

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

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|----------------------------------|---|-----------------------|
| PERSONALIZED USER MODEL, L.L.P., |) | |
| |) | |
| Plaintiff, |) | |
| v. |) | |
| |) | |
| GOOGLE, INC., |) | |
| |) | |
| Defendant. |) | |
| _____ |) | |
| GOOGLE, INC., |) | C.A. No. 09-525 (LPS) |
| |) | |
| Counterclaimant, |) | PUBLIC VERSION |
| |) | |
| v. |) | |
| |) | |
| PERSONALIZED USER MODEL, L.L.P. |) | |
| and YOCHAI KONIG, |) | |
| |) | |
| Counterclaim-Defendants. |) | |
| _____ |) | |

**PUM’S ANSWERING BRIEF IN OPPOSITION TO GOOGLE’S
MOTION FOR SUMMARY JUDGMENT ON INVALIDITY**

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NATURE AND STAGE OF PROCEEDINGS

PUM submits this brief in opposition to Google's Motion for Summary Judgment on Invalidity (D.I. 418, the "Motion" or "Mot."). As explained below, the Motion should be denied.

SUMMARY OF ARGUMENT

Google has not met its heavy burden of demonstrating that its sole reference—U.S. Patent No. 7,631,032 ("Refuah")—discloses each limitation of the patents-in-suit. Refuah does not disclose the "learning machine" that is at the core of the invention, a fact which even Google's own invalidity expert (Dr. Michael Jordan), concedes. Refuah also fails to disclose estimating any "probability," much less that the probability $P(u|d)$ that a user u would find a web page or document d to be interesting. Finally, Refuah operates only on entire web sites, and not web pages or documents as the claims require.

Google also cannot meet its burden on obviousness. Its cited references not only fail to disclose all of the claim limitations, but in fact largely teach away from the claimed inventions. At a minimum, there are a multitude of issues of material fact that preclude summary judgment.

STATEMENT OF FACTS¹

The patents-in-suit (and the asserted claims) are directed to methods and systems that personalize, and make more relevant, search results, or other documents (such as advertisements) provided to an Internet user. They accomplish this by transparently collecting information about a user's interactions with search results or other documents based on user's actions such as click-throughs. They then use this information to automatically estimate the parameters of a user-specific learning machine. The learning machine is used to estimate the probability of whether

¹ Google's summary of the ongoing reexamination proceedings is improper and irrelevant. *See Callaway Golf Co. v. Acushnet Co.*, 691 F. Supp. 2d 566 (D. Del. 2010) ("no reference to the on-going re-examination proceedings shall be allowed").

new (previously unseen) documents are likely to be of interest to the user. The inventions teach using machine learning (i.e., a “learning machine”) to generate a user model specific to the user that is used to predict the user’s interest in (unseen) documents based on information resulting from the user’s preferences and encoded in the user model. (See Declaration of Jennifer Bennett, Ex. A, 1:13-18, 4:20-34.)²

ARGUMENT³

I. GOOGLE HAS NOT MET ITS HEAVY BURDEN OF ESTABLISHING THAT REFUAH ANTICIPATES THE ASSERTED CLAIMS.

Google cannot establish that Refuah discloses each and every limitation of the asserted claims. See *Rockwell Int’l Corp. v. U.S.*, 147 F.3d 1358, 1363 (Fed. Cir. 1998). Refuah is vastly different than the patents-in-suit, focusing on improving the user experience through the “look and feel” of the web site displayed to the user, rather than providing the user (via selecting or ranking pages or documents) with personalized and relevant information, as recited in the claimed inventions. (Ex. A, ¶314-316.)⁴

² The '040 patent is attached as Exhibit A to the Bennett Declaration, and the '276 patent is attached as Exhibit B. Hereinafter, unless explicitly noted, Exhibit A refers to the Expert Report of Jaime Carbonell, which is attached to the Declaration of Jaime Carbonell. Throughout this brief, exhibit numbers refer to the exhibits attached to the Expert Report of Jaime Carbonell and exhibit letters (except Ex. A) refer to the exhibits attached to the Bennett Declaration.

³ Because the patents in suit are presumed valid, Google must prove invalidity by clear and convincing evidence. *Robotic Vision Sys., Inc. v. View Eng’g, Inc.*, 189 F.3d 1370, 1377 (Fed. Cir. 1999). Google’s burden is particularly heavy on summary judgment where the Court must view the facts in the light most favorable to PUM and draw all inferences in PUM’s favor. *Tillotson, Ltd. v. Walbro Corp.*, 831 F.2d 1033, 1037 (Fed. Cir. 1987). To anticipate a claim under 35 U.S.C. § 102, a single prior art reference must disclose each and every limitation of the claim. *Rockwell Int’l Corp. v. U.S.*, 147 F.3d 1358, 1363 (Fed. Cir. 1998). Although a question of law, obviousness involves several factual inquiries, including (1) the scope and content of the prior art; (2) differences between the prior art and the claims at issue; and (3) the level of ordinary skill in the art, as well as the application of fact-specific secondary considerations. See *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

⁴ Dr. Jordan admitted that Refuah is “more about the overall description of an interface and a way of approaching user interface design in the context of personalization.” (Ex. C, 303:11-14.)

A. Refuah Does Not Disclose A Computer-Implemented Method For Providing [Automatic], Personalized Information Services To A User.

The preamble of Claim 1 in each asserted patent requires “a computer implemented method for providing [automatic], personalized information services to a user.” Refuah does not teach any computer-implemented method to provide personalized information services to a user. Instead, it discusses the goal of improving user experience and the user interface through a user’s “persona”, “mood” or “personality”. (Ex. C, 303:6-15.) As Google’s Dr. Jordan correctly explained, “Refuah is a high-level description of a general way of personalizing and interacting with an Internet website,” (*id.*), but does not teach any method to do so. (Ex. A, ¶ 317.)

B. Refuah Does Not Disclose A Learning Machine.

Each independent claim in the patents-in-suit requires estimating parameters of a “learning machine” (e.g., claims 1(c); 32(c) of the ’040 and claim 1(c) of the ’276 patent), and to use the learning machine to predict the user’s interest in (unseen) documents (e.g., claims 1(e) and 32(e) of the ’040; claim 1(f) of the ’276 patent). Google’s Dr. Jordan repeatedly conceded that Refuah does not disclose such a learning machine. (Ex. C, 303:18-21 (“[Refuah] does not describe a specific-- does not disclose a specific learning machine”); 306:11-14 (“Again, Refuah does not explicitly teach the specific learning algorithm for doing this . . .”); 311:10-12 (“***Q: Is any mathematical function or learning machine explicitly taught by Refuah? A: No.***”)) (emphasis added). PUM’s expert, Dr. Carbonell, agreed. (*See* Ex. D, 217:12-15 (“[Refuah] doesn’t even name a learning machine or suggest that there is a learning machine.”))⁵

⁵ Moreover, because a User Model specific to the user is “an implementation of a learning machine,” and Refuah does not disclose a learning machine, Refuah cannot disclose a User Model specific to the user, as Claims 1(c), 1(e), 32(c), and 32(e) of the ’040 patent require.

1. Refuah Does Not Disclose “Estimating Parameters Of A [User-Specific] Learning Machine”

Refuah does not disclose “estimating parameters of a [user-specific] learning machine,” as required by Claims 1(c) and 32(c) of the ’040 and claim 1(c) of the ’276. (Ex. A, ¶ 320-24, 345-46.) Although Google relies on Refuah’s disclosure of assigning users a “persona” or “mood” to improve their predictive ability over time,⁶ such “personas” or “moods” are not learning machines as construed by the Court.⁷ Dr. Jordan conceded Refuah does not disclose a learning machine or a mathematical function. (Ex. C, 311:10-12.)⁸

Further, Refuah also does not disclose “estimating parameters of a learning machine.” Although Refuah may use word parameters, such as when describing “baseball=5, or basketball=3,” it does not use parameters in the sense of “parameters” of a learning machine. Refuah’s parameters are not learned through a learning machine, because there is no learning machine in Refuah. Nor does Refuah disclose how these numbers are arrived at, how to associate them with a user, or how to use them to predict user interest in a document. (Ex. D, 206:9-207:12, 214:3-215:25, 216:12-217:7 (what is not disclosed is how those values are arrived at), 217:23-2:18:3.)) Indeed, Dr. Jordan, a machine learning expert, admitted he’d have to imagine how Refuah would estimate parameters. (Ex. C, 305:18-22 (“I could imagine the user

⁶ Refuah discloses selecting a user’s personality at login (Ex. 8, 21:65-67), indicating the personality or mood the user is emulating at the time (Ex. 8, 22:47), and then modifying the persona and/or mood by multiplying various parameter values by factors. A “persona” is “used to define a steady state personality which varies slowly if at all,” and a “mood” is “used to emulate an instantaneous condition.” (Ex. 8, 2:53-56.) In one example, a client may decide that on a certain day he is 15% more conservative and 20% less interested in chess (Ex. 8, 22:50-55).

⁷ The Court defined “learning machine” as “a mathematical function and/or model used to make a prediction, that attempts to improve its predictive ability over time by altering the values/weights given to its variables, depending on a variety of knowledge sources, including monitored user interactions with data and a set of documents associated with the user.” (D.I. 348.)

⁸ Dr. Carbonell agrees. (See Ex. D, 229:5-11 (“Refuah does not disclose . . . a mathematical function.”); see also 229:17-23.)

interacting with a database of images and indicating dissatisfaction with download time beyond 3 seconds.”.) He testified that Refuah focuses on the user experience (*e.g.*, download time), rather than on the interest of documents like the patents-in-suit. (*Id.* at 303:11-14.) Finally, the Refuah-parameters are based on *user-provided* input information, and not on machine learning that lies at the heart of the asserted patents. (Ex. A, ¶ 322 (emphasis added).)

2. Refuah Does Not Teach Using The Learning Machine To Estimate A Probability

Claims 1(e) and 32(e) of the '040 and 1(f) of the '276 require “estimating a probability” that an [unseen] document is of interest to the user. Each of these limitations requires applying the identified properties of the document to the [user-specific] learning machine. Because, as described above, Refuah does not disclose a learning machine, it also does not disclose these limitations. (*Id.* at ¶¶ 327-35, 349-50.)⁹

The Court construed “probability” to mean “a numerical degree of belief or likelihood.” (D.I. 348.) Contrary to Google’s assertion (Mot. at 5-6), the evaluation technique discussed in Refuah does not disclose this limitation. Refuah does not disclose estimating any number, let alone a numerical degree of belief or likelihood that represents user interest in a document. (Ex. A, ¶ 328.) Refuah’s technique focuses on appearance and layout, *i.e.*, the look and feel of the web site – not determining interest in a web page. (Ex. A, ¶ 330.)¹⁰

Refuah discloses “a site is evaluated for suitability and/or for qualities which are

⁹ Further, because Refuah does not disclose “estimating a probability” (or any probabilities for that matter), it does not disclose using the estimated probability as required by claims 1(f) and 32(f) of the '040, and 1(g) of the '276. (*Id.* at ¶¶ 336, 351.)

¹⁰ “In the evaluation technique, a site is evaluated for suitability and/or qualities for which are preferred and match a particular persona. Example include: number of images on the site, expected download time and/or number of links from the site.” (Ex. 8, 17:44-47.)

preferred and/or match a particular persona.” (Ex. 8, 17:44-46.) Refuah’s passing reference to a “match” does not disclose estimating a probability. (Ex. D, 231:4-8 (“Refuah does not disclose a matching function or a matching procedure or a matching algorithm or a matching process”); *see also* 232:19-238:14.) A “binary match” is not a “probability.” (Ex. A, ¶ 330.) Furthermore, Refuah’s “match” cannot be a “probability,” because probabilities must mathematically take on a value, and the “match” of Refuah is not always defined. (Ex. 8, 17:61-64). The word “match” alone does not indicate an estimation of a “numerical degree of belief or likelihood,” or for that matter, any number at all. At a minimum, there are genuine issues of material fact whether Refuah discloses any “probability.”

C. Refuah Analyzes Web Sites And Not Web Pages

The term “document” is used throughout the asserted patents.¹¹ “Document” has been construed as “an electronic file including text or any type of media,” (D.I. 348), which can include a webpage. Refuah does not disclose this limitation because it analyzes web sites, not documents. (Ex. A, ¶ 326 (“A web site is a set of files, a hierarchical structure over these files, links among the files, and non textual items, such as style sheets.”)) Further, Google’s argument ignores that Refuah repeatedly distinguishes “web sites” from “web pages.”¹² Whether analyzing a web site satisfies the “document” limitation is, at a minimum, a factual question in dispute between the parties’ experts.

D. Refuah Does Not Disclose Estimating A Posterior Probability $P(u|d,q)$

Claim 11 of the ’040 patent depends from claim 1 and, therefore, is not anticipated for the

¹¹ *See* claims 1, 11, 32, 34 of the ’040 patent, and claims 1, 5, 6, 7, 21 and 22 of the ’276 patent.

¹² *See* Ex. 8, claim 32; Ex. 9, p. 23 “Hertz described identifying WWW [web] pages of interest based on their content . . . Hertz does not teach or suggest determining trait of a site.”

same reasons as Claim 1.¹³ In addition, Refuah does not disclose “estimating a posterior probability $P(u|d,q)$ that the document is of interest to the user u , given a query submitted by the user.” As described above, Refuah does not disclose any “probability,” let alone a posterior probability. Google’s expert admits this. (Ex. C, 317:24-318:1 (“Again, the word ‘posterior probability is not used explicitly here . . .”).) Google argues Refuah discloses this claim because Refuah’s persona and mood can be used to evaluate interestingness of search results returned in response to a query. (Mot. at 6.) However, the passages Google cites do not teach estimating a probability “given a query submitted by the user.” (Ex. A, ¶¶ 337, 347, *see also* Ex. D, 232:19-238:14.)

E. Refuah Does Not Disclose a Central Computer.

Claim 32 of the ’040 patent recites the same steps as claim 1, discussed above, and for the same reasons did not exist in the prior art. Further, claim 32 of the ’040 patent requires “a program storage device accessible by a central computer, tangibly embodying a program of instructions executable by the central computer to perform method steps for providing automatic, personalized information services to a user.” Refuah does not disclose a “central computer”—i.e., a computer on the server side of a client-server relationship. Rather, Refuah discloses storing and accessing a persona locally or at a remote location, not in a shared server. (Ex. A, ¶ 339.)

¹³ Because Refuah does not disclose every limitation of independent claims 1 and 32 of the ’040 patent, and claim 1 of the ’276 patent, as described above, it also does not anticipate any of the asserted dependent claims (claims 11, 22 and 34 of the ’040 patent, and claims 3, 5, 6, 7, 21 and 22 of the ’276 patent) for the same reasons. Refuah also does not disclose additional limitations recited in the asserted dependent claims, as described in more detail below.

F. Refuah Does Not Disclose The Analysis Of Documents Having Multiple Distinct Media Types.

Refuah does not disclose “analysis of documents have multiple distinct media types,” as required by Claim 34 of the ’040. (*Id.*, ¶ 340.) Google asserts that merely analyzing web sites discloses this claim. (Mot. at 7.) But as noted above, Refuah does not operate on documents. Further, Refuah only discloses analyzing “text,” not multiple media types. (*Id.*; Ex. 8, 9:50-56.)

G. Refuah Does Not Disclose Any Of The Search Query Limitations Of Claims 1 And 21 Of The ’276 Patent.

Claim 1 of the ’276 patent requires “receiving a search query from the user”, as recited in 1(d), “retrieving a plurality of documents based on the search query”, as recited in 1(e) and “for each retrieved document of said plurality of retrieved documents: identifying properties of the retrieved document, and applying the identified properties to the user-specific learning machine to estimate a probability that the retrieved document is of interest to the user”, as recited in 1(f). Claim 21 also requires a search query. Because Refuah does not disclose receiving a search query, it does not disclose any of these limitations. (Ex. A, ¶¶ 347-49, 359.) Passing reference to a “search mechanism” does not teach these limitations, as Google contends, because nowhere does Refuah disclose receiving a search query from a user. (Ex. A, ¶ 347; Ex. D, 239:19-246:1.)

H. Refuah Does Not Disclose Estimating Parameters Of A User-Specific Learning Machine Based On Documents Not Of Interest To The User.

Refuah also does not disclose the requirement of claim 5 of the ’276 patent of “estimating parameters of a user-specific learning machine based at least in part on documents not of interest to the user.” (Ex. A, ¶¶ 353-55.) Google argues this claim is taught because a user can indicate whether web sites displease the user. A learning machine, as used in the patents-in-suit, is very different – it learns implicitly from the user’s pattern of interactions, not from the user’s explicit

identification of web sites he doesn't like. Refuah does not teach anything about how to estimate parameters of a user-specific learning machine.

I. Refuah Does Not Disclose Identifying Properties Associated With Documents.

Refuah also does not disclose “identifying properties associated with documents,” as required by claim 22 of the '276 patent. Google incorrectly argues Refuah discloses three of the properties associated with documents listed in claim 22—topics associated with a document, users who have accessed the document, and product features extracted from the document. First, Refuah does not identify topics because “keywords” are not topics. (Ex. A, ¶ 361.) Further, Refuah does not disclose a number of users who have accessed the retrieved document because “date of last visit” is a date and not a count. (*Id.*) Refuah also does not disclose product features extracted from the document because describing user preferences does not teach how to identify such properties from a document. (Mot. at 11.)

II. GOOGLE HAS NOT MET ITS HEAVY BURDEN OF ESTABLISHING THAT THE ASSERTED PATENT CLAIMS ARE OBVIOUS

Google has not met its burden of proving obviousness.¹⁴ First, the references Google cites do not collectively disclose all of the claim limitations; in fact, they largely teach away from them. (Ex. A, ¶¶ 405-38.) Second, the record evidence does not support Google's conclusory statements regarding the obviousness of combining the claimed limitations. (*Id.*, ¶¶ 439-77.) Third, Google ignores PUM's evidence of secondary considerations that support non-obviousness. (*Id.*, ¶¶ 490-510.) Finally, Google relies on sweeping statements about

¹⁴ The Motion also should be denied because it is based on combinations not disclosed in the Expert Report of Michael I. Jordan which are the subject of PUM's Motion Strike. (D.I. 416.)

various techniques or tools that purportedly existed in the art, while ignoring what is actually claimed.¹⁵ As Dr. Carbonell explained in his report, it is wrong to focus on such elements in isolation; such statements do not address the language of the claims or the complexly-orchestrated combination required to provide personalization as taught by the patents-in-suit. (*Id.*, ¶ 407, 456, 55-66, 403-510.) At a minimum, this is a battle of experts that cannot be resolved without a trial. *See Tarkus Imaging Inc. v. Adobe Sys., Inc.*, C.A. No. 10-63-LS, 2012 WL 2175788 (D. Del. June 14, 2012) (denying summary judgment because invalidity presents a “battle of the experts” that is not amenable to resolution prior to the presentation of evidence.)

A. Scope And Content Of The Prior Art

As described on an element-by-element basis below, many of the core limitations of the patented inventions are missing from the prior art. *See* Ex. A, ¶¶ 405-38, 480-82 for a detailed discussion as to why limitations did not exist in the prior art. In any event, obviousness requires more than a mere showing that disparate references collectively cover each limitation of a claim. *See TriMed, Inc. v. Stryker Corp.*, 608 F.3d 1333 (Fed. Cir. 2010) (it is insufficient to show that each individual limitation merely existed in the prior art.) Google falls far short of establishing that one of ordinary skill would have combined the claimed limitations. For this reason alone, Google’s Motion should be denied.

1. Transparently Monitoring User Interactions with Data while Engaged in the Normal Use of a [Browser Program Running On] a Computer.

Contrary to Google’s contention, neither Wasfi nor Mladenic disclose these limitations because they do not teach “transparently monitoring . . . while engaged in normal use of a

¹⁵ Google also cites to excerpts from the testimony of PUM’s infringement expert, Dr. Pazzani relating to Dr. Pazzani’s own systems. This is improper because Google’s Dr. Jordan does not assert Dr. Pazzani’s systems are prior art. Nor did Dr. Pazzani state his systems disclosed limitations of the asserted claims.

computer.” Both references involved significant modifications to the browser and interface to monitor user interactions transparently and explicitly. (Ex. A, ¶ 409; Ex. C, 78:19-21 (agreeing that putting add-ons in browsers was a more laborious process in 1999 than it is today)). Montebello required users to select which machine learning technique they would like the system to use to generate their profile. (Ex. 4, (“[t]he difference is that users are able to select which technique they would like to generate their profile.”)) This is not normal use of a computer or browser, nor is it transparent. (Ex. A, ¶¶ 206-07.)

2. Estimating Parameters of a [User-Specific] Learning Machine.

For multiple reasons Wasfi, Montebello and Mladenec do not teach the “estimating parameters” limitations. (See Ex. A, ¶¶ 107-12, 138-39, 208-10, 224, 241-49, 266, 411-17.) First, Wasfi teaches profiling the user as a vector of words (Q_j), using a non-standard entropy definition that will frequently give negative infinity as a similarity score. (*Id.*, ¶¶ 241-49.) Because it is impossible to write infinity (positive or negative) as a weight or value in the user’s profile, by definition it cannot teach estimating parameters. (*Id.*, ¶ 242.) Additionally, Wasfi’s Q_j vector adds words from new documents, which is different from “estimating parameters of a [user-specific] learning machine,” because it does not involve learning. (*Id.*, ¶ 245.) Further, in the asserted patents, parameters must be based at least in part on user-specific data files; Wasfi relies on aggregate patterns of all users and not specific to any user. (*Id.*, ¶ 246.) Montebello fails to disclose any machine learning technique or any parameters of a learning machine. Instead, it discloses using the term frequency/inverse document frequency ($Tf*Idf$) which, as both parties’ experts agreed, is not a machine learning technique.¹⁶ (Ex. A, ¶¶ 208-09, 406;

¹⁶ Dr. Jordan also testified that $Tf*Idf$ is not “learning” but is instead merely a representation of a document. (Ex. C, 86:2-87:9.)

Ex. E, 28:24-29-1 (“Q: Do you consider [Tf*Idf] to be machine learning? A: No.”).) Nor does Montebello disclose or mention any parameters. (Ex. B, ¶ 208.) Finally, Mladenec discloses using k-nearest neighbor machine learning technique,¹⁷ which by definition is a non-parametric model and has no parameters to estimate. (Ex. B, ¶¶ 121-22, 107-12.) Indeed, Dr. Jordan could not point to any parameters taught in Mladenec. (Ex. C, 82:17-83:14.) At a minimum, there is a factual dispute among the experts as to whether this limitation is met.

3. Estimating a Probability of User Interest in Documents, and Using the Estimated Probability.

The Wasfi, Montebello and Mladenec references also do not teach “estimating a probability” (*Id.*, ¶¶ 117-26, 146-48, 211-13, 250-55, 269), and, therefore, do not teach using the estimated probabilities. (*Id.*, ¶¶ 127, 149-50, 214-16, 226, 255, 270.) Wasfi does not estimate any “probability,” but rather calculates a similarity score, which Wasfi distinguished from probabilities. (*Id.*, ¶¶ 250-54, 269.) Montebello does not teach anything about estimating a probability. *Id.* And Google’s only support—a sentence about profile comparison—does not involve estimating a probability and, in fact, does not even disclose a number. Mladenec¹⁸ also does not estimate a probability, but rather discloses mapping a link to a Boolean category, either positive or negative [pos, neg]. (*Id.*, ¶¶ 117-26, 146-48.) As Dr. Jordan admitted, Boolean categories are not numerical degrees of beliefs or likelihoods and are not probabilities. (*Id.*;

¹⁷ Google cites to a portion of Dr. Carbonell’s deposition where he testified Mladenec used machine learning to create its model. The machine learning method disclosed was a non-parametric technique which by definition has no parameters and, therefore, cannot estimate parameters. Mladenec also used a Naïve Bayes classifier but stated that the k-nearest neighbor model achieved higher performance, yet, k-nearest neighbor itself only worked as good as “default accuracy.” (Ex. A, ¶¶ 121-22.) Therefore, Mladenec teaches away from using a Naïve Bayes classifier, a parametric model.

¹⁸ Mladenec also did not operate on documents (web pages), but text surrounding hyperlinks (Ex. A, ¶ 113-16), as discussed previously.

Ex. C, 99:18-20 (“Q: Are Boolean categories the same as probabilities? A. They are not.”).)

4. The “Search Query” of Claim 11 of the ’040 Patent, and Claims 1 and 21 of the ’276 Patent.

Each of these claims require a “search query.” Yet, none of the three references taught the patented methods of estimating parameters of a learning machine to build a model specific to the user, and using that model specific to the user to estimate user interest in [unseen] documents. (Ex. A, ¶ 430.) The methods that were described in the prior art addressed different objectives and were not successful. For example, Mladenic’s Personal WebWatcher was not even a search system, but a navigation system, which involved no documents (it operated on hyperlinks), no search engine, no queries or retrieval of any documents.¹⁹ (Ex. A, ¶¶ 128-29, 140-45.) Montebello similarly did not receive any search queries from a user as the asserted patents require; instead, and as Google admits, the Montebello system worked on top of search engines. (Mot. at 15; Ex. A, ¶ 217.)

5. The Prior Art Did Not Teach Many of the Additional Limitations Found in the Dependent Claims.

The prior art also did not disclose many other limitations found in the dependent claims. For example, Mladenic could not analyze multiple distinct media types, as required by claim 34 of the ’040, because it operated on hyperlinks, which only contain text. It also did not disclose estimating parameters of a user-specific learning machine based at least in part on documents not of interest to the user, as required by claim 5 of the ’276 patent. (*Id.*, ¶ 434.) In Mladenic, the user could not form negative judgments about links on a page he or she did not follow because the user has not seen the documents, summaries, snippets, or the visible URL. *Id.*

¹⁹ This is true of the predecessor WebWatcher system as well. (Ex. A, ¶¶ 379, 389-90.)

B. Differences Between The Claims And The Prior Art.

As stated above, the cited references, both individually and in combination, do not disclose all limitations of the claimed inventions, and there are significant differences between the claims and the prior art. Dr. Carbonell stated that in 1999 no one skilled in the art would have known how to arrive at the patented inventions from these disparate references. (Ex. A, ¶¶ 447-77.) One reason is because there was insufficient data being recorded about users to be able to learn parameters of a [user-specific] learning machine. (Ex. A, ¶¶ 449-50, 464).²⁰

C. Level Of Ordinary Skill In The Art.

There is also a dispute as to whether one skilled in the art would have the techniques to arrive at the patented invention. Although Google argues that one skilled in the art in 1999 would have found the inventions obvious based on common techniques found in the “toolbox” of a machine learning expert,²¹ Dr. Carbonell explained in his report that a person of ordinary skill (even under Google’s definition) would have to be an expert in search engines, machine learning methods (to estimate parameters), in human computer interfaces (to transparently monitor the user), in the underlying computer-science, and be able to integrate all of the limitations in the system into a working system. (Ex. A, ¶¶ 487-89.)

D. Secondary Considerations Demonstrate The Asserted Claims Are Not Obvious.



²⁰ Dr. Carbonell’s opinion finds support in Dr. Jordan’s testimony that having enough training data is an issue in practical applications of machine learning. (Ex. C, 19:18-21.)

²¹ This admission by Google is important as it relates to its summary judgment motion regarding SRI’s ownership rights. It supports PUM’s argument that the machine learning tools used by Dr. Konig at SRI were well-known to machine learning experts and capable of being applied to many unrelated applications. Google’s inconsistent positions on this issue undercut its credibility.

[REDACTED]

CONCLUSION

For the foregoing reasons, Google’s Motion for Summary Judgment on invalidity should be denied.

²² For example, Wasfi and Mladenec both attempted to apply personalization to help navigate within a web site (not retrieve documents in a search engine). Mladenec’s system simply did not work (it worked no better than “default accuracy”), and there is no evidence Wasfi’s system was ever evaluated and if it were, it likely would have been unsuccessful because it was modeled to find web sites most unlike those previously seen by the user – rather than pages similar to those the user liked. (Ex. A, ¶¶ 442-43.)

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CERTIFICATE OF SERVICE

I hereby certify that on January 14, 2013, I caused the foregoing to be electronically filed with the Clerk of the Court using CM/ECF which will send electronic notification of such filing to all registered participants.

Additionally, I hereby certify that true and correct copies of the foregoing were caused to be served on January 14, 2013, upon the following individuals in the manner indicated:

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