

Case No. IPR 2025-00877
U.S. Patent No. 11,126,853 B2

Patent Owner's Preliminary Response

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC

Petitioner,

v.

CELLULAR SOUTH, INC.

Patent Owner.

Case No. IPR2025-00877

U.S. Patent No. 11,126,853

PATENT OWNER'S PRELIMINARY RESPONSE

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EXHIBIT LIST

Exhibit No.	Description
2001	U.S. Patent No. 9,940,972
2002	U.S. Patent No. 10,218,954
2003	U.S. Patent No. 11,126,853
2004	Article, Vū Digital Wins Coveted TMC Communications Solutions 2015 Product of the Year Award
2005	Article, NAB Show Unveils Final 10 Participants Selected for SPROCKIT 2015
2006	Notice of References Cited in U.S. Patent Application No. 15/444,054 (Oct. 30, 2019)
2007	Information Disclosure Statement by Applicant in U.S. Patent Application No. 17/423,623 (July 20, 2021)
2008	CSI's Complaint for Patent Infringement against Google in <i>Cellular South, Inc. v. Google, LLC</i> , Case No. 6:24-cv-00245 (W.D. Tex. May 9, 2024)
2009	Proof of Service of Complaint
2010	Joint Case Management and Pretrial Order as Modified in <i>Cellular South, Inc. v. Google, LLC</i> , Case No. 4:25-cv-01487-YGR (N.D. Cal. Aug. 5, 2025)
2011	Transcript of Conference held July 7, 2025 in <i>Cellular South, Inc. v. Google, LLC</i> , Case No. 4:25-cv-01487-YGR (N.D. Cal. Aug. 5, 2025)

Exhibit No.	Description
2012	Preliminary Infringement Contentions in <i>Cellular South, Inc. v. Google, LLC</i> , Case No. 6:24-cv-00245 (W.D. Tex.) (served Dec. 13, 2024)
2013	Comparison of portions of Paper 2 with Ex. 1002
2014 (New)	February 24, 2021 Amendment in U.S. Patent Appl. 16/271,773

I. INTRODUCTION

Pursuant to 35 U.S.C. § 313 and 37 C.F.R. § 42.107, Patent Owner Cellular South, Inc. (“Patent Owner” or “CSI”) submits this Preliminary Response to the Petition for *Inter Partes* Review (“Petition”) filed by Google LLC (“Petitioner” or “Google”) and challenging claims 1-11 of U.S. Patent No. 11,126,853 (the “’853 patent”).

The Board should not institute *inter partes* review because Petitioner has not met its burden of showing a reasonable likelihood of prevailing on any of its proposed grounds of unpatentability. The Petition suffers from multiple fundamental flaws, each of which warrants denial of institution. The Petition raises four grounds of unpatentability, each based on obviousness under 35 U.S.C. § 103(a). These grounds require—at a minimum—a combination of four references. Yet Petitioner fails to provide adequate motivation to combine these references, relying on expert testimony that merely parrots the same conclusory and unfounded allegations made by Petitioner. *See, e.g.*, Ex. 2013.

For example, to prevail on all Grounds, Petitioner must show that a person of skill in the art would combine the teachings of Zhao and Steinberg, all while doing the exact **opposite** of what Steinberg discloses. Specifically, Steinberg, by

Petitioner's own admission, discloses **decreasing** detection of non-primary images, while the claims of the '853 patent require **increasing** detection of non-primary images. The Petition improperly reconstructs the claimed invention with the benefit of the claims in mind and provides no adequate motivation for why a person of ordinary skill in the art would (i) take the teachings of Steinberg and then (ii) do the exact opposite of those teachings when applying those teachings to Zhao.

Similarly, to prevail on all Grounds, Petitioner must also show that a person of skill in the art would combine the teachings of Zhao and Kouzani. Specifically, Petitioner argues that a person of ordinary skill in the art would combine Kouzani's techniques for facial recognition using fractals with Zhao's object model system. But the Petition provides no adequate motivation how a person of ordinary skill in the art would take the teachings of Kouzani, modify those teachings to apply to Zhao's object model system, and arrive at the claimed invention, as the techniques for facial recognition using block-based fractals taught in Kouzani do not have any feasibility of detecting or computing any landmarks for a given object, as required by the claims of the '853 patent. The Petition's bare assertions are fundamentally inadequate.

To justify the institution of an *inter partes* review, a petitioner must establish that there is a "reasonable likelihood that the petitioner would prevail with respect

to at least one of the claims challenged in the petition.” 35 U.S.C. § 314(a). For at least the reasons discussed in this preliminary response, Petitioner has not shown a reasonable likelihood of prevailing on any of the challenged claims.

II. THE '853 PATENT

The '853 patent, titled “Video to Data,” is directed to an improvement in the functionality of machine learned video recognition and classification systems, particularly with regard to specific techniques for improving the accuracy of object detection and recognition for still images that are extracted from video content. The '853 patent is directed to techniques that utilize contextual information such as the arrangement of certain objects in a still image as well as techniques that address image “noise” in order to improve computer visual recognition for video classification systems.

The '853 patent addresses specific technical challenges that arose in video classification systems when attempting to extract meaningful metadata from video content. One important feature of the '853 patent relates to detection of non-primary images. As the '853 patent explains, “images from the video signal can be processed to address, for example, the problem of object noise in a given frame or image. Often images are segmented only to locate and positively identify one or very few main images in the foreground of a given frame” while “[t]he non-primary or background

images are often treated as noise.” Ex. 1001 at 9:11-12. However, “these [non-primary images] can provide useful information, context, and/or branding for example.” *Id.* at 9:12-13. Thus, “it may become necessary or desirable to detect more detail from a frame or set of frames. In such circumstances, the computational thresholds for identification of an object, face, etc. can be altered according to a then stated need or desire for non-primary, background, obstructed and/or grainy type images.” *Id.* at 9:21-26.

Another important feature of the '853 patent relates to the use of fractals in object recognition. The '853 patent explains that “[r]ecognition processing can include creating a fractal representation of the face or object that was detected, performing a match to an existing database of faces and objects, and assigning a value (or a name) to the face or object and then returning to the requesting program.” Ex. 1001 at 13:47-52. The '853 patent further explains that “[t]he system can utilize facial recognition algorithms to identify facial fractals by extracting landmarks from an image of the subject’s face,” such as “the relative position, size, and/or shape of the eyes, nose, cheekbones, and jaw.” *Id.* at 13:53-55. “[T]he system can then compare detected facial features such as landmark features and other elements to determine, within a configurable tolerance, whether detected persons are in the trained dataset.” *Id.* at 19:65-20:2. Figure 8 of the '853 patent is illustrated below:

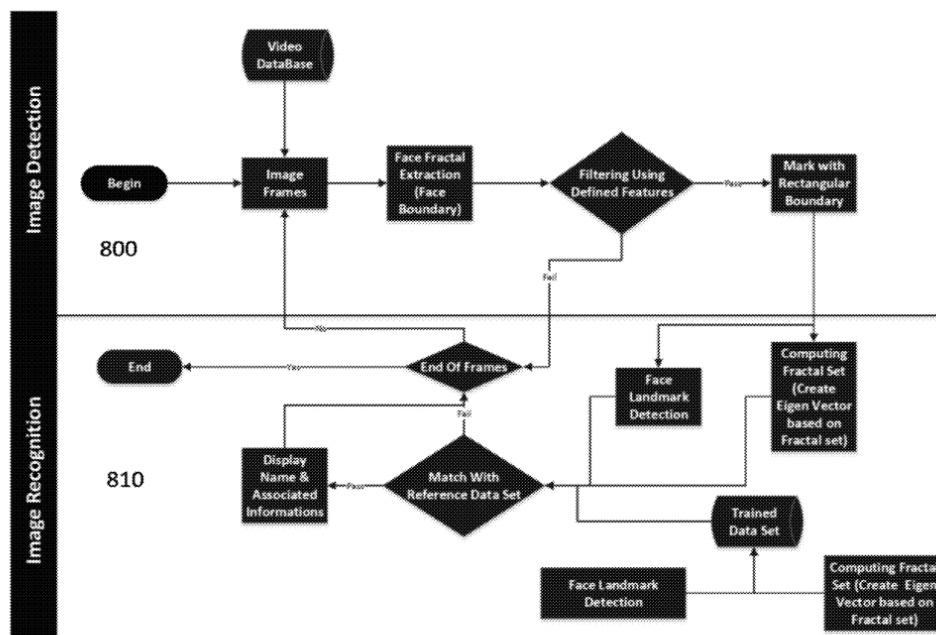


Figure 8

Id. at Fig. 8.

III. LEVEL OF ORDINARY SKILL IN THE ART

For the limited purpose of this Preliminary Response, Patent Owner does not contest Petitioner's definition of a person of ordinary skill in the art, but it reserves the right to do so if trial is instituted.

IV. CLAIM CONSTRUCTION

Similarly, for the limited purpose of this Preliminary Response, Patent Owner does not contend that any claim terms need construction to arrive at the conclusion that the Petition is substantively deficient. *See Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) (terms "need only be construed 'to the extent

necessary to resolve the controversy”). Patent Owner reserves the right to construe terms if trial is instituted.

V. THE PETITION FAILS TO SHOW THAT THERE IS A REASONABLE LIKELIHOOD THAT ANY CLAIM IS UNPATENTABLE UNDER GROUND 1

A. Zhao in View of Steinberg Fails to Render Obvious “an image detector . . . wherein the image detector is adjustable to increase detection of non-primary images in the video” (Claim 1[b])

Petitioner fails to show that Zhao in view of Steinberg renders element 1[b] obvious. The Petition fails to adequately explain why a person of ordinary skill in the art would be motivated to combine Zhao and Steinberg in the manner asserted in the Petition, particularly where Steinberg teaches away from operating in the claimed manner.

Claim 1[b] requires an “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 non-primary images in the video.” Ex. 1001.

Petitioner concedes that Zhao does not disclose an image detector that is “adjustable to increase detection of non-primary images in the video.” Paper 2 at 31 (“Zhao does not disclose image detection functionality that is ‘**adjustable to increase detection of non-primary images in the video.**’”) (emphasis in original). Petitioner further concedes that Steinberg does not disclose an image detector that is

“adjustable to increase detection of non-primary images in the video.” Paper 2 at 33 (“Although Steinberg focuses on increasing a sensitivity level to *decrease* detection of less important (i.e., non-primary) faces . . .”) (emphasis in original).

Nevertheless, using previously rejected arguments as a blueprint—as further explained below—Petitioner argues that this limitation is obvious in view of Steinberg. Paper 2 at 33. Though Petitioner concedes that Steinberg only discloses decreasing detection of non-primary images, Petitioner, relying solely on expert testimony, argues that a person of ordinary skill in the art would understand to do the “opposite” of what is disclosed in Steinberg.¹ *Id.* Petitioner’s argument is without merit.

¹ Under the Director’s recent guidance, expert testimony may not be used to supply a missing claim limitation as “the rule does impose on petitioners a procedural requirement to identify in the petition where each claim element is found in the prior art patents or printed publications relied upon.” *See* https://www.uspto.gov/sites/default/files/documents/aapa_memo_final_signed.pdf. Here, Petitioner has conceded that neither Zhao nor Steinberg discloses an image detector that is “adjustable to increase detection of non-primary images in the

Steinberg relates to face detection technology. Ex. 1005 at Abstract. Steinberg teaches that certain faces or regions in an image may be more “important” than other faces or regions. *See, e.g., id.* at 8:49-53 (“Another advantage is that **important regions**, e.g., faces, of an image may be assigned, marked and/or mapped and then processing may be automatically performed and/or suggested based on this information relating to important regions of the images.”) (emphasis added); at 12:19-22 (“The estimated **importance** of the detected regions of faces may involve an analysis of a parameter such as size of the faces, location of the faces within the captured image, or relative exposure of the faces, or combinations thereof.”) (emphasis added); at 18:41-44 (“Detecting defined in **1040** may be more than a binary process of selecting whether a face is detected or not, It may also be designed as part of a process where **each of the faces is given a weight** based on size of the faces, location within the frame, other parameters described herein, etc., **which define the importance of the face in relation to other faces detected.**”) (emphasis added); at 19:32-35 (same); at 18:50-52 (“the user may re-select, or emphasize one

video.” While the guidance applies to any petition for IPR filed on or after September 1, 2025, the concerns identified in the guidance are applicable here.

or more faces **to indicate that these faces have a higher importance** in the calculation relative to other faces”); at 19:42-44 (same).

Steinberg emphasizes the benefits of identifying and focusing on these “important” faces or regions in an image. For example, Steinberg explains that “[i]t is desired to provide advantageous auto focus techniques which can focus on what is considered the **important subject** in the image.” Ex. 1005 at 2:55-57 (emphasis added). Steinberg also explains that “[i]t is desired to have an advantageous technique for determining and/or selecting regions of **importance** that may be maintained with low compression or high resolution compared with regions determined and/or selected to have less importance in the image.” *Id.* at 3:56-60. Further, Steinberg explains that one may save on ink costs by identifying important areas in a photograph. *Id.* at 16:40-43 (“For example, such method may determine **using more ink on the more important regions of an image**, and **less ink on regions of less importance**, this saving on the overall ink consumption when printing an image.”).

Steinberg then explains that the less important, background faces or regions may be removed from the face detection analysis—in other words, Steinberg teaches decreasing the detection of non-primary images. For example, Steinberg explains that one may remove a “false detection of regions as faces” or may remove

background faces to focus on faces that were “of higher subjective significance.” *See, e.g.*, Ex. 1005 at 11:12-16 (“An automatically detected face **may be removed** in response to false detection of regions as faces, or in response to a determination to concentrate on less image faces or images faces that were manually determined to be of **higher subjective significance**, than faces identified in the identifying step.”) (emphasis added); at 11:66-12:5 (“The face pixels identifying may be automatically performed by an image processing apparatus, and one or more of the groups of pixels detected as faces may be manually removed in response to false detection of one or more regions as one or more faces, or in response to a determination to concentrate on less image faces than faces identified in the identifying step.”). Steinberg explains that such background faces or regions can be removed by increasing the sensitivity level during analysis. *Id.* at 11:17-20 (“A face may be removed by increasing a sensitivity level of said face identifying step.”); at 12:5-7 (“The faces may be removed by increasing a sensitivity level of the face identifying step and/or by an interactive visual method.”).

Element 1[b] is the exact opposite of the disclosures of Steinberg. Claim 1[b] requires an image detector that “is adjustable to increase detection of non-primary images in the video.” Ex. 1001. Unlike in Steinberg, which diminishes the non-primary images, the '853 patent seeks to increase detection of them. As the '853

patent explains, “[t]he non-primary or background images are often treated as noise. Nevertheless, these can provide useful information, context, and/or branding for example.” Ex. 1001 at 9:11-13. Steinberg, with its emphasis on increasing detection of primary images and decreasing detection of non-primary images by removing them from the analysis, therefore teaches away from element 1[b].

Petitioner relies entirely on expert testimony to fill in this gap between Steinberg and the '853 patent. Specifically, Petitioner argues that “[a]lthough Steinberg focuses on increasing a sensitivity level to *decrease* detection of less important (i.e., non-primary) faces, a person of ordinary skill would have understood that decreasing the sensitivity level would have the opposite effect of *increasing* detection of non-primary faces in the image.” Paper 2 at 33 (emphasis in original). Much of the Petition and the expert declaration are focused on **whether** doing the opposite of what Steinberg teaches would result in the claimed limitation. *See, e.g.*, Paper 2 at 33-35; Ex. 1002 at ¶¶121-124. But neither Petitioner nor its expert explain **why**, in the first place, a person of skill in the art would be motivated to do the opposite of what Steinberg teaches—that is, increasing, rather than decreasing, detection of the non-primary images. *Id.* “An assertion that something **could be done does not articulate a reason why something would be done** by one of ordinary skill in the art at the time of the invention and, therefore, raises a specter of

impermissible hindsight bias in a obviousness analysis.” *See Nautilus Hyosung Inc. v. Diebold Self-service Systems division of Diebold*, IPR2016-00633, Paper 9 at 21 (P.T.A.B. Aug. 22, 2016) (emphasis added). Here, Petitioner improperly uses the claims of the ’853 patent as a roadmap for its obviousness combination. *See, e.g., TQ Delta, LLC v. Cisco Sys.*, 942 F.3d 1352, 1360 (Fed. Cir. 2019) (“we concluded that the expert appeared to have improperly relied on the challenged patent itself as her roadmap for putting what she referred to as pieces of a jigsaw puzzle together”) (internal quotations omitted).

In support of its obviousness analysis, Petitioner relies on its expert declaration at paragraphs 121-124, where Petitioner’s expert makes the same conclusory and unfounded allegations made by Petitioner. *See* Paper 2 at 33-35; Ex. 1002 at ¶¶121-124. Petitioner’s expert does not cite to any additional supporting evidence or provide any technical reasoning to support his statement. Ex. 1002 at ¶¶121-124. Indeed, a comparison of the Petition to the declaration shows that they are nearly identical. *See* Ex. 2013 at ¶¶121-124. Thus, the cited declaration testimony is conclusory and unsupported, adds little to the conclusory assertion for which it is offered to support, and is entitled to little weight. *See* 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”); *Upjohn Co. v. Mova Pharm.*

Corp., 225 F.3d 1306, 1311 (Fed. Cir. 2000) (“Lack of factual support for expert opinion to factual determinations, however, may render the testimony of little probative value in a validity determination.”); *Kinetic Techs., Inc., Petitioner, v. Skyworks Sols., Inc.*, IPR2014-00529, 2014 WL 4787238, at *10 (P.T.A.B. Sept. 23, 2014) (“Merely repeating an argument from the Petition in the declaration of a proposed expert does not give that argument enhanced probative value.”); *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, 2022 WL 3648989, at *6 (P.T.A.B. Aug. 24, 2022) (“We have reviewed this excerpt from Dr. Jones’ declaration and note that it merely repeats, *verbatim*, the conclusory assertion for which it is offered to support. . . . Thus, the cited declaration testimony is conclusory and unsupported, adds little to the conclusory assertion for which it is offered to support, and is entitled to little weight.”). This is particularly problematic in cases where, like here, expert testimony is offered to supply a limitation missing from the prior art that in fact the prior art teaches away from. *See KSR Intern. Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007) (stating that a “factfinder . . . must be cautious of arguments reliant upon *ex post* reasoning”); *Arendi S.A.R.L. v. Apply, Inc.*, 832 F.3d 1355, 1361–62 (Fed. Cir. 2016) (holding that reliance on common sense in an obviousness analysis is “typically invoked to provide a known motivation to combine, not to supply a missing claim limitation”).

Petitioner and its expert point to two examples in Steinberg as purported motivation to increase detection of non-primary images. But both of these examples merely reinforce following the teachings of Steinberg—that is, increasing detection of the primary, and not non-primary, images. First, Petitioner and its expert point to Steinberg's disclosures regarding compression rate. *See* Paper 2 at 34-35; Ex. 1002 at ¶123. But, as discussed above, Steinberg discloses focusing on the “important” images such that those images important areas may have higher resolution/lower compression, while the less important areas may have lower resolution/higher compression. Ex. 1005 at 3:56-60 (“It is desired to have an advantageous technique for determining and/or selecting regions of **importance** that may be maintained with low compression or high resolution compared with regions determined and/or selected to have **less importance** in the image.”) (emphasis added). Second, Petitioner and its expert point to Steinberg's disclosures regarding real time detection. *See* Paper 2 at 34-35; Ex. 1002 at ¶123. But, Steinberg's disclosures regarding real time detection are in relation to the benefits of the invention disclosed in Steinberg which, by Petitioner's own admission, teaches increasing detection of primary images and decreasing detection of non-primary images.

Indeed, Petitioner's arguments related to Steinberg are cumulative to arguments considered during prosecution. During prosecution, the Examiner

rejected the claims as anticipated and obvious in view of Lakhani. Ex. 2014 at 4 (2/24/2021 Amendment). In response, Patent Owner amended the claims to add the limitation that “the image detector is adjustable to increase detection of non-primary images in the video.” *Id.* at 2. Patent Owner explained that neither Lakhani nor any of the secondary references taught or suggested this limitation. *Id.* at 4-5. On the contrary, the alleged prior art “expressly taught away from increasing detection of such images because they were considered noise to be filtered out.” *Id.* The claims were then allowed.

Additionally, Petitioner's arguments rely—at a minimum—on modifying Zhao in view of Kritt, Steinberg, and Kouzani. *See* Paper 2. Petitioner does not discuss why a person of skill in the art would be motivated to modify these references in view of each other. Specifically, while the petition purports to provide justification why a person of skill in the art would be motivated to modify Zhao in view of Steinberg (Paper 2 at 32-35), the petition does not even attempt to provide justification why a person of skill in the art would be motivated to modify Zhao in view of Kritt **and** Steinberg **and** Kouzani. Rather, the petition and expert declaration merely reference “the proposed combination” in a conclusory fashion. *See* Paper 2 at 33 (“It would have been obvious to a person of ordinary skill to combine Steinberg's teachings about an adjustable sensitivity threshold for detecting faces in

images with Zhao's video processing system (**and under the proposed combination** with Kritt). (Houh, ¶121.)") (emphasis added). But the cited expert declaration provides no additional detail or discussion of this combination and is nearly identical to the petition. Ex. 2013 at ¶121. Petitioner's failure to even facially provide an obviousness analysis warrants denial. *In re Stepan Co.*, 868 F.3d 1342, 1346 n.1 (Fed. Cir. 2017) ("Whether a rejection is based on combining disclosures from multiple references, combining multiple embodiments from a single reference, or selecting from large lists of elements in a single reference, there must be a motivation to make the combination and a reasonable expectation that such a combination would be successful, otherwise a skilled artisan would not arrive at the claimed combination.").

B. Zhao in View of Kouzani Fails to Render Obvious "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" (Claim 1[c])

Petitioner fails to show that Zhao in view of Kouzani renders element 1[c] obvious. The Petition fails to adequately explain how a person of ordinary skill in the art could combine Zhao and Kouzani in the manner asserted in the Petition.

Claim 1[c] requires an "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.” Ex. 1001.

With respect to fractals, the '853 patent explains, “[r]ecognition processing can include creating a fractal representation of the face or object that was detected, performing a match to an existing database of faces and objects, and assigning a value (or a name) to the face or object and then returning to the requesting program.” Ex. 1001 at 13:47-52. The '853 patent further explains that “[t]he system can utilize facial recognition algorithms to identify facial fractals by extracting landmarks from an image of the subject’s face,” such as “the relative position, size, and/or shape of the eyes, nose, cheekbones, and jaw.” *Id.* at 13:53-55.

Petitioner argues that the “object model” disclosed in Zhao meets this claim limitation. Paper 2 at 36-39. In particular, Petitioner replaces the term “fractal” in the claim limitation with the word “object model” and asserts that Zhao discloses those limitations: namely, an object recognizer configured to compare the image of the object to an “object model” that includes a representation of the object based on landmarks associated with the object, wherein the recognizer is further configured to update the “object model” with the image. *See id.* at 39.

Petitioner concedes, however, that Zhao does not disclose (1) comparing an image of the object to a “fractal,” where that fractal includes a representation of the

object based on landmarks associated with the object, or (2) “updat[ing] the fractal” with the image.² Paper 2 at 40 (“Zhao does not expressly describe comparing an image of the object to a **“fractal”** or **“updat[ing] the fractal”** with the image.”). Rather, Petitioner asserts it would have been obvious for the “object model” of Zhao to take the form of the “fractals” in Kouzani. Paper 2 at 40-44.

² Despite conceding that “Zhao does not expressly describe comparing an image of the object to a **‘fractal’** or **‘updat[ing] the fractal’** with the image,” Petitioner asserts that Zhao meets this claim limitation “[u]nder Patent Owner’s apparent interpretation” of the term fractal, citing Patent Owner’s opposition to the motion to dismiss. Paper 2 at 40. Petitioner is mistaken. Patent Owner did not put forth any construction in that opposition that the term “fractal” is “nothing more than a shape or polygon.” And Patent Owner is not putting forth any construction now other than plain and ordinary meaning. Notably, in the Petition, Petitioner does **not** assert that Petitioner contends that the term “fractal” means “nothing more than a shape or polygon.” Because Petitioner’s argument is based on a misunderstanding or misinterpretation of Patent Owner’s arguments, and not on any affirmative construction that Petitioner is putting forward, Petitioner’s argument should be given no credence.

Petitioner makes no attempt to explain **how** Kouzani's fractals would function in the object model of Zhao. Petitioner merely asserts that "[t]he combination would have predictably resulted in Zhao's system for facial detection and recognition in which recognition was performed by processes that compared a fractal of a detected facial image against a fractal model, and that updated the fractal model with the facial image" and that "[a] person of ordinary skill would have had a reasonable expectation that the combination would be successful" because the "combination would have involved the straightforward incorporation of known fractal coding techniques to Zhao's system." Paper 2 at 43-45. For this reason alone, this ground should be denied because Petitioner has wholly failed to provide any type of meaningful analysis in the Petition as to this claim limitation. *See Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) ("[T]he Petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable."). Indeed, as emphasized by the Federal Circuit, "[i]t is of the utmost importance that petitioners in the IPR proceedings adhere to the requirement that the initial petition identify 'with particularity' the 'evidence that supports the grounds for the challenge to each claim.'" *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016).

In support of its obviousness analysis, Petitioner relies on its expert declaration at paragraphs 135-138, where Petitioner's expert makes the same conclusory and unfounded allegations made by Petitioner. *See* Paper 2 at 43-45; Ex. 1002 at ¶¶135-138. Petitioner's expert does not cite to any additional supporting evidence or provide any technical reasoning to support his statement how Kouzani's fractals would work with Zhao's object models. Ex. 1002 at ¶¶135-138. Indeed, a comparison of the Petition to the declaration shows that they are nearly identical. *See* Ex. 2013 at ¶¶135-138. Thus, the cited declaration testimony is conclusory and unsupported, adds little to the conclusory assertion for which it is offered to support, and is entitled to little weight. *See* 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight."); *Upjohn Co. v. Mova Pharm. Corp.*, 225 F.3d 1306, 1311 (Fed. Cir. 2000) ("Lack of factual support for expert opinion to factual determinations, however, may render the testimony of little probative value in a validity determination."); *Kinetic Techs., Inc., Petitioner, v. Skyworks Sols., Inc.*, IPR2014-00529, 2014 WL 4787238, at *10 (P.T.A.B. Sept. 23, 2014) ("Merely repeating an argument from the Petition in the declaration of a proposed expert does not give that argument enhanced probative value."); *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, 2022 WL 3648989, at *6 (P.T.A.B. Aug. 24, 2022) ("We have reviewed this

excerpt from Dr. Jones' declaration and note that it merely repeats, *verbatim*, the conclusory assertion for which it is offered to support. . . . Thus, the cited declaration testimony is conclusory and unsupported, adds little to the conclusory assertion for which it is offered to support, and is entitled to little weight.”).

Moreover, Kouzani's fractals would not be combined with Zhao's object model to result in the claimed limitation. Kouzani discloses a block-based fractal system. Specifically, Kouzani discloses the use of “partitioned iterated function system,” or PIFS. Ex. 1006 at p.1609. With PIFS, each image “is partitioned into **non-overlapping smaller blocks (range blocks)** and **overlapping larger blocks (domain blocks)**.” *Id.* at p.1610 (emphasis added). These domain and range blocks can be seen in Figures 3 and 4 of Kouzani, respectively (reproduced below).

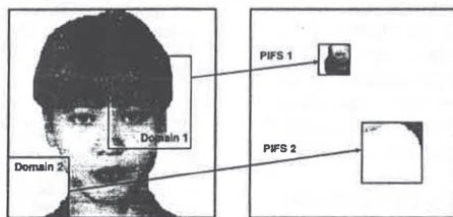


Fig. 3. Partitioned iterated function systems.

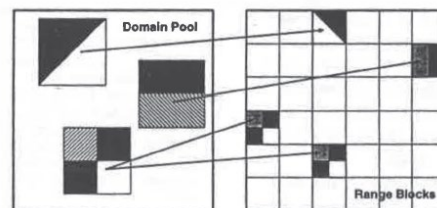


Fig. 4. Mapping of some domain blocks onto range blocks.

“For each **range block**, a search is done through the **domain block pool** to find a domain block whose contractive affine transformation best approximates the **range block**. Therefore, for **each range block** the parameters of the related transformations are stored.” *Id.* at p.1610 (emphasis added).

Kouzani does not disclose that “the fractal includes a representation of the object based on landmarks associated with the object,” as required by the claim language. Kouzani does not disclose any derivation or detection of landmarks within the image. Notably, Petitioner does not argue that Kouzani discloses this limitation. Rather, Petitioner argues that Zhao discloses the claimed landmarks. Paper 2 at 39. But the fractal system disclosed in Kouzani is incompatible with this claim limitation. As described above, and illustrated in Figures 2-4 of Kouzani, the fractal system of Kouzani is block-based. This type of block-based partitioning essentially divides the given image into blocks, regardless of its content, without any prior detection/localization of the image's content, as can be seen in Figure 4 of Kouzani. Kouzani's fractal system does not have any feasibility of detecting or computing any landmarks for a given object because Kouzani does not disclose any type of segmentation necessary to identify or recognize objects and subsequently extract corresponding landmarks (*i.e.*, find landmarks such as eyes, nose, etc.). Thus, Kouzani's fractals do not “include[] a representation of the object based on landmarks associated with the object.” Petitioner provides no explanation how Kouzani's fractals would be modified to provide a fractal that “includes a representation of the object based on landmarks associated with the object” or how the modified teachings of Kouzani would be implemented in Zhao's system. Rather,

Petitioner seeks to gloss over this limitation because both Kouzani and the claims of the '853 patent involve “fractals.” But the claims require more than just a fractal; they require a fractal that “includes a representation of the object based on landmarks associated with the object,” which is not disclosed in, and is incompatible with, Kouzani. For this reason as well, this ground should be denied.

Additionally, Petitioner's arguments rely—at a minimum—on modifying Zhao in view of Kritt, Steinberg, **and** Kouzani. *See* Paper 2. Petitioner does not discuss why a person of skill in the art would be motivated to modify these references in view of each other. Specifically, while the petition purports to provide justification why a person of skill in the art would be motivated to modify Zhao in view of Kouzani (Paper 2 at 43-45), the petition does not even attempt to provide justification why a person of skill in the art would be motivated to modify Zhao in view of Kritt **and** Steinberg **and** Kouzani. Rather, the petition and expert declaration merely reference “the proposed combination” in a conclusory fashion. *See* Paper 2 at 43 (“It would have been obvious to a person of ordinary skill to combine Kouzani's techniques for facial recognition using fractals with Zhao's system (**and under the proposed combination** with Kritt and Steinberg). (Houh, ¶135.)”) (emphasis added). But the cited expert declaration provides no additional detail or discussion of this combination and is nearly identical to the petition. Ex. 2013 at

¶135. Petitioner's failure to even facially provide an obviousness analysis warrants denial. *In re Stepan Co.*, 868 F.3d 1342, 1346 n.1 (Fed. Cir. 2017) ("Whether a rejection is based on combining disclosures from multiple references, combining multiple embodiments from a single reference, or selecting from large lists of elements in a single reference, there must be a motivation to make the combination and a reasonable expectation that such a combination would be successful, otherwise a skilled artisan would not arrive at the claimed combination.").

VI. GROUNDS 2-4 FAIL FOR THE SAME REASONS AS GROUND 1

For Grounds 2-4, Petitioner argues that certain dependent claims are obvious over Ground 1 in light of additional prior art. *See* Paper 2 at 49-72. All of these claims depend from claim 1. Petitioner does not make any new arguments about the elements of claim 1 for Grounds 2-4, but instead argues that the additional prior art provides disclosure as to additional elements of the dependent claims. *Id.* Thus, for the same reasons provided as to Ground 1, the Petition should also be dismissed for Grounds 2-4.

VII. CONCLUSION

For the reasons above, Petitioner has not met its burden of showing a reasonable likelihood of prevailing. Patent Owner respectfully submits that the Board should deny institution.

Dated: September 12, 2025

Respectfully submitted,

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VIII. CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. 42.6(e), 42.8(b)(4) and 42.105, the undersigned certifies that a complete and entire copy of this **PATENT OWNER'S PRELIMINARY RESPONSE and Exhibits 2014** was served in their entirety via filing through the Patent Trial and Appeal Case Tracking System (P-TACTS), as well as electronic mail on the attorneys of record for Petitioners:

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IX. CERTIFICATE OF COMPLIANCE WITH 37 C.F.R. § 42.24

Pursuant to 37 C.F.R. § 42.24 et seq., the undersigned certifies that this Response complies with the type-volume limitations excluding the cover page and the parts exempted by 37 C.F.R. § 42.24(a)(1). This document contains 5,309 words as calculated by the “Word Count” feature of Microsoft Word, the word processing program used to create it.

Dated: September 12, 2025

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