IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ARKOSE LABS HOLDINGS, INC., and ARKOSE LABS, INC,	)	
Plaintiffs,	)	C.A. No. 23-1467-RGA
v.	)	
DATADOME and DATADOME SOLUTIONS, INC.,	)	
Defendants.	)	

DATADOME'S OPENING BRIEF IN SUPPORT OF ITS PARTIAL MOTION TO DISMISS THE FIRST AMENDED COMPLAINT UNDER FED. R. CIV. P. 12(b)(6)

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Dated: May 8, 2024

TABLE OF CONTENTS

Page

TABLE OF AUTHORITIES

Page(s)

Cases

Statutes

Other Authorities

I. NATURE AND STAGE OF THE PROCEEDINGS

Plaintiffs Arkose Labs Holdings, Inc. and Arkose Labs, Inc. ("Arkose") filed this patent infringement and unfair competition action against Defendants DataDome S.A. and DataDome Solutions, Inc. ("DataDome"), D.I. 1, and subsequently filed a First Amended Complaint, D.I. 6 ("FAC"). The FAC alleges infringement of six patents,[1] but fails to state a plausible claim for the '954, '330, '049, '232, and '427 Patents, or a willful infringement claim for any patent. Accordingly, Counts II, III, IV, V, and VI should be dismissed pursuant to Fed. R. Civ. P. 12(b)(6). Arkose's Count I infringement claim and its advertising claims are equally meritless, but are not the focus of this motion.

Counts III-VI should be dismissed because the claims of the '954, '330, '049, and '232 Patents are patent ineligible under 35 U.S.C. § 101 for reciting abstract ideas; Count II should be dismissed because the '427 Patent is invalid due to obviousness-type double patenting ("ODP");[2] and all of Arkose's willful infringement claims should be dismissed because the FAC does not allege pre-suit knowledge of any infringement of the Asserted Patents.

II. STATEMENT OF FACTS

1. Arkose Has Harassed DataDome with Meritless Claims for Years

Since October 2022, Arkose has inundated DataDome with a series of meritless patent infringement claims. Each time, DataDome has responded and explained why Arkose's claims are frivolous. And, each time, Arkose has backed down before returning with new, equally frivolous claims, relating to different patents. *See* Ex. A, 10/6/2022 Arkose Letter (alleging

[1] U.S. Patent Nos. 7,373,510 ("the '510 Patent"), 9,148,427 ("the '427 Patent"), 10,082,954 ("the '954 Patent"), 10,599,330 ("the '330 Patent"), 10,147,049 ("the '049 Patent"), and 11,227,232 ("the '232 Patent"), (collectively, the "Asserted Patents").

[2] DataDome asserts that the same is true for the related '510 Patent but does not pursue that argument in this motion.

infringement of U.S. Patent No. 9,146,917 ("the '917 Patent")); Ex. B, 1/11/2023 DataDome Letter (explaining why the '917 Patent is invalid and not infringed); Ex. C, 3/1/2023 Arkose Letter (alleging infringement of the '917 Patent and U.S. Patent No. 9,558,340 ("the '340 Patent") and bringing "attention" to the '427 Patent); Ex. D, 8/8/2023 Arkose Letter ("drawing attention" to the '510, '049, '232, and '845 Patents); Ex. E, 12/1/2023 DataDome (explaining why the '917 and '340 Patents are not infringed). During its letter-writing campaign, Arkose capitulated on its meritless claims for the '917 and '340 Patents.

Arkose's latest allegations appeared in the original complaint in this case, rather than a letter. But the claims here are no better than Arkose's previous allegations, and DataDome again explained why the claims in Arkose's complaint are frivolous, including the reasons presented in this motion. *See* Ex. F, 2/23/2024 DataDome Letter (explaining why the Asserted Patents are invalid and not infringed and that Arkose lacked a Rule 11 basis for its suit).

2. Arkose's Allegations for Its Abstract Idea Patents

The original complaint did not address § 101. D.I. 1, ¶¶ 46-111. The FAC merely adds a single conclusory paragraph for each patent claim relating to each patent's abstract ideas. But as discussed below, rather than rebut DataDome's arguments, they highlight them by emphasizing that Arkose can only describe its patents in terms of data manipulation, which is routinely held to be abstract. For example, the FAC states that both the '049 and '232 Patents[3] address "the problem of ***generating training data sets*** to train machine learning models to detect anomalies in data associated with individual user access requests to computing resources." D.I. 6, ¶¶ 85, 109. And the FAC states that the '954 and '330 Patents[4] address the problem of "generating challenges and measuring responses to verify a user of a computing device." *Id.*, ¶¶ 73, 97.

[3] The '232 Patent is a continuation of the '049 Patent, and the two share a common specification.
[4] The '330 Patent is a continuation of the '954 Patent, and the two share a common specification.

3. Arkose's Allegations of Willful Infringement

The FAC alleges that "DataDome has been aware of the '330 and '954 Patents since at least October 2022, of the '427 Patent since at least March 2023, and the '510, '049 and '232 Patents since at least August 2023, when Arkose notified DataDome of these patents." D.I. 6, ¶ 37. Arkose alleges pre-suit knowledge of the ***patents*** on these dates, but for alleged ***infringement***, Arkose merely alleges that "DataDome has been on notice of Arkose's allegations of infringement of the Asserted Patents at least since it received this Complaint." *Id*. Arkose offers no other facts supporting a plausible allegation that DataDome acted willfully.

III. ARGUMENT[5]

1. Counts III and V Fail Because the '954 and '330 Patent Claim Abstract Ideas are Patent Ineligible Under § 101

The '954 and '330 Patents share a common specification and each claim abstract mental processes and/or mathematical concepts of using users' unique characteristics for authentication in violation of 35 U.S.C. § 101. The patents state the basic, well-known security "need to ensure that a user of a computing device is the owner of the computing device or is otherwise authorized to use the computing device." '954 Patent at 1:8-10. The specification criticizes the prior art for potentially allowing the use of "stolen credentials." *Id*. at 1:14-19. In other words, if a bad actor has an authorized user's "key" (*e.g.*, a username and password) it can access the secure system.

The allegedly inventive solution to this problem is simply the old, common practice of relying on user specific characteristics (*e.g.*, identifying a unique user characteristic) and then using that identified characteristic to confirm the user's identity. Tying security to unique user characteristics (as opposed to impersonal keys or passwords) is an age-old practice. For example,

[5] This Court knows the FRCP 12(b)(6) standard and two-step *Alice* test in connection with § 101, so these legal issues are not recited in this brief. *See, e.g.*, *SynKloud Techs., LLC v. HP Inc*., 490 F. Supp. 3d 806, 809 (D. Del. 2020), and *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 223 (2014).

photo-ids, signatures, fingerprint readers, voice prints, retinal scans, and security guards who know authorized personnel, all rely on recording unique user characteristics and then later checking those characteristics to authenticate a user.

The claims of the ’954 and ’330 Patents simply recite functional, and highly general, articulations of the basic abstract idea of recording user characteristics and checking them to provide authentication. All of the independent claims of the asserted patents are very similar and claim 1 of the ’330 Patent is representative.[6] The claims recite: (1) “**measuring**” “**characteristics**” of the “**actions**” of an authorized user, (2) “**determining**” which characteristics meet “**a uniqueness condition**” making them suitable for authentication, (3) “**recording**” those actions, (4) subsequently, challenging a current user by “**selecting**” a recorded action and “**prompting**” the user to perform it, (5) measuring the characteristics and determining whether they meet “**a similarity condition**.” ’330 Patent at 8:49-9:27 (claim 1). Other than operating these steps on a computer, nothing limits the “**actions**” and “**characteristics**” or the “**uniqueness conditions**” and “**similarity conditions**” employed. Any sort of action or characteristic is fair game, as is any method or standard for determining uniqueness and similarity. The dependent claims also do not materially limit the claims. Some of the dependent claims slightly cabin the actions to unspecified 2D or 3D “geometric” input patterns. *See* ’330 Patent claims 3-5; ’954 Patent claims 3-5. Otherwise, the dependent claims vaguely recite that the uniqueness determination includes characteristics of a “reference set of users” (’330 Patent claim 6) and various general ways for triggering the challenge (’330 Patent claims 2 and 7-8; ’954 Patent claims 2, 7-8 and 10).

[6] The primary difference among the claims is that the ’330 Patent claims a method, whereas the ’954 Patent claims a system (claims 1-8) and computer code performing the method (claims 9-10). Dependent claims 2-8 of both patents are essentially identical, whereas ’954 Patent dependent claim 10 repeats the limitation of claim 8 but depends from independent claim 9.

These claims fail both prongs of the test set forth in *Alice*, 573 U.S. at 223.

(1) *Alice* Step One

The claims of the '330 and '954 Patents are directed to an abstract idea because they do nothing more than recite a general computer process of gathering and analyzing data, comprising noticing unique characteristics of a user's actions and then using those characteristics as a test to confirm a user's identity. *See iLife Techs., Inc. v. Nintendo of Am., Inc.*, 839 F. App'x 534, 536 (Fed. Cir. 2021) ("gathering and processing data" claims are abstract). Indeed, the FAC itself characterizes both patents even more generally as performing the abstract process of "generating challenges and measuring responses to verify a user of a computing device." D.I. 6, ¶¶ 73, 97.

It is well settled that "vague, functional" terms, "devoid of technical explanation as to how to implement the invention," are abstract. *TLI Commc'ns LLC v. AV Auto., L.L.C.*, 823 F.3d 607, 615 (Fed. Cir. 2016); *see also Two-Way Media Ltd. v. Comcast Cabel Commc'ns, LLC*, 874 F.3d 1329, 1337 (Fed. Cir. 2017). Claims "directed to the manipulation of data are abstract absent additional features, because information as such is an intangible." *Zyrcuits IP LLC v. Acuity Brands, Inc.*, No. CV 20-1306-CFC, 2021 WL 3287801, at *3 (D. Del. Aug. 2, 2021). Thus, the asserted patents are abstract because they do not claim any "particular way of programming or designing the software" or disclose "how this would be technologically implemented." *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1241, 1244 (Fed. Cir. 2016). The claims recite using unspecified "characteristics" of user "actions" that meet a "uniqueness criteria." Aside from being generically related to being "sensed by a computing device," the claim language could be applied to just about any human activity. Consider Fred Astaire singing "They Can't Take That Away From Me" to Ginger Rogers.[7] Fred clearly determined the "uniqueness" of Ginger's actions (the way she wears

[7] https://en.wikipedia.org/wiki/They_Can%27t_Take_That_Away_from_Me.

her hat, the way she sips her tea, the way she sings off key, and the way she holds her knife) and he records "the memory of all that."[8] If he recognizes those characteristics upon seeing her later perform those actions, he has essentially performed the claim.

More seriously, the claimed process also maps to traditional authentication processes that are performed mentally or on pencil and paper by a human. For example, using signatures for authentication involves recording your signature after your identity has been confirmed (*i.e.*, recording characteristics of actions of an authorized user); you sign rather than print your name to ensure the signature action meets uniqueness criteria; and later when the bank wants to confirm your identity it challenges you to sign again and compares the recorded signature to you the new signature to determine if the new signature meets "similarity criteria." Other user actions might similarly be used as in the claimed system, such as taking a fingerprint and making sure the print is clear enough (*i.e.*, it meets uniqueness criteria). When claims recite conceptual steps like this that can be performed by a human mentally or using a pencil and paper, they are abstract and patent ineligible, even though they are implemented on a computer. *See, e.g.*, *PersonalWeb Techs. LLC v. Google LLC*, 8 F.4th 1310, 1316 (Fed. Cir. 2021) ("mental processes that 'can be performed in the human mind' or 'using a pencil and paper'" are "a telltale sign of abstraction").

The Federal Circuit has also repeatedly held that claims that merely record and analyze data are directed to abstract ideas. The fact that they are performed on a computer and for authentication does not make them non-abstract. *See Universal Secure Registry LLC v. Apple Inc.*, 10 F.4th 1342, 1352 (Fed. Cir. 2021) (invalidating claims "directed to the abstract idea of collecting and examining data to enable authentication"). Like the claims here, the ineligible *USR* patents claimed collecting a first set of biometric information, and then later using it to authenticate

[8] https://genius.com/Ella-fitzgerald-they-cant-take-that-away-from-me-lyrics.

that user alongside additional "second authentication information." *Id*. at 1354. As another example, *Prism Technologies LLC v. T-Mobile USA, Inc.*, 696 F. App'x 1014, 1017 (Fed. Cir. 2017) invalidated claims to "(1) receiving identity data from a device with a request for access to resources; (2) confirming the authenticity of the identity data associated with that device; (3) determining whether the device identified is authorized to access the resources requested; and (4) if authorized, permitting access to the requested resources" as directed to the abstract idea of "providing restricted access to resources." *See also Two-Way Media*, 874 F.3d at 1337 ("Claim 1 recites a method for routing information using result-based functional language ... but does not sufficiently describe how to achieve these results in a non-abstract way."); *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1093-94 (Fed. Cir. 2016) (invalidating a method that collects and analyzes access to a patient's personal health information to identify improper access); *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016) (claims with a focus "on collecting information, analyzing it, and displaying certain results of the collection and analysis" are invalid). The claims of the '954 and '330 Patents have no more specificity and are no less abstract than these previously invalidated claims. For example, they do not claim what is measured, how it is measured, the type of characteristics considered, or what the "uniqueness criteria" or "similarity conditions" are.

Arkose itself argues that the '954 and '330 Patent claims are not limited to a particular technical implementation. Arkose has argued that its claims do not require authenticating a ***specific*** user and ***do not even require authorizing a user at all***. *See* Ex. G, 3/14/2024 Arkose Letter at 17 ("Nothing in the specification requires that 'uniqueness' be assessed as to a *specific user*") (emphasis in original); 18 ("Nothing in the '954 or '330 Patents requires 'existing pre-

authenticated measurements for that same user." The claim language "authorized user … does not require that the claimed invention perform that authorization").

Because "the focus of the claims is not on [] an improvement in computers as tools, but on certain independently abstract ideas that use computers as tools," they are directed to nothing more than abstract ideas. *Elec. Power Grp.*, 830 F.3d at 1354; *see also iLife Techs.*, 839 F. App'x at 536 (patent ineligible claim was "directed to an abstract idea because it contains nothing more than the idea of gathering processing and transmitting data"). The specification, thus, confirms the claims here are abstract because they rely completely on conventional general-purpose computer technology. '954 Patent at 3:22-23. For example, the patent similarly admits that the user measurements are taken using any "known type of user input that may be sensed by computing device 100 in accordance with ***conventional techniques***." '954 Patent at 4:16-19 (emphasis added); *see also id.* 2:8-3:12 (any sort of computer hardware can be used); 4:16-19 (any type of inputs according to "conventional techniques" can be used); 5:26-30 (challenge triggered by "any known technique or protocol"); 8:15-22 (any processing device can be used).[9] The claims are not even limited to any particular one of these conventional techniques. As in *Electric Power* and in *iLife*, the claims here do not focus on specific means or methods to improve authentication, but instead only use conventional computers as tools.

(2) *Alice* Step Two

The claims of the '954 and '330 Patents also fail *Alice* step two, because the elements of the claims, considered as a whole and individually, recite no inventive concept that is significantly

[9] And the specification further shows that uniqueness evaluations that are performed on the measured data are simply well-known, abstract mathematical calculations, such as the "Fisher combined probability test" and the "Friedman test." *See id*., 7:19-8:3. In any event, these are not even claimed and, thus, cannot support a finding that the claims are not abstract.

more than the abstract idea itself. This is because "[t]here is nothing in the specification suggesting, or any other factual basis for a plausible inference (as needed to avoid dismissal), that the claimed combination of these conventional authentication techniques achieves more than the expected sum of the security provided by each technique." *Universal Secure Registry*, 10 F.4th at 1353. As noted above, the claims and specification are not limited to any specific inventive concept or improvement to computers. Rather, they rely on well-understood, routine, and conventional computer functionality and cover any sort of implementation of the abstract method. Because the "claims in this case do not even require a new source or type of information, or new techniques for analyzing it," they plainly do not even "require an arguably inventive set of components or methods, such as measurement devices or techniques, that would generate new data" and "do not invoke any assertedly inventive programming." *Elec. Power Grp.*, 830 F.3d at 1355. Reciting "off-the-shelf, conventional computer [] technology for gathering, sending, and presenting the desired information" is not even arguably inventive and indisputably fails *Alice* step two. *Id*.

(3) The FAC Does Not Raise Any Factual Issues

DataDome explained to Arkose how the claims of the '954 and '330 Patents are patent ineligible under *Alice* in detail. Ex. F, 2/23/2024 DataDome Letter at 7-11. In response, Arkose amended its Complaint to add conclusory paragraphs that confirm that these patents are directed to ineligible data analysis. *See* D.I. 6, ¶ 73 (the "'954 Patent addresses the problem of generating challenges and measuring responses to verify a user"), ¶ 97 (same for the '330 Patent). The FAC further only describes the purported "unconventional, inventive concepts" using the same generic claim language of determining a "uniqueness condition" and "similarity condition." Thus, it adds nothing to rebut the abstractness of the claims and raises no factual disputes.

Arkose's attempt, and failure, to plead around the abstract nature of its claims further confirms that the '954 and '330 Patent claims do not present a non-abstract or otherwise inventive concept. As such, the claims of the '954 and '330 Patents should be found ineligible under §101.

2. Counts IV and VI Fail Because the '049 and '232 Patents Recite Abstract Ideas and are Patent Ineligible Under § 101

The '049 and '232 Patents share a common specification and each claim abstract mathematical concepts in violation of 35 U.S.C. § 101. In particular, the claims recite a series of steps for gathering and manipulating data for generating a statistical model about a target user's system usage (normal behavior) by comparing it to other users' usage (abnormal behavior). The disclosed system attempts to identify data describing a target user's unique behavior by distinguishing it from the behavior of other users. However, instead of specifying ***how***, technologically, those abstract ideas are implemented, the claims list a series of data manipulation steps using functional, results-oriented language and applied in a generic computer environment. These "vague, functional" terms, "devoid of technical explanation as to how to implement the invention," are abstract. *TLI Comm'cns*, 823 F.3d at 615; *see also Two-Way Media*, 874 F.3d at 1337.

The claims of these patents merely describe data gathering and manipulation—in particular, to accessing data samples for a plurality of users and generating a normal sample data set and an abnormal sample data set using such data. For example, '049 Patent claim 1 recites:

1. A method, comprising:

> [a] for a system or application used by a plurality of users, ***providing*** an access to a memory device storing user data samples for all users of the plurality of users;
>
> [b] ***selecting*** a target user from among the plurality of users; and
>
> [c] using a processor on a computer and using data samples for the target user and data samples for other users of the plurality of users, ***generating*** a normal sample data set and an abnormal (anomalous) sample data set to serve as a training data set

> for training a model for an anomaly detection monitor for the target user such that the data samples of the target user are used to derive a normal sample data set for the training set and the data samples of other users are used to derive an abnormal sample data set for the training set.

'049 Patent at 18:14-29 (emphasis added). As emphasized, the claim is directed to a series of functional steps that call for either: (1) data gathering (providing an access to a memory device storing user data samples or selecting a target user) or (2) data manipulation (generating a normal sample data set and an abnormal sample data set using the gathered data).[10] The '232 Patent recites similarly generic limitations of "providing an access to a memory device" and "selecting a target user." '232 Patent at 18:23-30 (claim 1), 19:41-45 (claim 11). The '232 Patent claims recite an additional data gathering step of "tak[ing] data samples for the target user to generate a normal sample" and a mathematical formula of "using a local outlier factor (LOF) function to generate an abnormal sample data set," but these limitations add nothing more than further abstract mathematical concepts.[11] '232 Patent at 18:31-37 (claim 1), 19:45-53 (claim 11).

These claims in the '049 and '232 Patents likewise fail both prongs of the *Alice* test.

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[10] Claim 1 of the '049 Patent is representative. Independent claims 12 and 18 recite an apparatus and a system, respectively, for performing the variants of method claim 1. These claims merely further the abstract mathematical concepts by wrapping the claim with generically recited hardware (*e.g.*, memories, processors (claim 12) or an anomaly detector having an input, monitor module, and an output (claim 18)). The dependent claims include additional elements, when considered both individually and in combination, which are insufficient to amount to significantly more than the abstract idea. Specifically, dependent claims 2-6, 13, and 19 do not recite additional elements and only describe the mathematical patterns observed in the data samples of claim 1; claims 7, 9, 14, 15 recite additional input from users; and claims 8, 10-11, 16-17, and 20 recite generic computing environments implementing the abstract idea.

[11] Claim 1 of the '232 Patent is representative. Independent claims 11 and 17 recite an apparatus and a system, respectively, for performing the method of independent claim 1. These claims add nothing more than to further the abstract mathematical concepts by wrapping the claim with generically recited hardware (*e.g.*, memories, processors (claim 11) or an anomaly detector having an input, monitor module, and an output (claim 17)). The dependent claims 2-10, 12-16, and 18-20 of the '232 Patent are analogous to dependent claims 2-3, 5-10, 13-17, and 19-20 of the '049 patent, which do not include additional elements that amount to significantly more than those of the '049 Patent or its abstract idea.

(1) *Alice* Step One

First, because the claims recite a series of steps for gathering, manipulating, and displaying data, they are abstract under the first step of *Alice*. Each of the '049 Patent claim steps is a form of data collection or manipulation. Steps [a] and [b] above are each data collection: providing access to a memory device storing user data samples and selecting a target user from all user data samples. Step [c] recites data manipulation: using a generic "processor" to generate a normal sample data set and an abnormal (anomalous) sample data set to serve as a training data set for training a model. Indeed, step [c] simply recites basic math and statistics: generating data models and distinguishing normal samples from outliers. And the '232 Patent's additional data gathering step and mathematical formula are just more abstract data collection and manipulation.

The Federal Circuit has routinely held that claims directed to data gathering, manipulation, and organization are "a familiar class of claims 'directed to' a patent-ineligible concept." *Elec. Power Grp.*, 830 F.3d at 1352-54 (method of detecting events on an interconnected electric power grid are directed to abstract ideas of collecting and analyzing information).

Citing the same authority, this District has similarly found claims directed to conventional machine learning techniques that are described in broad functional terms, as here, to be ineligible under the first prong of *Alice*. In *Recentive Analytics, Inc. v. Fox Corp.*, No. CV 22-1545-GBW, 2023 WL 6122495 (D. Del. Sept. 19, 2023), the Court invalidated a family of "Machine Learning Training Patents" that were directed to a computer-implemented method of generating an event schedule through a machine learning model that has been iteratively trained to optimize target features (*e.g.*, attendance, profit, revenue, expenses) based on input parameters. In doing so, the Court rejected every possible argument that Arkose might make here: 1) the argument that "machine learning algorithms process information differently from the human brain" was rejected

because machine learning is algorithmic in nature, and so the patents are directed to an abstract idea; 2) the argument that "the claimed processes require too much data and computing power for the human brain to do" was rejected because the patents merely use a computer as a tool; and 3) the argument that the claims recite "specific and unconventional" rules was rejected as inapplicable to the machine learning context, which does not involve "practical, technological improvements extending beyond improving the accuracy of a mathematically calculated statistical prediction." *See id*. at *8-11.[12]

Second, the '049 and '232 Patent claims are abstract because they do not recite any specific technology for performing the recited steps. The lack of specificity in these claims also means the steps can be performed entirely in the human mind or with pencil and paper. For example, a computer programmer or statistician could observe data samples for all users, select a target user from these data samples, and generate a normal and abnormal sample data set. Similarly, a human could also perform a local outlier function in the mind to generate the abnormal sample data.

There is no requirement in the '049 and '232 Patent claims that the generation of the normal and abnormal data sets be through any particular method or technique. And the generic recitation of use of a general-purpose processor cannot prevent the claims from being found abstract. *See, e.g.*, *Alice*, 573 U.S. at 226 (recitation of "generic computer components" insufficient to provide patent eligibility). Indeed, Arkose repeatedly argued that the '049 and '232 Patent claims are not only so broad that they ***do not require separate trained data models for specific users***, they also ***do not even require anomaly detection at all***, but instead merely require the "derivation" of two datasets. *See* Ex. G, 3/14/2024 Arkose Letter at 18 ("The claim language merely requires that the

[12] Courts outside of Delaware are in accord. The Western District of Texas invalidated claims to a "machine-learning method of generating datasets" at the motion to dismiss stage for similar reasons. *See Health Discovery Corp. v. Intel Corp.*, 577 F. Supp. 3d 570 (W.D. Tex. 2021).

'normal' data set is *derived from* data samples from the target user, while the 'abnormal' data set is *derived from* data samples from other users."), 19 ("Put another way, the phrase, 'for the target user,' in the context of the claims, specification and file history, does not mean 'for the *sole benefit of or application to* the target user.' Thus, neither the claims nor the specification nor the prosecution history requires a separate trained data model for each user.") (emphasis original). Arkose's reliance on this purported breadth confirms the claims' abstractness.

As with the '954 and '330 Patent claims discussed above, the '049 and '232 Patent specification admits it claims merely the use of a general-purpose computer to perform generic data collection and evaluation steps. For example, the '049 Patent expressly states that the "computer system/server 1012 … is shown in the form of ***a general-purpose computing device***" and that the invention is not even limited to this as "embodiments of ***the present invention*** are capable of being implemented in conjunction with ***any other types of computing environment now known or later developed***." '049 Patent at 15:45-47, 13:45-51 (emphasis added). These components cannot do more than their well-understood, routine, and conventional activities because the patents do not teach anything more. There is no limitation on how the data is being used to train a model or any unconventional hardware needed to train a model that could even arguably improve an underlying computing device. In other words, the claims simply do not limit ***how*** "normal sample data" and "abnormal sample data" is "generated." This is because the normal sample data and abnormal sample data already exist—the claims merely require labeling existing data samples as such. Indeed, the claims do not even require a set of components or methods, such as measurement devices or techniques, that would generate new data. *See Elec. Power Grp.*, 830 F.3d at 1355. The claims here are purely functional and generically require data sets for other users to be excluded from the normal sample data for the specific user and are, therefore, abstract.

(2) *Alice* Step Two

The ’049 and ’232 Patent claim limitations, considered individually and as an ordered combination, fail *Alice* step two because they do not claim an inventive concept that is significantly more than the abstract idea of using a target user’s data and other users’ data to determine anomalous behavior. The claims only recite generic and conventional hardware—a processor on a computer or a memory device and, thus, cannot do anything other than perform their well-understood, routine, and conventional activities previously known to the industry. *See, e.g.*, ’049 Patent at 3:44-46 (stating the allegedly inventive “method is a general technique that can be used in many security applications”), 15:18-21 (computer system/server 1012 “is operational with numerous other general purpose” computing system environments), 15:45-47 (computer system/server 1012 “is shown in the form of a general-purpose computing device”).

(3) The FAC Does Not Raise Any Factual Issues

Again, DataDome has already explained to Arkose how the claims of the ’049 and ’232 Patents are patent ineligible under *Alice* in detail. Ex. F, 2/23/2024 DataDome Letter at 14-17. The conclusory paragraph for each patent that Arkose added in its FAC confirms that these patents are directed to basic data analysis. *See* D.I. 6, ¶ 85 (the “’049 Patent addresses the problem of generating training data sets to train machine learning models to detect anomalies in data associated with individual user access requests to computing resources”), ¶ 109 (same for the ’232 Patent). Arkose thus admits that the subject matter of the claims, which in its own words is nothing more than “using information,” Ex. G, 3/14/2024 Arkose Letter at 9, or “generating training data sets,” D.I. 6, ¶ 85, are the sort of claims the Federal Circuit routinely finds patent ineligible pursuant to the reasoning and case law above.

Arkose's attempt, and failure, to plead around the abstract nature of its claims further confirms that the '049 and '232 Patent claims do not require a particularized type non-abstract or otherwise inventive concept. Accordingly, they should be found ineligible under §101.

3. Count II Fails Because the '427 Patent Is Invalid Due to Obviousness-Type Double Patenting

The '427 Patent is invalid for obviousness-type double patenting ("ODP") in view of expired U.S. Patent No. 9,558,340 ("the '340 Patent"). The '340 and '427 Patents are part of the same family and claim priority to the same application. But they have different expiration dates because the '427 Patent received a 2,019 day patent term adjustment and the '340 Patent received no adjustment. The claims of the '427 patent are substantively identical to the '340 patent claims and, therefore, are not patentably distinct and invalid due to ODP. *See Gilead Scis., Inc. v. Natco Pharma Ltd*., 753 F.3d 1208, 1216 (Fed. Cir. 2014).

As this Court recently stated, ODP is "designed to prevent claims in separate applications or patents that do not recite the 'same' invention, but nonetheless claim inventions so alike that granting both exclusive rights would effectively extend the life of patent protection." *Allergan USA, Inc. v. MSN Lab'ys Priv. Ltd.*, No. CV 19-1727-RGA, 2023 WL 6295496, at *4 (D. Del. Sept. 27, 2023). "A later claim that is not patentably distinct from ... an earlier claim is invalid for obviousness-type double patenting." *Id*. For a patent to qualify as an ODP reference, its expiration date must fall before that of the challenged patent. *Id*. at *5 (citing *Gilead Scis.*, 753 F.3d at 1215-17). "ODP for a patent that has received [patent-term adjustment ('PTA')], regardless [of] whether or not a terminal disclaimer is required or has been filed, must be based on the expiration date of the patent after PTA has been added." *Id*. (alterations in original) (quoting *In re Cellect, LLC*, 81 F.4th 1216, 1229 (Fed. Cir. 2023)).

Aside from being drawn to a method and computer program, as opposed to a system, the claims of the '427 Patent are substantively identical to those of the expired '340 Patent. *See* Ex. H, Redline Comparison of '340 and '427 Patent Independent Claims. The patentee plainly understood these claims were not patentably distinct from each other, because in response to a double-patenting rejection during prosecution of the '340 Patent, it submitted a terminal disclaimer in view of the '427 Patent's identical claims. *See* Ex. I, August 31, 2016 Amendment and Request for Reconsideration at 7. Because the identical claims of the '427 Patent have not yet expired simply because the '427 Patent received a PTA extension, without a corresponding terminal disclaimer filed in the other direction, they are invalid. *See, e.g.*, *In re Cellect*, 81 F.4th 1216.

The claims of the '427 and '340 Patents are essentially identical, so the only issue here is a legal one.[13] The '340 Patent issued before the '427 Patent, but because the '427 Patent expires after the '340 Patent, it is invalid for ODP over the '340 Patent. *Allergan*, 2023 WL 6295496, at *21. In the parties' letters, Arkose argued ODP is inapplicable because the '427 Patent was filed before the asserted '340 patent. This Court has already rejected these arguments. The "first-filed, first-issued" distinction is immaterial, because "[w]hen analyzing ODP, a court compares patent expiration dates, rather than filing or issuance dates." *Id*. at *22 (citing *Gilead*, 753 F.3d at 1215-17; *In re Cellect*, 81 F.4th at 1228-29). The *In re Cellect* court rejected the application of "a case-by-case review of equitable considerations to determine if a patent owner received an unjust time extension and ODP should therefore invalidate a challenged claim," and instead held that "ODP depends solely on patent expiration dates and should not influenced by equitable concerns." *Id*.

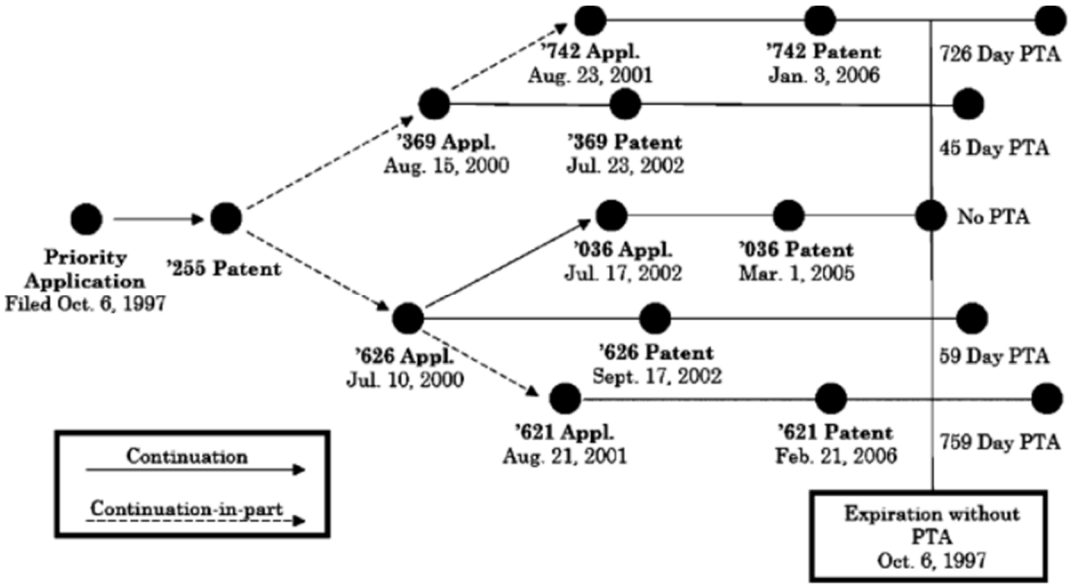
[13] DataDome also believes that the asserted '510 Patent, which is related to and shares a specification with the '427 and '340 Patents, is ODP invalid in view of the expired '340 Patent. The claims of the '510 Patent are also not patentably distinct from those of the '340 Patent, but they are not verbatim identical.

"[A]ny extension past [the ODP reference patent's expiration] date constituted an inappropriate timewise extension for the asserted claims of the challenged patents," and "[a]n applicant's ability to show that it did not engage in gamesmanship in obtaining a grant of PTA is not sufficient to overcome a finding that it has received an unjust timewise extension of term." *Id*. "*In re Cellect* recognizes no exception to the rule it announced, whether for first-filed, first-issued claims or otherwise." *Id*.

Arkose relies entirely on Judge Williams' decision in *Acadia Pharmaceuticals Inc. v. Aurobindo Pharma Ltd.*, No. C.A. 20-985-GBW, 2023 WL 8803448 (D. Del., Dec. 13, 2023). The *Acadia* opinion acknowledged that, in *Allergan*, this Court "interpreted *Cellect* to cut off OTDP even for first-filed, first-issued patents," but despite that, it "does not find itself persuaded by *Allergan*." *Acadia*, 2023 WL 8803448, at *7 n.4.

Acadia does not provide a basis for this Court to alter its holding in *Allergan*. *Acadia* narrowly interpreted *In re Cellect* in order to avoid its application. Specifically, the *Acadia* court was motivated by purported equitable concerns. *Id*. at *7. However, *Allergan* already explained that *In re Cellect* held that such issues ***do not*** affect its holding. *See, e.g.*, *Allergan*, 2023 WL 6295496, at *22 ("ODP depends solely on patent expiration dates and should not influenced by equitable concerns"). *In re Cellect* analyzed the argument that "equitable concerns underlying ODP, including an improper timewise extension of a patent term and potential harassment by multiple assignees, do not exist in this case," and concluded that an "applicant's ability to show that it did not engage in gamesmanship in obtaining a grant of PTA is not sufficient to overcome a finding that it has received an unjust timewise extension of term." *In re Cellect*, 81 F.4th at 1229-30.

The *Acadia* court argues that it "has been unable to identify a case where, when challenged, a later-filed, later-issued, earlier-expiring patent was used as an OTDP reference to invalidate an earlier-filed, earlier-issued, later-expiring patent." *Acadia*, 2023 WL 8803448, at *7. But these are literally the facts of *In re Cellect*, where the later-filed, later-issued, and earlier-expiring '036 Patent was used as a basis to invalidate the earlier-filed, earlier-issued, and later-expiring '369 and '626 Patents. *See In re Cellect*, 81 F.4th at 1219:



Given the clarity of this chart, *Acadia*'s suggestion that the Federal Circuit mistakenly invalidated four earlier-filed patents because the patentee neglected to argue a later-filed patent cannot be ODP prior art (*Acadia*, 2023 WL 8803448, at *7) is hard to credit. This is especially so considering that *Acadia*'s narrow reading of *In re Cellect* is based on express dicta. *Id.*; *see In re Cellect* 81 F.4th at 1230 ("***We have no basis for consideration of that issue here***." (emphasis added)). Given *In re Cellect*'s holding invalidating four earlier-filed patents with a later-filed patent, the dicta cited by *Acadia* is better viewed as an example rather than an assertion that ***only*** an earlier-filed patent can be an ODP reference. As *Allergan* clearly and correctly explained, *In re Cellect* applies regardless of filing dates and any extraneous equitable considerations.

4. Arkose Fails to State a Claim of Willful Infringement

"Willful patent infringement is the rare exception, not the rule." *Wrinkl, Inc. v. Facebook, Inc.*, No. 20-CV-1345-RGA, 2021 WL 4477022, at *7 (D. Del. Sept. 30, 2021). To survive dismissal of a willful infringement claim, a plaintiff "must plead both knowledge of the patent and of the infringement." *iFIT Inc. v. Peloton Interactive, Inc*., No. CV 21-507-RGA, 2022 WL 609605, at *2 (D. Del. Jan. 28, 2022) (dismissing for failure to allege knowing or intentional infringement); *see also Bench Walk Lighting LLC v. LG Innotek Co*., 530 F. Supp. 3d 468, 491 (D. Del. 2021). "[M]ere knowledge of the patent cannot support an allegation of willful infringement." *iFIT*, 2022 WL 609605, at *2; *see also Bayer Healthcare LLC v. Baxalta Inc*., 989 F.3d 964, 988 (Fed. Cir. 2021) ("willfulness requires deliberate or intentional infringement"). And an "amended complaint cannot rely upon the original complaint as a basis to allege knowledge for a willful infringement claim." *iFIT*, 2022 WL 609605, at *2.

Arkose does not allege any pre-suit knowledge of infringement—nor could it, because its pre-suit letters, as explained above, complained of equally meritless, but, more importantly, *wholly different claims* unrelated to those asserted here. Significantly, in this case in its pre-suit letters, Arkose provided claim charts for ***other*** patents not asserted in the FAC (all of which DataDome rebutted) but ***not*** for any of the Asserted Patents, so DataDome cannot have been on notice of alleged infringement of the Asserted Patents pre-suit. *See* Ex. A, Ex. C. Arkose merely alleges that DataDome has been "aware" of the Asserted Patents on certain dates (D.I. 6, ¶ 37), and on notice of its infringement since receiving the FAC (*id*., ¶ 38, 54, 66, 78, 90, 102, 114). This is insufficient to state a claim for willful infringement. *Wrinkl*, 2021 WL 4477022, at *7.

IV. CONCLUSION

For the foregoing reasons, DataDome respectfully asks the Court to dismiss Arkose's '954, '330, '049, '232, and '427 Patent claims, and its willful infringement claims.

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Dated: May 8, 2024