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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte YASUO FUJISHIMA, KEIICHI KENMOTSU,
MAYUMI SAITO, and TOSHIYA NAKAYAMA

Appeal 2019-001608
Application 14/052,067
Technology Center 2800

Before ROMULO H. DELMENDO, JEFFREY B. ROBERTSON, and
JAMES C. HOUSEL *Administrative Patent Judges*.

ROBERTSON, *Administrative Patent Judge*.

DECISION ON REQUEST FOR REHEARING

Appellant¹ requests rehearing of our Decision on Appeal entered October 31, 2019 (“original Decision” or “original Dec.”), in which we affirmed the Primary Examiner’s final decision to reject claims 1, 3, 5, 7, 9, 11, and 13–21 under 35 U.S.C. § 101. Request for Rehearing filed December 31, 2019 (“Request” or “Req. Reh’g”).² We have jurisdiction under 35 U.S.C. § 6.

¹ We use the word “Appellant” to refer to “Applicant” as defined in 37 C.F.R. § 1.42(a). Appellant, Mitsubishi Aircraft Corporation, is also identified as the real party in interest. Appeal Br. 2.

² Appellant filed a “SUPPLEMENT TO REQUEST FOR REHEARING” on February 5, 2020, indicating “they have become aware of a recent relevant decision of the Board, *Ex parte Hannun* (formerly *Ex parte Linden*), Appeal

A request for rehearing must state with particularity the points believed to have been misapprehended or overlooked by the Board. Arguments not raised in the briefs before the Board and evidence not previously relied on in the briefs are not permitted in a request for rehearing except as permitted by 37 C.F.R. § 41.52(a)(2) through (a)(4). 37 C.F.R. § 41.52(a)(1) (2014).

Appellant contends:

- (1) the Board, in failing to consider technical improvements resulting from the claimed training of one class support vector machines, misapprehended that the claims recite training data, rather than diagnosis data, is obtained at different times (Req. Reh’g 2–4, citing Original Decision 10–11); and
- (2) the Board overlooked the claims do not recite mathematical concepts, which is inconsistent with USPTO guidance and examples (Req. Reh’g 5–7).

Point (1)

We are not persuaded we misapprehended and misquoted the claim language. That is, we acknowledged that claim 1 recites “training with data obtained from the diagnosis target at a time when the diagnosis target was initially manufactured.” Original Decision 9. Regardless of whether the

No. 2018-003323, which was designated as informative on December 11, 2019.” *See Ex parte Hannun* (formerly *Ex parte Linden*), Appeal No. 2018-003323 (PTAB April 1, 2019). This Decision takes into account all controlling case law and Office guidance available as of the issuance thereof.

data obtained is “training data” or “diagnosis data,” both amount to data gathering steps that are needed in order to perform the condition diagnosing method recited in claim 1. *See id.* at 11, citing Spec. 9.

Appellant’s argument that obtaining training data is not a necessary data gathering step, while at the same time recognizing that “obtaining some training data for the support vector machines is necessary” is contradictory. Req. Reh’g 3–4. In addition, Appellant’s argument that “obtaining the particularly claimed training data is not necessary because other forms of training data may be utilized” (*id.* at 4), does not provide a basis for distinguishing the claimed training data from data gathering steps, as it acknowledges that data gathering is required.

Accordingly, we are not persuaded that we misapprehended the claims in considering technical improvements resulting from the claimed training of one class support vector machines.

Appellant’s argument that we did not consider technical improvements resulting from the claimed training of one class support vector machines (*id.* at 2, 4) is also not persuasive. In the Original Decision, we expressly considered whether the claimed methods sufficiently integrated the mathematical concepts into a practical application, and whether the claims recited a technical solution to the prior art beyond the mathematical concepts. Original Decision 10–11, 12–13.

Indeed, as stated in the Original Decision:

[W]e agree with the Examiner that rather than an improvement to computer functionality itself, the claims alter the data using computers as a tool, and as such, is not similar to the technological improvement to the manual 3-D animation techniques at issue in *McRO[, Inc. v. Bandai Namco Games America Inc.]*, 837 F.3d 1299 (Fed. Cir. 2016)]. (Ans. 23; *McRO*, 837 F.3d at 1316 (“When looked at as a whole,

claim 1 is directed to a patentable technological improvement over the existing, manual 3-D animation techniques”).) *See* [*Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 225 (2014)], *cited in* MPEP § 2106.05(a). *See also* [*Parker v. Flook*, 437 U.S. 584, 595–96 (1978)] (merely reciting a new and presumably better method for calculating an alarm limit as part of a catalytic conversion process with no improvement to the catalytic process itself rendered a claim to such process patent-ineligible).

Original Decision 12.

Point 2

Appellant contends that the rejected claims are inconsistent with the 2019 Revised Subject Matter Eligibility Guidance, Examples 38 and 39 of the 2019 Revised Subject Matter Eligibility Guidance, the October 2019 Update to the Revised Subject Matter Eligibility Guidance, because independent claims 1, 11, and 17 do not recite any mathematical relationships in the form of variable, numbers, formulas, or equations. Req. Reh’g 4–7; USPTO’s January 7, 2019, *2019 Revised Patent Subject Matter Eligibility Guidance* (“Revised Guidance”). 84 Fed. Reg. 50 (Jan. 7, 2019). *See also* *October 2019 Patent Eligibility Guidance Update*. 84 Fed. Reg. 55942 (Oct. 18, 2019). Appellant acknowledges that claims 9, 16, and 21 recite formulas, but argues “the claims do not necessarily recite a step of calculating or determining a particular kernel value; rather, they simply identify what the kernel is.” Req. Reh’g 6–7.

We are not persuaded that the Original Decision is inconsistent with the Revised Guidance relating to mathematical concepts. That is, we disagree with Appellant that independent claims 1, 11, and 17 do not recite mathematical concepts. As we explained in the Original Decision, “support

vector machines (SVMs)” as recited in claims 1, 11, and 17, are not “machines” as the term is traditionally understood, but “are better understood as mathematical concepts or algorithms.” Original Decision 9, 11; *see also* Original Decision 8–10 (discussing the correspondence of SVMs to mathematical equations). Thus, the Original Decision interpreted the claims in light of the Specification in order to conduct the patent eligibility analysis. *MyMail, Ltd. v. ooVoo, LLC*, 934 F.3d 1373, 1379 (Fed. Cir. 2019) (“[d]etermining patent eligibility requires a full understanding of the basic character of the claimed subject matter.”). Moreover, claims 9, 16, and 21 recite the particular mathematical equations. Appellant’s argument that these claims “simply identify what the kernel is” (Request 6–7), reinforces the position in the Original Decision that the claims on appeal are directed to abstract ideas.

In this regard, and in contrast to Appellant’s contentions, the Original Decision is not inconsistent with the Revised Guidance, because the claims recite SVMs as mathematical concepts or algorithms, whereas in Examples 38 and 39, the mathematical concepts were described as not being recited in the claims.³ *See* Subject Matter Eligibility Examples: Abstract Ideas January 7, 2019, 6–9, Ex. 38 (claim generally reciting “generating a normally distributed first random value for each circuit element, using a pseudo random number generator”); Ex. 39 (claim generally reciting, e.g., “creating a first training set” and “training the neural network in a first stage using the first training set”).

³ The same is true in *Ex parte Hannun*. *See Hannun*, at 2–3, 10–11 (finding the generic term “predicted character probabilities” not to be a mathematical algorithm or formula).

As a result, we are not persuaded that we misapprehended or overlooked any aspects of the claims as identified by Appellant in the Original Decision.

DECISION

Outcome of Decision on Rehearing:

Claims	35 U.S.C §	Reference(s)/Basis	Denied	Granted
1, 3, 5, 7, 9, 11, 13–21	101	Eligibility	1, 3, 5, 7, 9, 11, 13–21	

Final Outcome of Appeal after Rehearing:

Claims	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 3, 5, 7, 9, 11, 13–21	101	Eligibility	1, 3, 5, 7, 9, 11, 13–21	

DENIED