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Mintz Levin/Fair Isaac
Mintz Levin Cohn Ferris Glovsky and Popeo, P.C.
One Financial Center
Boston, MA 02111

EXAMINER
BUCHANAN, CHRISTOPHER R

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte SCOTT MICHAEL ZOLDI,
DAVID FRANK MARVER, and DOUGLAS CLARE

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Appeal 2021-005276
Application 14/940,110
Technology Center 3600

_____

Before DANIEL S. SONG, EDWARD A. BROWN, and
BRETT C. MARTIN, *Administrative Patent Judges.*

BROWN, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the
Examiner's decision to reject claims 1–5 and 7–21.[2] We have jurisdiction
under 35 U.S.C. § 6(b).

We affirm.

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[1] We use the word "Appellant" to refer to "applicant" as defined in 37
C.F.R. § 1.42. Appellant identifies FAIR ISAAC CORPORATION as the
real party in interest. Appeal Br. 1.

[2] Claim 6 has been cancelled. Appeal Br. 23 (Claims App.).

SUBJECT MATTER ON APPEAL

Claims 1, 8, 15, and 21 are independent. Appeal Br. 22–28 (Claims App.). Claim 1, reproduced below with added brackets and reference letters, is illustrative of the claimed subject matter.

1. A method comprising:

[(a)] receiving, by one or more data processors from a client system, a scoring request and event data associated with a structured, ordered sequence of events, the event data comprising a concatenated string comprising one or more event characteristics, wherein the event data further comprises one or more merchant categories associated with a transaction;

[(b)] generating, by the one or more processors, one or more event vectors from the event data, at least one of the one or more event vectors representing a unique temporal trait associated with the one or more event characteristics;

[(c)] generating, by the one or more processors, a clustering of customer, account, device, or channel based on archetypes derived from event history associated with the customer, account, device, or channel;

[(d)] generating, by the one or more data processors, an n-gram for the structured, ordered sequence of events within at least one of the one or more event vectors, an n-gram representing historical occurrence of at least one event, within an associated event vector, to improve fraud detection by providing an indication of a possibility of fraudulent activity for the at least one event;

[(e)] generating, by the one or more data processors, a probability of occurrence of an event based on the n-gram within the associated event vector and the clustering of the customer, account, device, or channel;

[(f)] retrieving, by the one or more data processors, real-time transaction profiles with recursive fraud features associated with a payment card of the transaction, the real-time

transaction profiles including past transaction behavior of one
or more customers;

[(g)] extracting, by the one or more data processors, a
probability table of the n-gram;

[(h)] generating, by the one or more data processors and
based on the transaction profiles and the n-gram, a score for the
event, the score representing the probability of occurrence of
the event in a context of the associated clustering of the
customer, account, device, or channel; and

[(i)] transmitting, by the one or more data processors and
responsive to the scoring request, the score to the client system,
the client system making, based on the score, approve/decline
decisions for the transaction associated with the event.

Appeal Br. 22–23 (Claims App.).

REJECTION

Claims 1–5 and 7–21 are rejected under 35 U.S.C. § 101 as being
directed to patent-ineligible subject matter. Final Act. 2.

ANALYSIS

Principles of Law Pertaining to Patent Eligibility

An invention is patent-eligible if it claims a "new and useful process,
machine, manufacture, or composition of matter." 35 U.S.C. § 101.
However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include
implicit exceptions: "[l]aws of nature, natural phenomena, and abstract
ideas" are not patentable. *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216
(2014). To determine whether a claim falls within an excluded category, the
Supreme Court has provided a two-step framework, described in *Mayo* and
Alice. *Alice*, 573 U.S. at 217–18 (citing *Mayo Collaborative Servs. v.*

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Prometheus Labs., Inc., 566 U.S. 66, 75–77 (2012)). In accordance with that framework, one first determines whether the claim is "directed to" one of the patent-ineligible concepts. *Alice*, 573 U.S. at 219. Concepts that have been determined to be abstract ideas, and thus patent-ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski v. Kappos*, 561 U.S. 593 (2010)); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)). If the claim is "directed to" an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where "we must examine the elements of the claim to determine whether it contains an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Alice*, 573 U.S. at 221 (quotation marks omitted). "A claim that recites an abstract idea must include 'additional features' to ensure 'that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].'" *Id.* (quoting *Mayo*, 566 U.S. at 77).

2019 Revised Patent Subject Matter Eligibility Guidance

We are also guided by U.S. Patent and Trademark Office ("PTO") Guidance, as set forth in the 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) ("Guidance").[3] Under the Guidance, to decide whether a claim is "directed to" an abstract idea, the

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[3] The PTO issued an update to the Guidance in October 2019 ("Guidance Update," available at https://www.uspto.gov/sites/default/files/documents/ peg_oct_2019_update.pdf). An Appendix to the Guidance includes Examples 37–42 illustrating eligibility analysis. "Appendix 1" to the Guidance Update includes Examples 43–46 illustrating eligibility analysis.

PTO evaluates whether the claim: (1) recites an abstract idea falling within one of the groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activities, or mental processes) listed in the Guidance ("Step 2A, Prong One"), *and* (2) fails to integrate the judicial exception into a practical application ("Step 2A, Prong Two"). Guidance, 84 Fed. Reg. at 54–55; *see also* MPEP § 2106.04(d); § 2106.05(a)–(c), (e)–(h). If a claim is "directed to" an abstract idea, the PTO then determines whether the claim includes an "inventive concept" ("Step 2B"). Guidance, 84 Fed. Reg. at 56. At Step 2B, the PTO determines whether the claim adds a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional" in the field; or simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. *Id.*

Patent Eligibility of Claims 1–5 and 7–21

Appellant argues the patent eligibility of claims 1–5 and 7–21 together. Appeal Br. 7–20 (presenting argument for independent claim 1, and asserting that independent claims 8, 15, and 21 and dependent claims 2–5, 7, 9–14, and 16–20 define patent-eligible subject matter for the same reasons as claim 1). We decide the rejection based on claim 1, and claims 2–5 and 7–21 stand or fall with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2020) (authorizing the Board to select a single claim to decide the appeal as to a ground of rejection of a group of claims argued together).

Step 2A, Prong One

The Examiner determines that claim 1 recites the abstract idea of "a certain method of organizing human activity," and, more specifically, "a means for preventing fraud in transactions which is considered to be a basic economic activity," and "fraud detection in a transaction, a matter that is considered to be a fundamental economic practice." Final Act. 3, 5. Additionally, the Examiner determines that the concept of fraud detection in a transaction can also be considered an evaluation or judgment, "which could theoretically be performed in the human mind," and thus, that this concept also falls into the mental processes grouping of abstract ideas. *Id.* at 5.

Certain Methods of Organizing Human Activity

Appellant contends that claim 1 does not fall within the enumerated groupings of abstract ideas as specified in the Guidance. Appeal Br. 10. Appellant disputes the Examiner's determination that the claim is directed to the abstract idea of "fraud detection in a transaction, a matter that is considered to be a fundamental economic practice." *Id.* at 12. Appellant acknowledges that the "certain methods of organizing human activity" grouping of abstract ideas includes the sub-grouping of "fundamental economic principles or practices." *Id.*; *see* Guidance, 84 Fed. Reg. 52. Appellant notes that this sub-grouping "include[es] hedging, insurance, and mitigating risk." *Id.*; *see* Guidance, 84 Fed. Reg. 52. Appellant contends, however, that "[c]laim 1 is directed to the use of real-time transaction profiles and a structured n-gram for detecting and preventing fraudulent transactions and enhancing conventional fraud models," which is not an "enumerated fundamental economic practice," and is not included in the

examples provided in MPEP § 2106.04 or in the Guidance Update. *Id.*
(citing Spec. ¶¶ 8, 64; Guidance Update 9). Appellant also contends that the
Examiner cites no Federal Circuit decision in which the court held that using
real-time transaction profiles and a structured n-gram for detecting and
preventing fraudulent transactions is an abstract idea. *Id.* Appellant further
contends, "[e]ven if claim 1 were stripped of its technical features, claim 1 is
directed to an '**enhanced fraud detection method**' which **is not an
enumerated fundamental economic principle or practice and is not
included in the examples of MPEP 2106.04**." *Id.* at 12–13.

Appellant's contentions are unpersuasive. We first agree with the
Examiner that claim 1 recites concepts that fall within the "certain methods
of organizing human activity" grouping, and particularly, the "fundamental
economic principles or practices" subgrouping of abstract ideas. The
Examiner determines that the "one or more data processors" and the "client
system" recited in claim 1 are "additional elements" of the method (i.e.,
"additional elements recited in the claim beyond the judicial exception(s))."
Ans. 4; *see also* Guidance, 84 Fed. Reg. 54–55. Under the broadest
reasonable construction, the remainder of claim 1 is a method of collecting
and analyzing information for detecting fraudulent activity in financial
transactions.

As reproduced above, claim 1 recites "*receiving . . .* a scoring request
and *event data* associated with a structured, ordered sequence of events, the
event data comprising a concatenated string comprising one or more event
characteristics . . . one or more *merchant categories associated with a
transaction*" (limitation (a) (emphasis added)); and "*retrieving . . . real-time
transaction profiles* with recursive fraud features associated with *a payment*

card of the transaction, the real-time transaction profiles including past transaction behavior of one or more customers" (limitation (f) (emphasis added)). The Specification discloses that a scoring request can be received for a transaction that uses, e.g., a credit card (Spec. ¶ 67), and describes "*purchase transactions* associated with a payment card" (*id.* ¶ 47). Even though claim 1 does not recite the term "financial transaction," under the broadest reasonable construction, the claim encompasses transactions that relate to financial or monetary matters. This construction is supported by claim 4, which depends from claim 1 and recites that "the at least one n-gram represents a financial payment transaction." Appeal Br. 23 (Claims App.). This construction is also supported by Appellant's statement that "claim 1 . . . clearly provides a technological solution to the problem of detection of fraudulent activities in computing systems supporting, *for example, financial transactions.*" Appeal Br. 18 (emphasis added). Thus, we determine that limitations (a) and (f) encompass "receiving" and "retrieving" information, i.e., collecting information, associated with financial transactions for detecting fraudulent activity.

Claim 1 further recites "*generating . . .* one or more event vectors *from the event data,* at least one of the one or more event vectors representing a unique temporal trait associated with the one or more event characteristics" (limitation (b)); "*generating . . . a clustering* of *customer,* account, device, or channel *based on archetypes derived from event history* associated with the customer, account, device, or channel" (limitation (c)); "*generating . . . an n-gram* for the structured, ordered sequence of events within at least one of the one or more event vectors, an n-gram representing historical occurrence of at least one event, within an associated event vector,

to improve fraud detection by providing an indication of a possibility of fraudulent activity for the at least one event" (limitation (d)); "*generating . . . a probability of occurrence of an event* based on the n-gram within the associated event vector and the clustering of the customer, account, device, or channel" (limitation (e)); "*extracting . . . a probability table of the n-gram*" (limitation (g)); and "*generating . . . based on the transaction profiles and the n-gram, a score for the event, the score representing the probability of occurrence of the event* in a context of the associated clustering of the *customer*, account, device, or channel " (limitation (h)). (Emphasis added). Under the broadest reasonable construction, each of limitations (b)–(e), (g), and (h) involves analyzing collected information (event data, event history, and real-time transaction profiles) to detect financial transaction fraud.

Lastly, limitation (i) of claim 1 recites "*transmitting . . . responsive to the scoring request, the score to the client system*, the client system making, based on the score, approve/decline decisions for the transaction associated with the event." (Emphasis added). Under the broadest reasonable construction, limitation (i) includes communicating the result (information) from executing limitation (h).

The Specification supports that the claimed method is focused on collecting and analyzing information for detecting fraudulent activity in financial transactions. For example, the Specification discloses that "[t]he subject matter described herein relates to *fraud analytics*, and more particularly to event sequence enhancement of *streaming fraud analytics*." Spec. ¶ 1 (emphasis added). The Specification also discloses that "*[f]raud* continues to be a major concern of financial institutions and their customers, especially with respect to the use of *credit cards, debit cards,* online

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banking, mobile banking, and other retail banking products. State-of-the-art *analytics* applied to *transaction streams* associated with these products utilize behavioral streaming analytics . . . to determine which *transactions are consistent (or inconsistent) with the behavior of the legitimate customer.*" *Id.* ¶ 2 (emphasis added). The Specification further discloses that "additional analytic value may be derived through *additional analyses*, and conventional behavioral streaming analytic models can be further enhanced with the evaluation of population-based behaviors leveraging customer archetypes." *Id.* ¶ 4 (emphasis added).

We also determine that claim 1 is similar to claims at issue in *Bozeman Financial LLC v. Federal Reserve Bank of Atlanta*, 955 F.3d 971 (Fed. Cir. 2020). In *Bozeman*, the Federal Circuit determined that claims reciting a "computer implemented method for detecting fraud in financial transactions during a payment clearing process" were not patent ineligible under § 101. *Id.* at 976–81. The court noted that the representative claim recited "a method of receiving data from two financial records, storing that data, comparing that data, and displaying the results." *Id.* at 978. The court determined that the claims recited the abstract idea of "collecting and analyzing information for financial transaction fraud or error detection." *Id.* at 981. The court stated, "[v]erifying financial documents to reduce transactional fraud is a fundamental business practice" (*id.* at 978), and "verifying a transaction to avoid fraud, in particular check fraud, is a long-standing commercial practice" (*id.* at 979).

Bozeman supports the Examiner's position that claim 1 recites a fundamental economic practice. According to the Guidance, the sub-grouping of "fundamental economic principles or practices" includes the

example of "mitigating risk." *See* Guidance, 84 Fed. Reg. 52. We construe the method of collecting and analyzing information for detecting fraudulent activity in transactions, as recited in claim 1, as being a method of mitigating risk. Hence, the method falls within the "[c]ertain methods of organizing human activity" grouping of abstract ideas. We also note that payment methods are characterized as fundamental economic practices in the Guidance. *Id.* at 52 n.13.

Claim 1 is also similar to claims that have been held to recite abstract ideas in other cases, e.g., *Innovation Sciences, LLC v. Amazon.com, Inc.*, No. 2018-1495, 2019 WL 2762976, at *1 (Fed. Cir. July 2, 2019) (affirming district court's conclusion that a claim reciting the abstract idea of securely processing a credit card transaction with a payment server was ineligible), and *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1370 (Fed. Cir. 2011) (verifying the validity of a credit card transaction over the Internet). These cases also support the Examiner.

Regarding Appellant's contention that "the use of real-time transaction profiles and a structured n-gram for detecting and preventing fraudulent transactions and enhancing conventional fraud models" is not included in the examples provided in MPEP § 2106.04 or in the Guidance Update, Appellant does not direct us to any requirement for such example. Examples provided are mere examples, and not an exhaustive list.

We have also considered Appellant's contentions in the Reply Brief, but find them unpersuasive of Examiner error. *See* Reply Br. 4–6.

Thus, we agree with the Examiner's determination that claim 1 recites an abstract idea falling within the certain methods of organizing human activities grouping.

Mental Processes

The second abstract idea recited in claim 1, as determined by the Examiner, falls in the mental processes grouping, i.e., concepts performed in the human mind, and includes as examples observations, evaluations, judgments, and opinions. *See* Guidance, 84 Fed. Reg. 52. Appellant asserts that "it would not be possible for a human, even if given enough time, to perform the operations recited in claim 1 practically in their mind." Appeal Br. 10. Appellant notes that the Guidance Update states, "[c]laims do not recite a mental process when they do not contain limitations that can practically be performed in the human mind, for instance when the human mind is not equipped to perform the claim limitations." *Id.* at 11; *see* Guidance Update 7. Appellant asserts that "a human mind is not equipped to execute *the combination of steps* recited in claim 1." Appeal Br. 11 (emphasis added). Appellant quotes the Guidance Update, which states: "While *a claim limitation* to a process that 'can be performed in the human mind, or by a human using a pen and paper' qualifies as a mental process, *a claim limitation* that 'could not, as a practical matter, be performed entirely in a human mind' (even if aided with pen and paper) would not qualify as a mental process." *Id.* at 11–12 (emphasis added); *see* Guidance Update 9.

We understand the quoted statement in the Guidance Update as indicating that the analysis can identify individual limitations in a claim. This interpretation is supported by the Guidance, which explains that to determine whether a claim *recites* an abstract idea in Step 2A, Prong One, the PTO can identify *specific limitation(s)* in the claim, *either individually or in combination,* that are believed to recite an abstract idea, and determine whether the identified limitation(s) fall(s) within the subject matter

groupings of abstract ideas enumerated in the Guidance. *See* Guidance, 84 Fed. Reg. 54. Accordingly, to the extent that Appellant is contending that all individual limitations of a claim must be identified as reciting a mental process to be able to determine the claim recites a mental process, this position is inconsistent with the Guidance.

We agree with the Examiner that claim 1 additionally recites an abstract idea falling within the mental processes grouping. We will address several examples. As discussed above, limitation (a) recites "receiving . . . a scoring request and event data associated with a structured, ordered sequence of events, the event data comprising a concatenated string comprising one or more event characteristics, wherein the event data further comprises one or more merchant categories associated with a transaction." Under the broadest reasonable construction, limitation (a) involves receiving information having a certain format. As shown in Figure 1, the information can be in a simple alphanumeric format. Receiving such information reasonably can be characterized as a concept (e.g., an observation or evaluation) that can be performed in the human mind, or by a human using pen and paper. Thus, limitation (a) recites a mental process.

Limitation (c) recites "generating . . . a clustering of customer, account, device, or channel based on archetypes derived from event history associated with the customer, account, device, or channel." The Specification describes that "clustering" or "soft clustering" involves organizing similar customers in sub-groups, where the customers engage in similar activities. *See, e.g.*, Spec. ¶¶ 5–7. Under the broadest reasonable construction, limitation (c) involves grouping people based on their typical behavior, which can be characterized as a concept (e.g., an observation,

evaluation, or judgment) that can be performed in the human mind, or by a human using pen and paper. Thus, limitation (c) also recites a mental process.

Limitation (e) recites "generating . . . a probability of occurrence of an event based on the n-gram within the associated event vector and the clustering of the customer, account, device, or channel." Appeal Br. 22 (Claims App.). Under the broadest reasonable construction, limitation (e) encompasses determining a probability of an event occurring using known information. As described in the Specification, this involves the use of simple probability calculations. *See, e.g.,* Spec. ¶¶ 54–62. Generating the probability reasonably can be characterized as a concept (e.g., an observation or evaluation) that can be performed in the human mind, or by a human using pen and paper, and thus, limitation (e) also recites a mental process.

Lastly, limitation (i) recites, in part, "the client system making, based on the score, approve/decline decisions for the transaction associated with the event." Appeal Br. 22 (Claims App.). Under the broadest reasonable construction, this reasonably can be characterized as a concept (e.g., a judgment) that can be performed in the human mind, or by a human using pen and paper. Thus, limitation (i) also recites a mental process.

We have also considered Appellant's contentions in the Reply Brief, but find them likewise unpersuasive of Examiner error. *See* Reply Br. 6–10. In this regard, we note Appellant's argument premised on *"Ancora Technologies."*[4] *See id.* at 9. This argument was not presented in the

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[4] Cited by Appellant as *"Ancora Techs. [v.] HTC Am.,* (slip op. at 10) (Fed. Cir. Nov. 16, 2018)."

Appeal Brief, and Appellant does not show good cause for the Board to consider this argument. *See* 37 C.F.R. § 41.41(b)(2).

For these reasons, we agree with the Examiner's determination that claim 1 additionally recites an abstract idea falling within the mental processes grouping.

Step 2A, Prong Two

We next determine whether claim 1 as a whole integrates the recited judicial exception into a practical application, i.e., whether the additional elements recited in the claim apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception. *See* Guidance, 84 Fed. Reg. 54–55. The Guidance provides exemplary considerations that are indicative of an additional element or combination of elements integrating, or not integrating, a judicial exception into a practical application. *Id.* at 55.

The Examiner determines that the abstract ideas are not integrated into a practical application in claim 1. Final Act. 3–4. Rather, the Examiner determines that the additional elements "are recited at such a high level of generality that they amount to nothing more than mere instructions to implement or apply the abstract idea using conventional technology." *Id.* at 3. The Examiner further determines that the additional elements do not: (i) reflect an improvement to the functioning of a computer, another technology, or another technical field, (ii) implement the judicial exception with, or in conjunction with, a particular machine or manufacture integral to the claim, (iii) effect a transformation of a particular article to a different state or thing, or (iv) apply the judicial exception in some meaningful way

beyond generally linking the use of the judicial exception to a particular technological environment. *Id.* at 3–4; *see also* Guidance, 84 Fed. Reg. 55.

Appellant contends that the judicial exception is integrated into a practical application in claim 1. Appeal Br. 13. According to Appellant, "[c]laim 1 embodies at least one practical application of the invention. Claim 1, when practically applied, *solves a particular technical problem*. In particular, claim 1 applies the judicial exception *with, or by use of, a particular machine* (as per MPEP 2106.05(b))." *Id.* at 14 (emphasis added). Appellant contends that at least one technical problem is presented in the Specification, in stating that "'fraud continues to be a major concern of financial institutions and their customers, especially with respect to the use of credit cards, debit cards, online banking, mobile banking, and other retail banking products. State-of-the-art analytics applied to transaction streams associated with these products utilize behavioral streaming analytics.'" *Id.* (quoting Spec. ¶ 2). Appellant further contends that "[a]t least one means of solving this technical problem is by the practical application of the steps of method Claim 1 which, when applied, provides a score indicating a probability of the occurrence of an event and transmits the score to the client system." *Id.* Appellant notes that the Specification states, "'conventional behavioral streaming analytic models can be **further enhanced with the evaluation of population-based behaviors leveraging customer archetype**.'" *Id.* (quoting Spec. ¶ 4). As understood, it is Appellant's position that "the evaluation of population-based behaviors leveraging customer archetype" solves the technical problem. *Id.* (emphasis omitted).

Appellant further contends:

> As recited in claim 1, *the current subject matter system
> clearly requires a vast network of data management, data
> transformation* (data characterizing an event or transaction,
> financial data, variables, event characteristics, merchant
> categories, transaction profiles, etc.), *data processing, data
> modeling* (e.g., generating n-gram structure and a score for the
> transaction), and *data transmission devices* (transmission of the
> score to a client system), *including a specifically configured
> processors, networks, databases, etc. The combination of these
> computing devices and networking elements* is not only able to
> process various data, but also enables identification of
> fraudulent or erroneous claims in financial institutions through
> streaming fraud analytics.

Appeal Br. 14–15 (emphasis added).

Appellant appears to be contending that the purported "particular
machine" that applies the judicial exception requires all elements of the
"combination of . . . computing devices and networking elements."
However, the eligibility analysis must focus on the claim language. As
explained in the Guidance Update, even "if the specification sets forth an
improvement in technology, *the claim must be evaluated to ensure that the
claim itself reflects the disclosed improvement. That is, the claim includes
the components* or steps of the invention that provide the improvement
described in the specification." Guidance Update 12 (emphasis added); *see
ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 769 (Fed. Cir. 2019)
("Even a specification full of technical details about a physical invention
may nonetheless conclude with claims that claim nothing more than the
broad law or abstract idea underlying the claims."). Here, claim 1 does not
recite all elements of the "combination." For example, claim 1 does not
recite a "*a vast network* of data management, data transformation[,] . . . data

processing, data modeling[,] . . ., and data transmission devices," or *"specifically configured* processors, networks, databases." To the contrary, claim 1 recites the "one or more data processors" and "client system" only generically. The analysis must focus on the claim language. We also note that claim 1 does not recite, e.g., how "event vectors" are generated, or how generating an n-gram, as claimed, "improve[s] fraud detection by providing an indication of a possibility of fraudulent activity for the at least one event." Here, claim 1, at the least, does not recite various components that Appellant asserts are required in the "combination of . . . computing devices and networking elements." Accordingly, Appellant's argument is not persuasive.

In the Reply Brief, Appellant contends that "the claims improve the integrity of data in a network through robust unsupervised techniques that monitor changes in the data and update data items in real time or substantially real time, which is a highly technical problem." Reply Br. 11. Appellant asserts, "[t]he technical solution addressing this problem, as recited in claim 1, is rooted in computing technology that uses *computing networks* and devices, computers, databases, *communication interfaces, graphical user interfaces,* etc. communicatively coupled to each other to perform the recited processes." *Id.* (emphasis added). Claim 1 does not, however, recite, e.g., "computing networks," "communication interfaces," or "graphical user interfaces," much less being "communicatively coupled to each other." Accordingly, Appellant's argument is not persuasive.

Furthermore, the Specification does not support Appellant's contention as to what claim 1 requires. The Specification discloses that "[c]omputer implemented methods consistent with one or more

implementations of the current subject matter can be implemented by one or more data processors residing in a single computing system or multiple computing systems." Spec. ¶ 12. We also note that functioning of "client system 102" is described in paragraph 67 of the Specification and depicted as a black box in Figure 7. The description implies that the "one or more data processors" and "client system" are *not* required to be more than generic electronic components that perform generic computer functions. Appellant does not direct us to any disclosure that indicates otherwise. We are unpersuaded that the generic recitations of these elements integrates the judicial exception so as to "impose[] a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception." Guidance, 84 Fed. Reg. at 53. In that regard, "after *Alice*, there can remain no doubt: recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible." *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014).

Appellant also contends that Example 46 in Appendix 1 to the Guidance Update supports its position that the judicial exception is integrated into a practical application in claim 1. Appeal Br. 15–16. Particularly, Appellant contends that claim 3 of Example 46 is similar to Appellant's claim 1 (hereinafter also "present claim 1"). *Id.* at 16. Claim 3 of Example 46 recites "a method for monitoring health and activity in dairy livestock animals," comprising, *inter alia*, "(c) analyzing . . . obtained animal-specific information . . . to identify the animal and to determine whether the animal is exhibiting an aberrant behavioral pattern as compared to the past behavior of the animal"; and

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> (d) automatically operating the sorting gate, by the
> processor sending a control signal to the sorting gate to route
> the animal into a holding pen when the analysis results from
> step (iii) for the animal indicate that the animal is exhibiting an
> aberrant behavioral pattern, and by the processor sending a
> control signal to the sorting gate to permit the animal to freely
> pass through the sorting gate when the analysis results for the
> animal indicate that the animal is not exhibiting an aberrant
> behavioral pattern.

Appendix 1 at 32–33.

As pointed out by Appellant, claim 3 is described in Appendix 1 as being patent eligible because:

> "step (d) does not merely link the judicial exception to a
> technical field, but instead adds a meaningful limitation in that
> it employs the information provided by the judicial exception
> (the mental analysis of whether the animal is exhibiting an
> aberrant behavioral pattern) to operate the gate control
> mechanism and route the animals, thus avoiding the need for
> the farmer to visually evaluate the behavior of each animal in
> the herd on a continual basis."

Appeal Br. 15–16 (quoting Appendix 1 at 40).

According to Appellant:

> Similarly, at least the "transmitting" step of claim 1
> "does not merely link the judicial exception to a technical
> field,["] but instead adds a **meaningful limitation** in that it
> employs the information provided by the alleged judicial
> exception (the analysis of whether the transaction is exhibiting
> an aberrant behavioral pattern) to approve or deny a transaction,
> *thus avoiding the need for a user to visually evaluate the
> behavior of each transaction in the stream on a continual basis.*

Appeal Br. 16 (italics added).

It is unclear what is meant by "avoiding the need *for a user to visually evaluate* the behavior of each transaction in the stream on a continual basis." For example, it not apparent who the "user" is. *Id.*

Appellant also contends that:

> Further, claim 1 goes beyond merely automating the abstract ideas and instead actually *uses the information obtained via the alleged judicial exception* (the analysis of whether the transaction is exhibiting an aberrant behavioral pattern using analysis of an n-gram sequence and generation of a score indicating a probability of fraudulent activity) **to take corrective action** (client system approving/declining, based on the score indicating fraudulent activity, a transaction associated with the event) **in a particular way**.

Appeal Br. 16 (italics added).

In claim 3 of Example 46, the information about the condition of the animals provided by the judicial exception is employed to automatically operate a feed dispenser and sorting gate by sending a control signal to this mechanical equipment. In present claim 1, the "score" for an event is transmitted to the client system, which "mak[es], based on the score, approve/decline decisions for the transaction associated with the event." Present claim 1 does not employ information provided by the judicial exception to automatically operate mechanical equipment as recited in claim 3 of Example 46. Limitation (i) involves the client system merely making an evaluation and/or judgment responsive to receiving the score, which reasonably can be characterized as a mental process, and does not provide a specific technological application.

In regard to the Examiner's "suggest[ion] the claims 'amount to nothing more than mere instructions to implement or apply the abstract idea

using conventional technology,'" Appellant contends that "claim 1 is sufficiently **specific** in that is both novel and inventive over the prior art as illustrated by a lack of a 102 and/or 103 rejection which indicates at least non-conventional technology." Appeal Br. 16; Final Act. 3.

Even though the Examiner does not identify prior art that discloses or renders obvious the claimed subject matter, this does not lessen the Examiner's position because the patent eligibility analysis is not an evaluation of novelty or non-obviousness. Even assuming that the claimed method may be novel, "[t]he 'novelty' of . . . the . . . [claim] itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter." *Diamond v. Diehr*, 450 U.S. 175, 188–89 (1981). A novel and non-obvious claim directed to a purely abstract idea is, nonetheless, patent-ineligible. *See Mayo*, 566 U.S. at 90–91. "[A] claim for a *new* abstract idea is still an abstract idea." *Synopsys, Inc. v. Mentor Graphics, Corp.*, 839 F.3d 1138, 1151 (Fed. Cir. 2016). Accordingly, Appellant's contention is unpersuasive.

As discussed, limitations (a) and (f) involve collecting or gathering information associated with financial transactions. According to the Guidance, "add[ing] insignificant extra-solution activity to the judicial exception" is an example consideration of when an abstract idea has not been integrated into a practical application. *See* Guidance, 84 Fed. Reg. at 55. The Guidance provides as an example of insignificant extra-solution activity, "a mere data gathering such as a step of obtaining information about credit card transactions so that the information can be analyzed in order to detect whether the transactions were fraudulent." *See id.* at 55 n.31; *see also Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016)

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(collecting information is an abstract idea); *CyberSource Corp.*, 654 F.3d at 1370 ("We have held that mere '[data-gathering] step[s] cannot make an otherwise nonstatutory claim statutory.'") (alterations in original).

Additionally, "transmitting . . . the score to the client system . . . for the transaction associated with the event," as recited in limitation (i), is extra-solution activity, which does not integrate the judicial exception into a practical application. Guidance, 84 Fed. Reg. at 55; *see also ChargePoint*, 920 F.3d at 766 (identifying communicating requests between servers over a network as an abstract idea).

For the above reasons, Appellant does not apprise us of error in the Examiner's determination that claim 1, as a whole, fails to integrate the judicial exception into a practical application.

Step 2B

The Examiner determines that claim 1 does not include any additional element(s) that, considered individually or as an ordered combination, are sufficient to transform the claim so that it amounts to significantly more than the abstract idea. Final Act. 5–6. Rather, the Examiner determines that additional elements amount to no more than mere instructions to implement or apply the abstract idea using conventional technology (*id.* at 3–5), and the "[additional] elements are merely used in a conventional, routine manner and are recited at a high level of generality" (*id.* at 6). Thus, the Examiner determines that claim 1 does not provide an inventive concept.

Appellant contends that even if claim 1 is directed to an abstract idea, the claim recites significantly more than the abstract idea. Appeal Br. 17. Appellant contends that "claim 1 . . . clearly provides a technological solution to the problem of detection of fraudulent activities in computing

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systems supporting, for example, financial transactions. Currently available solutions do not take into account evaluation of population-based behaviors leveraging customer archetypes, and other information/data." *Id.* at 18. Appellant asserts that claim 1 addresses these problems by including "an inventive concept of detection of fraud that can be found at least in the *non-conventional and non-generic arrangement of known, conventional pieces.*" *Id.* (emphasis added).

According to Appellant, "the *combination of elements* recited in claim 1 are not well-understood, routine or conventional," and "the functionalities recited in claim 1 and performed by the structural components recited therein are clearly **not** well-understood, routine, or conventional." Appeal Br. 19. Appellant asserts that "[c]laim 1 describes the unconventional solution (e.g., generating a score for an event based on the transaction profiles and the n-gram) of using the claimed technique to solve a technical problem of detecting fraudulent transactions in real time during a transaction." *Id.* at 19–20.

These contentions are unpersuasive. We agree with the Examiner that the claimed method merely calls for using generic electronic components as tools to perform the abstract ideas, which does not transform the claim into a patent-eligible application of the abstract ideas. *Alice*, 573 U.S. at 212. The "unconventional solution" cannot be the "inventive concept" because the "unconventional solution" is itself an abstract idea. *See, e.g., Berkheimer v. HP, Inc.*, 890 F.3d 1369, 1374 (Fed. Cir. 2018) (Moore, J., concurring) ("It is clear from *Mayo* that the 'inventive concept' cannot be the abstract idea itself . . . ."); *BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018) ("It has been clear since *Alice* that 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.").

Lastly, Appellant contends that "the claimed elements are, either individually or in an ordered combination, . . . **not found in the prior art** and hence, for at least this reason, claim 1 cannot be said to contain only elements that are well-understood, routine, and conventional." Appeal Br. 20 (citing *Bascom Global Internet Services Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016)).

This contention is unpersuasive for two reasons. First, the patent eligibility analysis is not an evaluation of the either the novelty or non-obviousness of claim 1. Second, the court in *BASCOM* determined that an inventive concept may be found in a non-conventional and non-generic arrangement of components that are individually well-known and conventional. *Bascom*, 828 F.3d at 1350. The arrangement involved the placement of a filtering element for filtering Internet content at a specific location in a system. Here, Appellant does not identify any non-conventional and non-generic arrangement of physical components. Accordingly, *BASCOM* does not support Appellant's position.

For the foregoing reasons, Appellant also does not apprise us of error in the Examiner's determination for Step 2B. Thus, we sustain the rejection of claim 1 as patent ineligible under the judicial exception to 35 U.S.C. § 101. Claims 2–5 and 7–21 fall with claim 1.

DECISION SUMMARY

In summary:

Claim(s) Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–5, 7–21	101	Eligibility	1–5, 7–21	

TIME PERIOD FOR RERSPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED