructive knowledge of the asserted patents (*see, e.g.*, Compl. at ¶¶ 74-77), it fails to allege when (if ever) Intel had specific knowledge of their infringement. The Complaint relies on a November 10, 2011 letter sent by HDC as allegedly providing notice of certain patents. *Id.* at ¶ 75. HDC does not allege that this letter (or any other communication) provided notice of alleged infringement by any Intel product.

The Complaint also fails to allege how Intel encouraged any user to use the accused products to practice the patents. The highest level of detail alleged is that “active encouragement by Defendant takes many forms, and includes promotional and instructional materials, as well as technical specifications and requirements, and continuing technical assistance.” *See, e.g.*, Compl. at ¶ 74. Generic statements such as these fail to meet the pleading standard for induced infringement, which requires a showing that Intel induced someone to perform all of the steps that constitute infringement. *See Affinity Labs of Tex., LLC v. Toyota Motor N.A., Inc.*, 2014 WL 2892285, at *7 (W.D. Tex. May 12, 2014) (dismissing induced infringement claims where plaintiff did not specify how marketing and selling activities induced infringement by third parties). The Complaint therefore “falls short of showing ‘specific intent and action’ on behalf” of Intel to induce anonymous third-party infringement of the asserted patents. *Cleveland Clinic Found. v. True Health Diagnostics LLC*, 859 F.3d 1352, 1364 (Fed. Cir. 2017).

2. *Failure to plead a plausible claim of contributory infringement.*

As an initial matter, HDC’s contributory infringement claims should be dismissed because they do no more than mimic the patent statute. At most, the Complaint alleges the accused

products “are not staple articles or commodities of commerce suitable for substantial non-infringing use” without any substantive allegations. *See, e.g.*, Compl. at ¶ 81. Such “threadbare recital[s]” of elements of a contributory infringement claim are insufficient to survive a motion to dismiss. *Iron Oak Techs., LLC v. Dell, Inc.*, 2018 WL 1631396, at *2 (W.D. Tex. April 4, 2018) (dismissing contributory infringement claim asserting similar conclusory allegations).

HDC also *admits* the accused products have substantial non-infringing uses, foreclosing a plausible contributory infringement claim. The accused products do not require the implementation SVM or SVM-RFE. Rather, the Complaint demonstrates the accused products can be used as other types of non-infringing classifiers, such as RandomForest and AdaBoost. *See, e.g.*, Compl. at ¶ 60 (screenshots showing the implementation of non-SVM classifiers). The accused hardware products (*i.e.*, processors, FPGAs and SoCs) also have numerous other uses besides classifiers. Indeed, these types of programmable devices are perfect examples of staple articles of commerce.

VI. CONCLUSION

For the foregoing reasons, the Court should grant Intel’s motion to dismiss.

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CERTIFICATE OF SERVICE

I hereby certify that on October 19, 2020, the foregoing was filed via ECF and therefore served upon all counsel of record via email.

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