UNITED STATES PATENT AND TRADEMARK OFFICE

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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 DANIEL SLOTWINER, NEHA BHARGAVA, EURRY KIM,
DAVID YONG JOON PIO, ROBERT ANDREW CREEKMORE,
OMID SAADATI, and TARUN KARTIKAYE SHARMA
_____

Appeal 2019-002196
Application 14/280,137
Technology Center 3600
_____

Before JOHN A. EVANS, JASON J. CHUNG, and
MICHAEL T. CYGAN, *Administrative Patent Judges*.

CHUNG, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals the Final Rejection of claims 1–23. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

INVENTION

The invention relates to presenting and evaluating advertisements for achieving an objective. Spec. ¶ 1. Claim 1 is illustrative of the invention and is reproduced below:

     1. A method comprising:

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[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. According to Appellant, Facebook, Inc. is the real party in interest. Appeal Br. 2.

receiving training data comprising:

a plurality of test ad creatives, each test ad creative associated with an advertiser and associated with one or more features, each feature associated with a question describing content of a test ad creative;

a plurality of test feature scores for each test ad creative in the plurality of test ad creatives, each test feature score of the test ad creative based at least in part on received answers to a question associated with a corresponding feature of the test ad creative; and

one or more test objective scores for each test ad creative in the plurality of test ad creatives, each test objective score of the test ad creative measuring how well the test ad creative achieves an objective of a plurality of possible objectives;

training a model that is usable to determine one or more objective scores for an ad creative based on one or more feature scores using the training data;

receiving a request to evaluate a target ad creative from a requesting advertiser of an online system for presentation to one or more users of the online system, the target ad creative comprising a plurality of target feature scores based on received answers to questions describing content of the target ad creative;

determining a target objective score for one or more objectives for the target ad creative *by applying the trained model* to one or more target features scores of the target ad creative; and

presenting feedback to the requesting advertiser based at least in part on the objective scores of the target ad creative, the feedback corresponding to a predicted effectiveness of the target ad creative in achieving the one or more objectives based on effectiveness of the plurality of test ad creatives.

Appeal Br. 14 (Claims App.) (emphases added to indicate additional, i.e., non-abstract, elements).

<div align="center">REJECTIONS</div>

Claims 1–23 stand rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. Final Act. 2–6.

Claims 1–23 stand rejected under 35 U.S.C. § 103 as being

unpatentable over Hegeman et al. (US 2013/0124297 A1; published May 16, 2013) ("Hegeman") and Richardson et al. (US 2008/0249832 A1; published Oct. 9, 2008) ("Richardson"). Final Act. 7–19.

ANALYSIS

We have only considered those arguments that Appellant actually raised in the Briefs.[2,3] Arguments Appellant could have made, but chose not to make, in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2018).

I. *SECTION 101 REJECTION*
A. *Principles of Law*

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 U.S. 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. *E.g.*, *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Court's two-part framework, described in *Mayo* and *Alice*.

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[2] In the instant appeal, claims 2–23 are not separately argued from claim 1 in either of Appellant's briefs (Appeal Br. 4–12; Reply Br. 2–6), and will not be addressed separately.

[3] Appellant does not provide page numbers in the Briefs. We numbered the pages in the Briefs in chronological order starting from page 1 on the first page up to page 13 for the page immediately preceding the Claims Appendix. In the Reply Brief, we numbered the pages 1 to 7. We refer to those page numbers in our Decision.

Id. at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is "directed to." *See Alice*, 573 U.S. at 219 ("On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.,* the use of a third party to mitigate settlement risk."); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) ("Claims 1 and 4 in petitioners' application explain the basic concept of hedging, or protecting against risk.").

Concepts 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*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as "molding rubber products" (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); "tanning, dyeing, making waterproof cloth, vulcanizing India rubber, smelting ores" (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Court held that "a claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula." *Diehr*, 450 U.S. at 187; *see also id.* at 191 ("We view respondents' claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula."). Having said that, the Court also indicated that a claim "seeking patent protection for that formula in the

abstract . . . is not accorded the protection of our patent laws, and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment." *Id.* (citation omitted) (citing *Benson* and *Flook*); *see, e.g.*, *id.* at 187 ("It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.").

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.* (alterations in original) (quoting *Mayo*, 566 U.S. at 77). "[M]erely 5equire[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention." *Id.*

B. USPTO Section 101 Guidance

In January 2019, the U.S. Patent and Trademark Office (USPTO) published revised guidance on the application of § 101. 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) ("2019 Revised Guidance").[4] "All USPTO personnel are, as a matter of

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[4] In response to received public comments, the Office issued further guidance on October 17, 2019, clarifying the 2019 Revised Guidance. USPTO, *October 2019 Update: Subject Matter Eligibility* (the "Update") (available at https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf).

internal agency management, expected to follow the guidance." *Id.* at 51;
see also Update at 1.

Under the 2019 Revised Guidance and the Update, we first look to
whether the claim recites:

> (1) any judicial exceptions, including certain groupings of abstract
> ideas (i.e., mathematical concepts, certain methods of organizing
> human activity such as a fundamental economic practice, or mental
> processes) ("Step 2A, Prong One"); and
>
> (2) additional elements that integrate the judicial exception into a
> practical application (*see* MPEP § 2106.05(a)–(c), €–(h) (9th ed.
> Rev. 08.2017, Jan. 2018)) ("Step 2A, Prong Two").[5]

2019 Revised Guidance, 84 Fed. Reg. at 52–55.

Only if a claim (1) recites a judicial exception and (2) does not
integrate that exception into a practical application, do we then look, under
Step 2B, to whether the claim:

> (3) adds a specific limitation beyond the judicial exception that is not
> "well-understood, routine, conventional" in the field (*see* MPEP
> § 2106.05(d)); or
>
> (4) simply appends well-understood, routine, conventional activities
> previously known to the industry, specified at a high level of
> generality, to the judicial exception.

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[5] This evaluation is performed by (a) identifying whether there are any
additional elements recited in the claim beyond the judicial exception, and
(b) evaluating those additional elements individually and in combination to
determine whether the claim as a whole integrates the exception into a
practical application. *See* 2019 Revised Guidance - Section III(A)(2), 84
Fed. Reg. 54–55.

2019 Revised Guidance, 84 Fed. Reg. at 52–56.

> C.   *The Examiner's Rejection and Appellant's Arguments*

The Examiner concludes that the claims recite certain methods of organizing human activity. Final Act. 4. The Examiner further concludes that the abstract idea is not integrated into a practical application, because the additional elements amount to mere instructions to implement the abstract ideas on a computer and "do not add meaningful limits to practicing the abstract idea." *Id.* at 6. The Examiner finds that the claims do not recite additional elements that go beyond what is well-understood, routine, and conventional activity (*Id.* at 5–6; citing Spec. ¶¶ 51–53), such that they do not amount to significantly more than the judicial exception. Final Act. 6.

Appellant argues that the claimed invention is not directed to an abstract idea. Appeal Br. 4–6 (citing *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299 (Fed. Cir. 2016)); Reply Br. 2–4. Instead, Appellant contends that the present claims are similar to Example 39 of the Abstract Ideas Examples.[6] Reply Br. 3–4. Appellant argues that the Examiner's analysis is deficient, because it fails to consider whether claimed requirements of the training data are well-understood, routine and conventional. Appeal Br. 7 (citing *Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018). Appellant further argues that the claimed limitations, when considered as an ordered combination of elements, allow an advertiser to

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[6] In conjunction with the 2019 Revised Guidance, the Office issued examples of claims that do not recite abstract ideas. USPTO, *Subject Matter Eligibility Examples: Abstract Ideas* ("Abstract Ideas Examples") (available at https://www.uspto.gov/sites/default/files/documents/101_examples_37to42_20190107.pdf).

evaluate the ability of an ad creative to achieve one or more objectives and determine whether to include the ad creative in an ad campaign. Appeal Br. 8 (citing *BASCOM Global Internet Servs. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016); Spec. ¶ 35).

D.   Step 2A, Prong 1

Patent eligibility under 35 U.S.C. § 101 is a question that we resolve pursuant to the 2019 Revised Guidance. Claim 1 requires receiving training data, determine one or more objective scores for an ad creative based on one or more feature scores using the training data, evaluating a target ad creative, determining a target objective score by applying the trained model to the target ad creative, and presenting feedback to an advertiser, and we therefore conclude the non-emphasized portions of claim 1, reproduced above (*see supra* at 1–2), recite concepts relating to commercial or legal interactions or concepts that can be practically performed in the human mind or by using pen and paper. *See* 2019 Revised Guidance, 84 Fed. Reg. at 52 n.14.

The present claims recite concepts relating to commercial or legal interactions, which falls into the category of certain methods of organizing human activity. *See id.* Moreover, those certain methods of organizing human activity are a type of abstract idea. *See id.* Namely, the claims recite features such as "receiving training data comprising: a plurality of test ad creatives…; a plurality of test feature scores…each test feature score of the test ad creative based at least in part on…a corresponding feature of the test ad creative; and one or more test objective scores…measuring how well the test ad creative achieves an objective;"[7] "determine one or more objective

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[7] This limitation appears only in claim 1. *See* Claims App.

scores for an ad creative;"[8] "receiv[ing] a request to evaluate a target ad creative from a[n] [requesting] advertiser;"[9] "determin[ing] a[n] [target] objective score for one or more objectives for the [target] ad creative;"[10] and "present[ing] [the] feedback to the [requesting] advertiser…the feedback corresponding to a predicted effectiveness of the target ad creative,"[11] which are all features directed to advertising, and therefore fall under certain methods of organizing human activity.

Further, the present claims recite concepts that can be performed in the mind or by using pen and paper, which are concepts performed in the human mind (including an observation, evaluation, judgment, opinion). Concepts performed in the human mind fall under the category of mental processes (i.e., an abstract idea). Namely, the claims require features such as, "one or more features…associated with a question describing content of a test ad creative;"[12] "a plurality of test feature scores…[each] based at least in part on received answers to a question;"[13] "one or more test objective scores…[each] measuring how well the test ad creative achieves an objective;"[14] "receiv[ing] a request to evaluate a target ad creative from a[n] [requesting] advertiser;"[15] "a plurality of target feature scores based on

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[8] This limitation appears in claim 1. *See* Claims App. Claim 14 recites a similar, "determining an objective score for the ad creative" and claim 23 recites a similar "determine an objective score for one or more objectives for the ad creative." *See id.*

[9] This limitation is recited in each of claims 1, 14, and 23. *See* Claims App.

[10] This limitation is recited in each of claims 1, 14, and 23. *See* Claims App.

[11] This limitation is recited in each of claims 1, 14, and 23. *See* Claims App.

[12] This limitation is recited only in claim 1. *See* Claims App.

[13] This limitation is recited only in claim 1. *See* Claims App.

[14] This limitation is recited only in claim 1. *See* Claims App.

[15] This limitation is recited in each of claims 1, 14, and 23. *See* Claims App.

received answers to questions describing content of the target ad creative;"[16] "determin[ing] a[n] [target] objective score;"[17] and "present[ing] [the] feedback to the [requesting] advertiser…the feedback corresponding to a predicted effectiveness of the target ad creative,"[18] which are all features that can be performed practically in the human mind or by pen and paper, and therefore are abstract ideas. In particular, these claim features are similar to using a questionnaire for test advertising, which is a task that humans routinely and for many years have performed mentally or with pen and paper.

We are not persuaded by Appellant's argument that the present claims are analogous to Example 39 of the Abstract Ideas Examples. Reply Br. 3–4. The claim of Example 39 is directed to a computer-implemented method of training a neural network for facial detection comprising collecting a set of digital facial images, applying one or more transformations to the images including mirroring, rotating, smoothing, or contrast reduction to create a modified set of digital facial images, creating first and second training sets, and training the neural network. *See* Abstract Ideas Examples. Example 39 claim does not recite an abstract idea, because, among other things, it does not recite any method of organizing human activity, and does not recite steps that are practically performed in the human mind. *Id.* In contrast, the present claims recite concepts relating to advertising, marketing or sales activities or

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[16] This limitation is recited in claim 1. *See* Claims App. Claims 14 and 23 each recite a similar, "a plurality of target feature scores based on received answers to questions describing corresponding features of the ad creative." *See id.*
[17] This limitation is recited in each of claims 1, 14, and 23. *See* Claims App.
[18] This limitation is recited in each of claims 1, 14, and 23. *See* Claims App.

behaviors, as discussed *supra*, which falls under certain methods of organizing human activity. Notably, the claims expressly require at least "ad creative[s]" and "an advertiser." *See* Claims App. Furthermore, the steps recited in the present claims, in contrast to Example 39, the latter of which requires applying one or more transformations to the images including mirroring, rotating, smoothing, or contrast reduction to create a modified set of digital facial images (*see* Abstract Ideas Examples), can be performed in the human mind or with pen and paper, as discussed *supra*. To the extent that the training a neural network of Example 39 is similar to the claimed "training a model,"[19] the claimed step of training a model is an additional element that does not integrate the abstract idea into a practical application and is not disclosed as being anything more than being well-understood, routine, and conventional, as discussed *infra*.

We must still determine whether the abstract idea is integrated into a practical application, namely whether the claim applies, relies on, or uses the abstract idea in a manner that imposes a meaningful limit on the abstract idea, such that the claim is more than a drafting effort designed to monopolize the abstract idea. *See* 2019 Revised Guidance, 84 Fed. Reg. at 54–55. We therefore (1) identify whether there are any additional recited elements beyond the abstract idea, and (2) evaluate those elements both individually and collectively to determine whether they integrate the exception into a practical application. *See id.*

Accordingly, we proceed to Prong 2.

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[19] This limitation is recited in claim 1. *See* Claims App. Claims 14 and 23 each recite a similar, "the model trained." *See id.*

E. *Step 2A, Prong 2*

Here, the only elements in the claims beyond the abstract idea are "online system,"[20] "training a model,"[21] and "processor."[22] *See* 2019 Revised Guidance, 84 Fed. Reg. at 52. The additional elements of the present claims do not integrate the abstract idea into a practical application because they do not impose any meaningful limits on practicing the abstract idea for the following reasons.

Appellant does not identify persuasively how the Specification sets forth an improvement in technology. The October 2019 Update addresses how we consider evidence of improvement that is presented to us. The Update states:

> *the evaluation of Prong Two requires the use of the considerations (e.g. improving technology,* effecting a particular treatment or prophylaxis, implementing with a particular machine, etc.) *identified by the Supreme Court and the Federal Circuit, to ensure that the claim as a whole "integrates [the] judicial exception into a practical application* [that] will 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.

Update, 11 (emphases added). The Update further states:

> During examination, the examiner should analyze the "improvements" consideration by evaluating the specification and the claims to ensure that a technical explanation of the asserted improvement is present in the specification, and that the claim reflects the asserted improvement. Generally, examiners

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[20] This additional element is recited in claims 1, 14, and 23. *See* Claims App.
[21] This limitation is recited in claim 1. *See* Claims App. Claims 14 and 23 each recite a similar, "the model trained." *See id.*
[22] This additional elements is recited only in claim 23. *See* Claims App.

are not expected to make a qualitative judgment on the merits of
the asserted improvement. *If the examiner concludes the
disclosed invention does not improve technology, the burden
shifts to applicant to provide persuasive arguments supported by
any necessary evidence to demonstrate that one of ordinary skill
in the art would understand that the disclosed invention improves
technology.* Any such evidence submitted under 37 C.F.R.
§ 1.132 must establish what the specification would convey to
one of ordinary skill in the art and cannot be used to supplement
the specification. For example, in response to a rejection under
35 U.S.C. § 101, an applicant could submit a declaration under
§ 1.132 providing testimony on how one of ordinary skill in the
art would interpret the disclosed invention as improving
technology and the underlying factual basis for that conclusion.

Id. at 13 (emphasis added).

Here, the Examiner concludes that the additional elements, when
considered individually or as an ordered combination, does not "improve[]
the functioning of a computer or improve[] any other technology." Final Act.
6. Instead, the Examiner concludes, and we agree, that the claims are
directed to improvements to the abstract idea (i.e., certain methods of
organizing human activity), rather than to a technology or technological
field. Appeal Br. 5. Consequently, we focus on any evidence Appellant cites,
as discussed in the Update.

In this case, Appellant argues that the claimed invention includes
allowing advertisers to evaluate and test ad creatives before they are used in
a campaign to ensure that the ad creatives match the advertiser's goals.
Appeal Br. 7–8 (citing Spec. ¶ 35). However, these alleged improvements
are improvements in advertising, sales, or marketing, which falls within the
category of an abstract idea, as discussed *supra*, not an improvement to
technology. "[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) (emphasis added). "[U]nder the *Mayo/Alice* framework, a claim directed to a newly discovered law of nature (or natural phenomenon or abstract idea) cannot rely on the novelty of that discovery for the inventive concept necessary for patent eligibility . . . ." *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1376 (Fed. Cir. 2016) (citations omitted).

Furthermore, the additional elements in the present claims, namely "online system," "training a model," and "processor," do not, either individually or in combination, integrate the abstract idea into a practical application. Appellant's Specification discloses that these elements encompass generic components, such as a generic online system (Spec. ¶¶ 2, 17–18, 21), a generic model (Spec. ¶¶ 9, 33), and a generic processor (Spec. ¶¶ 51–52). Merely adding generic hardware and computer components to perform abstract ideas does not integrate those ideas into a practical application. *See* 2019 Revised Guidance, 84 Fed. Reg. at 55 (identifying "merely includ[ing] instructions to implement an abstract idea on a computer" as an example of when an abstract idea has not been integrated into a practical application).

Regarding the claimed "training a model," Appellant's Specification discloses that, "[f]or example, the model is trained using simple linear regression, multiple linear regression, other suitable modeling algorithms, supervised learning, or any other suitable machine learning algorithm using feature scores and objective scores." Spec. ¶ 9; *see also* Spec. ¶ 33. Thus, training a model is discussed at a high level of generality, and is not disclosed as including improvements to known methods of training a model.

Appellant does not make any other arguments pertaining to Step 2A,

Prong 2. Because the present claims recite an abstract idea that is not integrated into a practical application, we proceed to Step 2B.

F. Step 2B

We disagree with Appellant's argument that "the [E]xaminer has not made any factual determination with respect to whether these specific requirements of the training data are 'well-understood, routine and conventional.'" Appeal Br. 7 (citing *Berkheimer*). Notably, the Examiner finds that the abstract idea is implemented with additional elements that are well-understood, routine, and conventional. Final Act. 5–6 (citing Spec. ¶¶ 51–53). The Specification also supports the Examiner's determination in this regard, because it explains that "online system," "training a model," and "processor" are generic computer components. Spec. ¶¶ 2, 9, 17–18, 21, 33, 51–52. To the extent that Appellant argues that certain limitations identified as part of the abstract idea (e.g., characteristics of the training data itself) are unconventional, Appellant's argument appears misplaced. Appeal Br. 6–7.

We additionally disagree with Appellant's argument that the Examiner does not establish the conventionality of the claimed steps as a whole or as an ordered combination. Appeal Br. 7–8. An inventive concept "cannot be furnished by the unpatentable law of nature (or natural phenomenon or abstract idea) itself." *Genetic*, 818 F.3d at 1376; *BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018) (explaining that the Supreme Court in *Alice* "*only assessed 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" (emphasis added)).

Appellant further cites to *BASCOM* to demonstrate that the claimed

invention recites either "a specific, discrete implementation of the abstract idea" or "a technical improvement over prior art [methods]." Appeal Br. 8. In *BASCOM*, the claims were directed to "a filter implementation versatile enough that it could be adapted to many different users' preferences while also installed remotely in a single location." *BASCOM*, 827 F.3d at 1348–51. The inventive concept was "the installation of a filtering tool at a specific location, remote from the end-users, with customizable filtering features specific to each end user" that "gives the filtering tool both the benefits of a filter on a local computer and the benefits of a filter on the ISP server." *Id.* at 1350. Thus, when considered as an ordered combination, the court concluded the claims provided "an inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces." *Id.* Here, the present claims recite an abstract idea using additional elements that are generic computer components arranged in a conventional and generic manner, as discussed *supra*, or at best, improving an abstract idea—not an inventive concept for the reasons discussed above. Accordingly, Appellant's assertion fails to identify error in the Examiner's analysis.

For at least the above reasons, we conclude, under the 2019 Revised Guidance, that each of Appellant's claims 1–23, considered as a whole, is directed to a patent-ineligible abstract idea that is not integrated into a practical application, and does not include an inventive concept. We therefore sustain the Examiner's rejection of claims 1–23 under 35 U.S.C. § 101.[23]

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[23] We have decided the Appeal before us. However, in the event of further prosecution, the Examiner should evaluate claim 23 in light of *In re Nuijten*,

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II.   SECTION 103 REJECTION

A.   *Whether the combination of Hegeman and Richardson teaches one or more test objective scores*

Claim 1 recites, *inter alia*, "one or more test objective scores for each test ad creative…each test objective score of the test ad creative measuring how well the test ad creative achieves an objective of a plurality of possible objectives." *See* Claims App.

The Examiner finds that Hegeman teaches the disputed limitation above, mapping advertiser bids to the one or more test objective scores. Final Act. 8 (citing Hegeman ¶ 34). The Examiner further finds that Richardson teaches training a model that is usable to determine one or more objective scores for an ad creative based on using training data. Final Act. 10 (citing Richardson ¶¶ 56–58).

Appellant disagrees that the bids can be mapped to the test objective scores, arguing that "the 'bids' of Hegeman do not '[measure] how well the test ad creative achieves an objective' as recited by the claims, but instead represent[] a generic value or 'bidding price' that an advertiser would pay to display the ad." Appeal Br. 10–11 (citing Hegeman ¶¶ 5, 34, 46). We disagree with Appellant.

Hegeman teaches that the bidding system "allows multiple advertisers to manually bid for ad space. . . .[T]he ad with the highest bidding price is selected and presented in the ad space to maximize the ad fees." Hegeman

500 F.3d 1346 (Fed. Cir. 2007); *Subject Matter Eligibility of Computer Readable Media*, 1351 Off. Gaz. Pat. Office 212 (Feb. 23, 2010). Although the Board is authorized to reject claims under 37 C.F.R. § 41.50(b), no inference should be drawn when the Board elects not to do so. *See* Manual of Patent Examining Procedure (MPEP) § 1213.02.

¶ 5. More specifically, Hegeman teaches:

> [T]he automated bidding module 280 produces a bid for each ad
> stored in the ad database 250. . . . *[T]he automated bidding*
> *module 280 may determine bids based on the ad request, ad*
> *content, ad budgets or other ad constraints, ad impression*
> *goads, ad performance weightings, social networking system ad*
> *functionality or ad context, the statistics associated with ads*
> *received from the tracking module 260, the predicted ad*
> *performance received from the performance prediction module*
> *270, or any other factor associated with the ad, the requesting*
> *client 210 or the requesting ad viewer.*

Hegeman ¶ 34 (emphasis added) (cited at Final Act. 8). In other words,
Hegeman teaches that the bids are formulated based on an ad's ability to
meet criteria designated by an advertiser. *Id.* Therefore, we agree with the
Examiner that the bids of Hegeman measure how well the ad achieves an
objective of a plurality of objectives. Final Act. 8–9; Ans. 7–8. In particular,
we agree with the Examiner that the bids of Hegeman:

> measure how well the ad constraints, ad impression goals, ad
> performance weightings, and/or predicted ad performance—i.e.,
> objectives like the likelihood that a viewer of a requested ad
> takes a particular action with regards to the requested ad, such
> as clicking on the ad, selecting the ad, sharing the ad, liking the
> ad, otherwise endorsing the ad, watching the ad playing the
> ad—are met.

Ans. 8. Although Appellant argues that the bids represent a bidding price
that an advertiser would pay to display the ad and, therefore, cannot be the
claimed "test objective scores" (Appeal Br. 10–11), the claim does not
preclude such a feature.

Appellant's contention that "it is clearly incorrect to assert that
anything 'determined based on' a factor then serves as 'a measure of' that

factor" (Reply Br. 6), is untimely. Appellant's argument is untimely and waived because the Examiner did not change the theory of unpatentability in the Answer (*compare* Final Act. 8–9 (citing Hegeman ¶ 34) *with* Ans. 7–8 (citing Hegeman ¶ 34)), while Appellant proffered new arguments in the Reply Brief (*compare* Appeal Br. 9–12 *with* Reply Br. 6) without showing good cause. *See* 37 C.F.R. § 41.41(b)(2). Even assuming, *arguendo*, that this argument were not untimely, Hegeman at least suggests that a bid measures how well the test ad creative achieves an objective, because the bid amount is determined based on how well the test ad creative achieves the objective. *See* Hegeman ¶ 34.

Thus, Appellant's arguments, above, are unpersuasive to show that the Examiner erred in finding that Hegeman as modified by Richardson teaches one or more test objective scores as claimed.

B.   *Whether the combination of Hegeman and Richardson teaches determining a target objective score*

Claim 1 further recites, *inter alia*, "determining a target objective score for one or more objectives for the target ad creative by applying the trained model to one or more target features scores of the target ad creative." *See* Claims App.

The Examiner maps Hegeman's advertiser bids to the target objective score and finds that Hegeman teaches the claimed one or more target feature scores, because Hegeman teaches a performance prediction module 270 that predicts a likelihood of a user taking a particular action with regards to an ad. Final Act. 9–10 (citing Hegeman ¶¶ 33, 34). The Examiner further finds that Richardson teaches training a model that is usable to determine one or more objective scores for an ad creative based on using training data. Final Act. 10 (citing Richardson ¶¶ 56–58).

Appellant argues that an earlier Office Action "admits that Hegeman does not disclose these aspects of the claims," instead relying on a different prior art reference for the teachings above. Appeal Br. 11. Appellant additionally argues that the bids of Hegeman are not objective scores, because they represent a value or price that an advertiser would pay to use the ad. *Id.* at 12 (citing Hegeman ¶¶ 5, 34, 46; Spec. ¶¶ 8, 37). Further, Appellant argues that "the 'predicted likelihoods' of Hegeman are not analogous to any of the 'feature scores' recited by the claims," because the performance prediction module of Hegeman is merely a prediction of user action, not based on received answers to questions describing content of an ad creative, as required in the claim. Reply Br. 4–5 (citing Hegeman ¶¶ 25–26, 31–33, 47, 50). We disagree with Appellant.

Appellant's first contention, namely that the Examiner's findings conflict with those presented in an earlier Office Action (Appeal Br. 11), is unavailing to show that the Examiner erred with respect to the rejection before us. As discussed *supra*, we agree with the Examiner that Hegeman teaches objective scores. *See* Final Act. 8–10.

Furthermore, Appellant's argument that the bids of Hegeman are not objective scores (Appeal Br. 12), is unpersuasive for the reasons discussed above. Appellant cites paragraphs 8 and 37 of the Specification as disclosing that the objectives recited in the claims are distinct from the bids of Hegeman (*see* Appeal Br. 12), but this argument appears misplaced, because the Examiner maps the bids to the objective scores, rather than to the objectives themselves. *See* Final Act. 8–10; Ans. 7–8. In particular, the Examiner finds that Hegeman teaches objectives that are, for example, ad budgets or other ad constraints, ad impression goals, or the likelihood of an

ad viewer taking a particular action in regards to the ad, such as clicking on,
sharing, endorsing, liking, watching, or playing the ad. Ans. 7–8. Paragraphs
8 and 37 of the Specification provide example objectives, including
"promoting brand awareness of a product or service, promoting perception
of a brand or product or service of the brand, or promoting purchase intent of
a product or service associated with a brand" (Spec. ¶ 8) and "increasing
awareness of a brand, conveying a quality of a brand, and conveying images
or other information to identify a brand." Spec. ¶ 37. Therefore, the
objective of Hegeman's ad impression goals at least suggests "objective" as
used in Appellant's Specification.

Additionally, our reviewing court dictates that we assume two
different terms in a claim have two different meanings. *See Applied Med.
Res. Corp. v. U.S. Surgical Corp.*, 448 F.3d 1324, 1333 n.3 (Fed. Cir.
2006) ("[T]he use of two terms in a claim requires that they connote
different meanings . . . ."); *see also CAE Screenplates Inc. v. Heinrich
Fiedler GmbH*, 224 F.3d 1308, 1317 (Fed. Cir. 2000) ("In the absence of
evidence to the contrary, we must presume that the use of these different
terms in the claims connotes different meanings."). We should presume,
then, in the absence of contrary evidence, that the language of claim 1,
which requires both "one or more test objective scores" and "a target
objective score," demands a test objective score that has a different meaning
than a target objective score.

Here, Appellant points to paragraphs 5, 8–10, 32, 42, and 44 of the
Specification as disclosing the claimed objective scores. *See* Reply Br. 6. In
this regard, Appellant's Specification supports a claim construction that
requires a test objective score distinct from a target objective score. *See, e.g.,*

Spec. ¶¶ 8–10, 32, 37, Fig. 4. However, although the Examiner maps the bids of Hegeman to both the test objective scores and the target objective scores (*see* Final Act. 8–10), the Examiner relies on Richardson for teaching training a model that is usable to determine one or more objective scores using training data. *Id.* at 10 (citing Richardson ¶¶ 56–58). Notably, Richardson teaches training an advertisement performance prediction model using a training set and a testing set. *See* Richardson ¶ 56. Appellant does not provide substantive arguments against Richardson or the combination of Hegeman and Richardson. *See* Appeal Br. 8–12; Reply Br. 4–6. As such, we find no error with the Examiner's finding that the combination of Hegeman and Richardson teaches training data comprising one or more test objective scores, i.e., bids forming a part of a training set, and a distinct target objective score, i.e., bids forming part of a testing set. *See* Final Act. 8–10.

Regarding Appellant's newly-presented argument in the Reply Brief that the Examiner's mapping of the performance prediction module of Hegeman to the claimed feature scores is erroneous (Reply Br. 4–5), this argument is untimely. Appellant's argument is untimely and thus waived because the Examiner did not modify or change findings in the Answer, and Appellant presents a new argument in the Reply Brief without showing good cause. *See* 37 C.F.R. § 41.41(b)(2); *compare* Final Act. 8–10 (citing Hegeman ¶¶ 25–26, 33, 34, 47, 50) *with* Ans. 6 (citing Hegeman ¶¶ 25–26, 33, 47, 50); *compare* Appeal Br. 8–13 *with* Reply Br. 4–5.

For the foregoing reasons, we sustain the Examiner's obviousness rejection of claim 1. Claims 2–23 are not argued separately, and we therefore sustain the obviousness rejection of claims 1–23.

CONCLUSION

Claim(s) Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–23	101	Eligibility	1–23	
1–23	103	Hegeman, Richardson	1–23	
Overall Outcome			1–23	

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

AFFIRMED