

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

CELLULAR SOUTH, INC.,
Patent Owner.

IPR2025-00877
Patent 11,126,853 B2

Before KARL D. EASTHOM, WILLIAM V. SAINDON, and
MIRIAM L. QUINN, *Administrative Patent Judges*.

SAINDON, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. Background and Summary

Google LLC (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting an *inter partes* review of claims 1–11 (“the challenged claims”) of U.S. Patent No. 11,126,853 B2 (Ex. 1001, “the ’853 patent”). Cellular South, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 9 (“Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review under 35 U.S.C. § 314(b) and 37 C.F.R. § 42.4(a). The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted unless “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” For the reasons provided below, we determine that Petitioner has not demonstrated a reasonable likelihood that at least one claim of the ’853 patent is unpatentable, and we do not institute an *inter partes* review. 37 C.F.R. § 42.108(a).

B. Real Parties in Interest

Petitioner identifies itself as the sole real party in interest. Pet. 1. Patent Owner identifies itself and Telapex, Inc. Paper 3, 1 (Patent Owner’s Mandatory Notice).

C. Related Matters

Patent Owner asserted the ’853 patent against Petition in Case No. 6:24-cv00245-DAE in the Western District of Texas. Paper 3, 2. The case has been transferred and is now styled: *Cellular South, Inc. v. Google LLC*, Case No. 4:25-cv-01487-YGR (N.D. Cal.). *See id.*; Pet. 2.

D. Prior Art and Asserted Grounds

Petitioner's grounds rely on the following prior art references:

Name	Reference	Exhibit No.
Steinberg	US 7,574,016 B2, iss. Aug. 11, 2009	1005
Trivedi	US Pat. App. Pub. 2006/0187305 A1, pub. Aug. 24, 2006	1009
Zhao	US Pat. App. Pub. 2009/0141940 A1, pub. June 4, 2009	1003
Singer	US Pat. App. Pub. 2011/0305394, pub. Dec. 15, 2011	1010
Kritt	US Pat. App. Pub. 2014/0181668, pub. June 26, 2014	1004
Kouzani	"Fractal Face Representation and Recognition," in <i>Proceedings of the IEEE International Conference on Systems, Man and Cybernetics</i> , pp.1609–1613 (IEEE, 1997)	1006
Yang	"Detecting Faces in Images: A Survey," in <i>IEEE Transactions On Pattern Analysis And Machine Intelligence</i> , Vol. 24, No. 1 (2002)	1007
Romdhani	"Face Identification by Fitting a 3D Morphable Model using Linear Shape and Texture Error Functions," <i>European Conf. on Computer Vision</i> (2002)	1008

Unless otherwise noted, citations to Exhibits 1006, 1007, and 1008 are to the stamped pagination in the exhibit, not the original pagination.

Petitioner asserts that the challenged claims would have been unpatentable on the following grounds:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–4	103	Zhao, Kritt, Steinberg, Kouzani
5–7	103	Zhao, Kritt, Steinberg, Kouzani, Yang, Romdhani
8, 9	103	Zhao, Kritt, Steinberg, Kouzani, Trivedi

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
10, 11	103	Zhao, Kritt, Steinberg, Kouzani, Singer

E. Overview of the '853 Patent

The '853 patent describes a system to generate data from video content, for example a contextual description of the video. Ex. 1001, 1:34–39. The system uses an image detector that detects images of objects in still frame images of the video. *Id.* at 1:47–49. Then, an object recognizer recognizes the objects. *Id.* at 1:49–51.

F. Challenged Claims

Claims 1–11 are challenged. Claim 1 is independent and is reproduced below.

1. A system for generating data from a video, comprising
a coordinator communicatively coupled to a splitter and to a plurality of demultiplexer nodes, wherein the splitter is configured to segment the video, wherein the demultiplexer nodes are configured to extract audio files from the video and to extract still frame images from the video;
an image detector configured to detect an image of an object in the still frame images, wherein the image detector is adjustable to increase detection of nonprimary images in the video; and
an object recognizer configured to compare the image of the object to a fractal, wherein the fractal includes a representation of the object based on landmarks associated with the object, wherein the recognizer is further configured to update the fractal with the image.

II. ANALYSIS

A. Legal Standards Used in the Merits Analysis

“In an IPR, the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)); *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

A claim is unpatentable under 35 U.S.C. § 103 if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious . . . to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when in evidence, objective evidence of non-obviousness. *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

Petitioner asserts that:

A person of ordinary skill would have possessed a bachelor’s degree in electrical engineering, computer science, or similar field, with two years of experience in developing and implementing computer software for processing and/or analyzing multimedia content, such as audio, video, or image

data. A person could also have qualified as a person of ordinary skill with some combination of (1) more formal education (such as a master's of science degree) and less technical experience, or (2) less formal education and more technical or professional experience.

Pet. 5. Patent Owner “does not contest Petitioner’s definition of a person of ordinary skill in the art” at this time. Prelim. Resp. 5. We adopt the agreed-upon level of skill for purposes of this Decision.

C. Claim Construction

Under 37 C.F.R. § 42.100(b), we apply the claim construction standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). That is, “the words of a claim ‘are generally given their ordinary and customary meaning’ . . . that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Id.* at 1312–13 (quoting in *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)).

We do not need to construe any claim terms to reach a decision in this proceeding. *Realtime, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms. . . that are in controversy, and only to the extent necessary to resolve the controversy.’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

D. Asserted Obviousness Over Zhao, Kritt, Steinberg, and Kouzani (Claims 1–4)

Petitioner asserts that claims 1–4 would have been obvious in view of Zhao, Kritt, Steinberg, and Kouzani. Pet. 11–48. An analysis of

independent claim 1 illustrates a dispositive issue in this case; we focus our analysis there.

Independent claim 1 is directed to a system for generating data from a video, comprising a coordinator, an image detector, and an object recognizer. Ex. 1001, 25:21–26:3. The image detector detects images of objects. *Id.* at 25:29–32. The object recognizer compares the image of the object to a fractal. *Id.* at 25:33–26:3. In particular, the fractal is “a representation of the object based on landmarks associated with the object.” *Id.* at 25:34–26:2.

Petitioner asserts that Zhao discloses an object recognizer to compare the image of the object to an “object model,” which Petitioner acknowledges is “possibly” not a fractal. Pet. 39; *see also id.* at 36–43 (entire argument). Petitioner asserts that Zhao’s “object model” could be a fractal under an “apparent interpretation” of the word “fractal” by Patent Owner in the co-pending litigation. *Id.* at 40 (citing Ex. 1017, 7). Petitioner also asserts that Kouzani teaches a fractal. *Id.* at 41–43 (citing Ex. 1006). We address both assertions in turn.

1. Zhao’s Alleged Fractal

Petitioner’s assertion that Zhao discloses a fractal is based on Patent Owner’s statements in district court in an opposition to a motion to dismiss. Pet. 40 (citing Ex. 1017). There, Patent Owner argued that Petitioner’s purported construction of fractal was “overly restrictive.” Ex. 1017, 6. Although we are not told explicitly what Petitioner’s alleged construction was, Patent Owner asserted that Petitioner’s proposed construction involves “the type of self-repeating, periodic patterns discussed in the broad fields of mathematics and geometry.” *Id.* Patent Owner contrasted that with the

allegedly more expansive usage of “fractal” in the ’853 patent, which is “never in the context of geometric ‘repeating patterns.’” *Id.* (citing Ex. 1001, 21:2–13, 15:39–47, 18:38–40, 18:48–50). Patent Owner asserted that “[a] human face . . . is not a self-repeating pattern similar to a Sierpinski triangle. As a result, [Petitioner’s] interpretation cannot be correct.” *Id.*

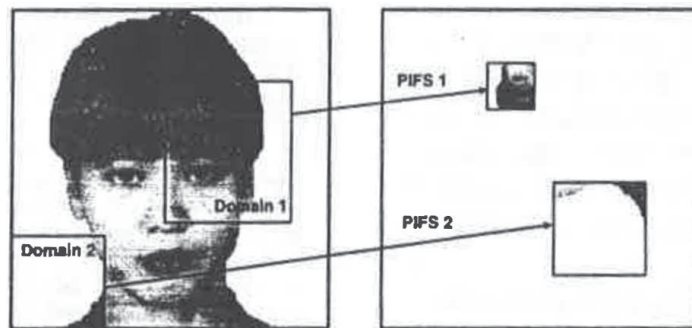
Petitioner asserts that these arguments by Patent Owner before the district court evince an interpretation where “‘fractal’ is nothing more than a shape or polygon, or potentially a shape or polygon used to identify objects or faces.” Pet. 40. Patent Owner responds that it “did not put forth any [such] construction” before the district court, and instead characterizes Petitioner’s argument as a “misunderstanding or misinterpretation” of Patent Owner’s arguments. Prelim. Resp. 18, n.2. Patent Owner asserts it is “not putting forth any construction now other than plain and ordinary meaning.” *Id.*

We will consider the parties’ arguments in another forum regarding claim construction, and we disfavor parties taking alternative claim construction positions here. *See* 35 U.S.C. § 301(a)(2) (any person may cite to the Office “statements of the patent owner . . . in which the patent owner took a position on the scope of any claim of a particular patent”); *Tesla, Inc. v. Intellectual Ventures II LLC*, IPR2025-00340, Paper 18 (Director, Nov. 5, 2025) (precedential) (denying review where a petitioner did not justify its alternative claim construction before the Board). However, we do not consider Patent Owner’s arguments before the district court in its opposition to a motion to dismiss to sufficiently set out a claim construction position. In other words, due to the nature of the argument and the procedural posture of the brief in which the argument was made, we discern little useful

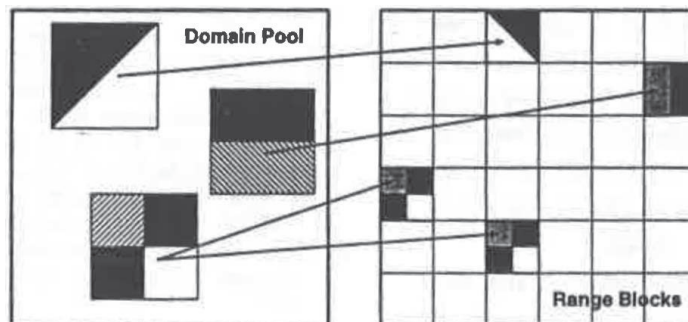
information in Exhibit 1017 as to Patent Owner's position (in district court) on claim construction. Further, Petitioner's brief analysis is insufficient, in and of itself, to support the broad construction Petitioner asserts to be Patent Owner's position, as it amounts to little more than a mere allegation. *See* Pet. 40. In sum, we do not construe "fractal" to mean "one or more shapes" in the absence of a reasoned analysis supporting such a position. Thus, we find that Petitioner has not sufficiently established that a fractal is merely a shape or polygon.

2. Kouzani's Alleged Fractals

We turn to Petitioner's chief position regarding fractals, where Petitioner alleges that Kouzani teaches fractals and that it would have been obvious, therefore, to use fractals as Zhou's "object model." *See generally* Pet. 41–43. Petitioner points out that Kouzani teaches "a face representation and recognition scheme based on the theory of fractals." *Id.* at 41 (quoting Ex. 1006, 7). Kouzani teaches that, although fractals are "a fragmented geometric shape that can be subdivided in parts, each of which is a reduced-size copy of the whole," such objects nevertheless model "real-world objects that do not correspond to simple geometric shapes, e.g. clouds, mountains, turbulence and coastlines." Ex. 1006, 7. The reason this works in Kouzani is because the fractals used are in the form of many small blocks, which are shapes that can be found in an image of a person's face. *Id.* Figure 3 of Kouzani is reproduced below:



Ex. 1006, 10. As shown in Figure 3 of Kouzani, the image of this person's face can be broken down into a series of repeatable block patterns, such as a lighter patch (skin) below a darker patch (hair) ("PIFS 1") or a dark triangle in the corner (neck-to-shoulder transition) ("PIFS 2"). This can be stylized more generally, as shown in Figure 4 of Kouzani, reproduced below:



Id. Figure 4 of Kouzani depicts the mapping of some blocks from a domain pool onto a range. *Id.* at 8. As shown in Figure 4, the repeatable block patterns ("Domain Pool" blocks) are fitted according to how well they match patterns appearing in a grid representing an image ("Range Blocks"). *Id.* Rotating, scaling, and aggregating many of these simple blocks leads to a facial image. *Id.* ("a search is done though the [shape] pool to find a [shape] block whose contractive transformation best approximates [a portion of the image]"). The image is improved by repeating the process, because

repeating the process of matching blocks (such as shown in Figure 4) leads to progressively sharper images. *Id.*; *see also id.* at Fig. 5.

Petitioner asserts that fractal models for facial recognition were generally known in the art, and that this is acknowledged by the '853 patent. Pet. 40–41 (citing, e.g., Ex. 1001, 15:40–44). Petitioner asserts that Kouzani touts the benefits of fractal models and that it would have been obvious to use Kouzani's fractal model as the object model in Zhou. Pet 44 (asserting that “[a] person of ordinary skill would have therefore been motivated to implement Kouzani's techniques in Zhao's system”); *see also id.* 42–45. (entire argument). Patent Owner argues that Kouzani's fractals would not result in the claimed limitation. Prelim. Resp. 21–23. In particular, Patent Owner points out that Kouzani's fractals use a block-based fractal system, which do not include “a representation of the object based on landmarks associated with the object” as required by claim 1. *Id.* at 21–22.

Patent Owner's argument is persuasive. Even if Kouzani teaches fractals, claim 1 is not broadly claiming any fractal, but rather one that is “based on landmarks” (e.g., eyes, nose, etc.). *See* Ex. 1001, 13:53–57. The block-based system of Kouzani is based on abstract, repeated patterns of pixels, without regard to what the pixels represent. *See, e.g.,* Ex. 1006, 8 (describing a “search . . . through the domain pool to find a domain block whose contractive transformation best approximates the range block” and then storing all of the transformations that, together, “represent the compressed image of a person's face”), Fig. 4 (showing example blocks). This is in contrast to looking for particular landmarks in the image. Thus, we find that Petitioner has not sufficiently established that Kouzani's fractal is based on landmarks.

In Petitioner's ground, Petitioner asserts that Zhao already teaches the claimed landmarks (Pet. 39, citing Ex. 1003 ¶¶ 58, 65), but Petitioner's ground replaces or modifies the object model of Zhao with the fractals of Kouzani, which are not based on landmarks. Petitioner does not explain how Zhao's modified model, now using a block-based fractal system, would still have the landmarks of Zhao's original model. Even if it were obvious to include fractals, we are persuaded that the fractals included by Kouzani are not based on landmarks. Alternatively, if Petitioner is asserting merely to use fractals in Zhao's models, then Petitioner has not sufficiently accounted for the particular fractals claimed and explained persuasively how merely using fractals in Zhao would lead to the claimed subject matter, i.e., fractals based on landmarks. In either event, Petitioner has not sufficiently established that the proposed combination satisfies the "fractal includes a representation of the object based on landmarks" limitation of claim 1.

Because claim 1 is the sole independent claim, and each of Petitioner's grounds builds upon the Zhao-Kouzani combination, which does not sufficiently show the limitation requiring "the fractal includes a representation of the object based on landmarks," all of Petitioner's grounds fail.

III. CONCLUSION

For the reasons given above, we determine that Petitioner has not established a reasonable likelihood of success in showing that any claim of the '853 patent would have been obvious in view of the prior art cited. Accordingly, we do not institute *inter partes* review.

IV. ORDER

In consideration of the foregoing, it is hereby ORDERED that the Petition for *inter partes* review of claims 1–11 of the '853 patent is *denied*.

IPR2025-00877
Patent 11,126,853 B2

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