

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

INTUITION MACHINES, INC. AND CLOUDFLARE, INC.,  
Petitioners

v.

HUMAN DIFFERENTIAL INTELLIGENCE, LLC  
Patent Owner

---

Case No. IPR2023-00631  
Patent 8,752,141

---

---

**PATENT OWNER HUMAN DIFFERENTIAL INTELLIGENCE, LLC'S  
PRELIMINARY RESPONSE UNDER 37 C.F.R. § 42.107**

---

## **TABLE OF CONTENTS**

|      |                                                                                                                                                                                                                                                                                                                                                                           |    |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| I.   | STATEMENT OF MATERIAL FACTS IN DISPUTE .....                                                                                                                                                                                                                                                                                                                              | 1  |
| II.  | INTRODUCTION .....                                                                                                                                                                                                                                                                                                                                                        | 1  |
|      | A. STATEMENT OF RELIEF REQUESTED .....                                                                                                                                                                                                                                                                                                                                    | 2  |
|      | B. OVERVIEW OF THE ‘141 PATENT .....                                                                                                                                                                                                                                                                                                                                      | 2  |
|      | C. OVERVIEW OF THE PRIOR ART .....                                                                                                                                                                                                                                                                                                                                        | 2  |
|      | 1. QVARFORDT .....                                                                                                                                                                                                                                                                                                                                                        | 3  |
|      | 2. VONAHN .....                                                                                                                                                                                                                                                                                                                                                           | 4  |
|      | D. LEVEL OF ORDINARY SKILL IN THE ART .....                                                                                                                                                                                                                                                                                                                               | 4  |
|      | E. CLAIM CONSTRUCTION .....                                                                                                                                                                                                                                                                                                                                               | 5  |
|      | F. SUMMARY OF PATENT OWNER’S ARGUMENTS .....                                                                                                                                                                                                                                                                                                                              | 5  |
| III. | THE PETITION FAILS TO MEET THE REQUIREMENTS FOR<br>INSTITUTING AN <i>INTER PARTES</i> REVIEW .....                                                                                                                                                                                                                                                                        | 6  |
|      | A. QVARFORDT AND VONAHN DO NOT DISCLOSE THE<br>“ELECTRONIC IMAGE COMPRISES A SET OF IMAGERY<br>DATA...WHEREIN SAID ELECTRONIC IMAGE IS<br>CONFIGURED SUCH THAT A SUBSET OF SAID SET OF<br>IMAGERY DATA...CAN BE MADE PERCEPTIBLE IN A FIRST<br>IMAGE STATE” LIMITATION OF INDEPENDENT CLAIM 1 OR<br>THE CORRESPONDING LIMITATIONS OF INDEPENDENT<br>CLAIMS 5 AND 10 ..... | 8  |
|      | B. QVARFORDT AND VONAHN DO NOT DISCLOSE THE<br>“CORRELATE AN ACCURACY OF GUESSES” AND<br>“CALCULATING A PERCENTAGE OF PARTICIPANTS ABLE<br>TO DECODE AND ACCURATELY GUESS SAID ONE OR MORE<br>CONCEPTS” LIMITATIONS OF INDEPENDENT CLAIM 1 OR<br>THE CORRESPONDING LIMITATIONS OF INDEPENDENT<br>CLAIMS 5 AND 10 .....                                                    | 9  |
| IV.  | CONCLUSION.....                                                                                                                                                                                                                                                                                                                                                           | 11 |

**EXHIBIT LIST**  
**Previously Filed (Petitioners)**

| <b>Exhibit</b> | <b>Description</b>                                                                                                                                                                                                      |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1001           | U.S. Patent No. 8,752,141 (“the ’141 Patent”)                                                                                                                                                                           |
| 1002           | Declaration of Daniel P. Lopresti, Ph.D (“Lopresti”)                                                                                                                                                                    |
| 1003           | Curriculum vitae of Daniel P. Lopresti, Ph.D                                                                                                                                                                            |
| 1004           | File History for U.S. Patent No. 8,752,141 (“the ’141 FH”)                                                                                                                                                              |
| 1005           | U.S. Provisional Application No. 61/076,495 (“HDI’s Provisional”)                                                                                                                                                       |
| 1006           | U.S. Patent Appl. Pub. No. 2008/0127302 A1 (“Qvarfordt”)                                                                                                                                                                |
| 1007           | von Ahn, <i>et al.</i> , “CAPTCHA: Using Hard AI Problems for Security” (2003). In: Biham E. (eds) Advances in Cryptology – EUROCRYPT 2003, pp. 294-311. Lecture Notes in Computer Science, vol 2656. (“vonAhn”)        |
| 1008           | von Ahn, “Human Computation,” CMU-CS-05-193, Carnegie Mellon University School of Computer Science, December 7, 2005 (“vonAhn 2005”)                                                                                    |
| 1009           | U.S. Patent Appl. Pub. No. 2009/0113294 A1 (“Sanghavi”)                                                                                                                                                                 |
| 1010           | U.S. Patent Appl. Pub. No. 2009/0313694 A1 (“Mates”)                                                                                                                                                                    |
| 1011           | Greg Kochanski, Daniel Lopresti, and Chilin Shih, “A Reverse Turing Test Using Speech,” Proceedings of the 7th International Conference on Spoken Language Processing, pp. 1357-60, September 16-20, 2002 (“Kochanski”) |
| 1012           | U.S. Patent Appl. Pub. No. 2007/0201745 A1 (“Wang”)                                                                                                                                                                     |
| 1013           | U.S. Patent Appl. Pub. No. 2007/0192849 A1 (“Golle”)                                                                                                                                                                    |
| 1014           | U.S. Patent Appl. Pub. No. 2008/0066014 A1 (“Misra”)                                                                                                                                                                    |
| 1015           | U.S. Patent No. 6,195,698 (“Lillibridge”)                                                                                                                                                                               |
| 1016           | U.S. Patent Appl. Pub. No. 2009/0249477 A1 (“Punera”)                                                                                                                                                                   |
| 1017           | Datta, <i>et al.</i> , “IMAGINATION: A Robust Image-based CAPTCHA Generation System.” In Proceedings of the 13th Annual ACM International Conference on Multimedia, pages 331–334, November 2005. (“Datta”)             |
| 1018           | U.S. Patent No. 8,510,795 (“Gargi”)                                                                                                                                                                                     |
| 1019           | U.S. Patent Appl. Pub. No. 2009/0319270 A1 (“Gross”)                                                                                                                                                                    |
| 1020           | U.S. Patent Appl. Pub. No. 2007/0250920 (“Lindsay”)                                                                                                                                                                     |
| 1021           | U.S. Patent No. 5,578,991 (“Scholder”)                                                                                                                                                                                  |
| 1022           | U.S. Patent No. 5,835,298 (“Edgerton”)                                                                                                                                                                                  |

- 1023 World Intellectual Property Organization International Publication  
No. WO 2006/060077 A1 (“Clifford”)
- 1024 U.S. Patent No. 7,059,182 (“Ragner”)
- 1025 U.S. Patent Appl. Pub. No. 2006/0193113 A1 (“Cohen”)
- 1026 U.S. Patent No. 7,142,385 (“Shimotono”)
- 1027 U.S. Patent Appl. Pub. No. 2007/0259716 A1 (“Mattice”)
- 1028 U.S. Patent Appl. Pub. No. 2007/0298751 A1 (“Wulff”)
- 1029 U.S. Patent Appl. Pub. No. 2008/0108340 A1 (“Karstens”)
- 1030 European Patent Application Publication No. EP 1845468 A1  
 (“Karrer”)
- 1031 European Patent EP 2130159B1 (“Baker”)
- 1032 Shirali-Shahreza, et al., “Bibliography of Works Done on  
CAPTCHA,” 2008 3rd International Conference on Intelligent  
System and Knowledge Engineering, November 17-19, 2008
- 1033 Merriam-Webster’s Collegiate Dictionary, Eleventh Edition (2007),  
p. 840 (definition of “noise”), p. 1302 (definition of “threshold”)
- 1034 Declaration of Rachel J. Watters, with attachments
- 1035 Declaration of Mary K. Bolin, Ph.D., with attachments
- 1036 Declaration of Jessica Benner, with attachment
- 1037 Declaration of Professor Kawahara Tatsuya, with attachment
- 1038 Human Differential Intelligence LLC v. Cigna Corporation, No.  
6:20-cv-00305-ADA (W.D. Tex.), D.I. 19 (Corrected First  
Amended Complaint)
- 1039 Human Differential Intelligence LLC v. The Gap, Inc., No. 6:20-cv-  
00307-ADA (W.D. Tex.), D.I. 14 (Corrected First Amended  
Complaint)
- 1040 Human Differential Intelligence LLC v. Bed Bath & Beyond, Inc.,  
Civil  
Action No. 6:20-cv-00310-ADA (W.D. Tex.), D.I. 13 (Corrected  
First Amended Complaint)
- 1041 Human Differential Intelligence LLC v. CVS Health Corporation,  
Civil  
Action No. 6:20-cv-00311-ADA (W.D. Tex.), D.I. 18 (First  
Amended Original Complaint)
- 1042- Reserved
- 1052
- 1053 U.S. Patent Appl. Pub. No. 2010/0077209 A1 (“Broder”)
- 1054 U.S. Patent Appl. Pub. No. 2009/0055910 A1 (“Lee”)
- 1055 U.S. Patent Appl. Pub. No. 2007/0150745 A1 (“Peirce”)
- 1056 Declaration of Jessica Benner, with attachment (Feb. 17, 2023)

1057 Declaration of Rachel J. Watters, with attachments (Feb. 20, 2023)  
1058 Declaration of Kelley Hayes Greenhill, with attachments (Feb. 22,  
2023)  
1059 Human Differential Intelligence LLC v. Cloudflare, No. 1:22-cv-  
01334 (W.D. Tex.), D.I. 13 (Order Staying Case) (Jan. 18, 2023)  
1060 Human Differential Intelligence LLC v. Cloudflare, No. 1:22-cv-  
01334 (W.D. Tex.), PACER Docket (Feb. 22, 2023)  
1061 Human Differential Intelligence LLC v.

**Currently Filed (Patent Owner)**

None

## **I. STATEMENT OF MATERIAL FACTS IN DISPUTE**

Petitioners Intuition Machines, Inc. and Cloudflare, Inc. (“Petitioners”) did not submit a statement of material facts in their Petition for *inter partes* review. Paper 1 (Petition). Accordingly, no response to a statement of material facts is due pursuant to 37 C.F.R. § 42.23(a), and no facts are admitted.

## **II. INTRODUCTION**

Patent Owner Human Differential Intelligence, LLC (“Patent Owner”) respectfully submits this Patent Owner Preliminary Response under 35 U.S.C. § 313 and 37 C.F.R. § 42.107(a). It is being timely filed on or before July 12, 2023, in accordance with 37 C.F.R. § 42.107(b). Pursuant to 35 U.S.C. § 314(a), Patent Owner respectfully requests that the Board deny institution of a trial with respect to all claims of United States Patent No. 8,752,141 (“141 Patent”).

“The Director may not authorize an *inter partes* review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). Here, Petitioners have failed to establish that there is a reasonable likelihood that they will prevail on any of their propositions of unpatentability.

## **A. STATEMENT OF RELIEF REQUESTED**

Pursuant to 35 U.S.C. § 314(a), Patent Owner respectfully requests that the Board deny institution of a trial with respect to all claims of the ‘141 Patent.

## **B. OVERVIEW OF THE ‘141 PATENT**

The ‘141 Patent generally “relates to challenge systems which include pictorial and/or motion features.” Exhibit 1001 (‘141 Patent) at 1:20-21. The ‘141 Patent disclosure “concerns a method of testing recognition of images for a CAPTCHA (Completely Automatic Public Turing Tests To Tell Humans And Computers Apart) system comprising: automatically electing an electronic image for a participant with a computing system, wherein the electronic image comprises imagery other than words; associating the electronic image with one or more concepts; progressively revealing information over a first time period for the electronic image within an interface for the participant using the computing system; automatically processing responses from the participant with the computing system to correlate an accuracy of guesses from the participant for the one or more concepts associated with the electronic image.” Exhibit 1001 (‘141 Patent) at 4:36-48. “Preferred embodiments use a step of calculating a percentage of participants able to decode and accurately guess the one or more concepts within a predetermined time.” Exhibit 1001 (‘141 Patent) at 4:49-51.

## **C. OVERVIEW OF THE PRIOR ART**

## 1. QVARFORDT

United States Patent Publication. No. US 2008/0127302 (“Qvarfordt”) generally “relates to the field of internet security and, more specifically, to validation of users accessing [a] website.” Exhibit 1006 (Qvarfordt) at [0002]. Qvarfordt discloses “an automated test to tell computers and humans apart..., which comprises: displaying on a computer screen an animation comprising of at least a first layer and a second layer, one of the first layer and second layer comprising a plurality of recognizable images and the other comprising partial obstruction of the recognizable images, and wherein the animation comprises relative motion between the first and second layer. The animation may include two or more layers, each layer may be stationary or movable. The motion of each movable layer can be made automatic, as in an animation loop, or in response to a user input, such as by ‘grab and drag.’” Exhibit 1006 (Qvarfordt) at [0012]. FIG. 3a of Qvarfordt, copied below, depicts this type of arrangement.



***Figure 3a***

## 2. VONAHN

vonAhn is a printed publication from 2003. vonAhn discloses “[i]ntuitively, a CAPTCHA is a test  $V$  over which most humans have success close to 1, and for which *it is hard to write a computer program that has high success over  $V$* . We will say that it is hard to write a computer program that has high success over  $V$  if *any program that has high success over  $V$  can be used to solve a hard AI problem.*” (emphasis in original). Exhibit 1007 (vonAhn) at 297. vonAhn explains “[a] test  $V$  is said to be  $(\alpha, \beta)$ -human executable if at least an  $\alpha$  portion of the human population has success greater than  $\beta$  over  $V$ .” (emphasis in original). Exhibit 1007 (vonAhn) at 297.

### D. LEVEL OF ORDINARY SKILL IN THE ART

“The person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art at the time of the invention.” Manual of Patent Examining Procedure (“MPEP”) 2141.II.C. Factors that may be considered in determining the level of ordinary skill in the art may include: (1) type of problems encountered in the art; (2) prior art solutions to those problems; (3) rapidity with which innovations are made; (4) sophistication of the technology; and (5) educational level of active workers in the field. *In re GPAC*, 57 F.3d 1573, 1579 (Fed. Cir. 1995).

Petitioners propose that “[a] person of ordinary skill in the art (“POSA”) in

mid-2008 or mid-2009 would have had at least a bachelor's degree in Computer Science or a related field, along with at least two years of work or research experience in computer security, and some experience with CAPTCHA. More education could substitute for less experience, and vice versa.” Paper 1 (Petition) at 16. Patent Owner does not take issue with Petitioners’ proposed definition of a person of ordinary skill in the art at this time but reserves the right to challenge Petitioners’ definition of a person of ordinary skill in the art should it become necessary if a trial is instituted.

#### **E. CLAIM CONSTRUCTION**

In an *inter partes* review (“IPR”) filed on or after November 13, 2018, the Board construes claim terms based on their ordinary and customary meaning in accordance with *Phillips v. AWH Corporation*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). The specification is the “best source for understanding a technical term,” to be supplemented, “as needed, by the prosecution history.” *Id.* at 1315.

Petitioners do not propose any specific claim constructions in their Petition. Paper 1 (Petition) at 17. Patent Owner also does not believe any terms need to be construed at this time but reserves the right to present claim constructions for any and all terms of the ‘141 Patent should trial be instituted.

#### **F. SUMMARY OF PATENT OWNER’S ARGUMENTS**

Petitioners bear the burden of demonstrating a reasonable likelihood that they

would prevail in showing unpatentability on the grounds asserted in the Petition. 37 C.F.R. § 42.108(c). While it is not required to file a preliminary response, Patent Owner takes this opportunity to explain the reasons the Board should not institute trial. 37 C.F.R. § 42.107(a).

Institution should be denied due to the substantive defects of the Petition. In particular, Qvarfordt and vonAhn, alone or in combination, do not disclose “said electronic image comprises a set of imagery data...wherein...a subset of said imagery data...can be made perceptible in a first image state.” Qvarfordt and vonAhn also do not disclose “correlate an accuracy of guesses...for said one or more concepts associated with said electronic image” and “calculating a percentage of participants able to decode and accurately guess said one or more concepts” of the independent claims of the ‘141 Patent.

Patent Owner does not attempt to fully address the myriad of other deficiencies of the underdeveloped grounds asserted in the Petition. *See Travelocity.com L.P. et al. v. Cronos Technologies, LLC*, CBM 2014-00082, Paper 12 at 10 (PTAB Oct. 16, 2014) (“nothing may be gleaned from the Patent Owner’s challenge or failure to challenge the grounds of unpatentability for any particular reason”). However, the deficiencies addressed herein are dispositive and preclude trial on any asserted ground.

### **III. THE PETITION FAILS TO MEET THE REQUIREMENTS FOR INSTITUTING AN *INTER PARTES* REVIEW**

The Petition advances grounds of rejection that do not disclose all of the limitations of the independent claims at issue. Qvarfordt and vonAhn were asserted against independent method claims 1, 5 and 10. Because independent claims 5 and 10 are similar method claims to independent claim 1, the arguments recited herein will focus on independent claim 1 but apply equally to independent claims 5 and 10.

Independent claim 1 is a method claim that recites:

1. A method of testing recognition of images for a Completely Automatic Public Turing Test To Tell Humans And  
20 Computers Apart (CAPTCHA) system comprising:
  - a. automatically electing an electronic image for a participant with a computing system, wherein said electronic image comprises a set of imagery data other than words, and wherein said electronic image is configured such  
25 that a subset of said set of imagery data for said electronic image can be made perceptible in a first image state;
  - b. associating said electronic image with one or more concepts;
  - 30 c. presenting said electronic image in said first image state and progressively revealing information over a first time period within an interface for said participant using said computing system;
  - d. automatically processing responses from the participant with the computing system to correlate an accuracy of  
35 guesses from said participant for said one or more concepts associated with said electronic image; and
  - e. calculating a percentage of participants able to decode and accurately guess said one or more concepts within a  
40 predetermined time.

Exhibit 1001 ('141 Patent) at 26:18-40.

**A. QVARFORDT AND VONAHN DO NOT DISCLOSE THE “ELECTRONIC IMAGE COMPRISES A SET OF IMAGERY DATA...WHEREIN SAID ELECTRONIC IMAGE IS CONFIGURED SUCH THAT A SUBSET OF SAID SET OF IMAGERY DATA...CAN BE MADE PERCEPTIBLE IN A FIRST IMAGE STATE” LIMITATION OF INDEPENDENT CLAIM 1 OR THE CORRESPONDING LIMITATIONS OF INDEPENDENT CLAIMS 5 AND 10**

Qvarfordt fails to teach or suggest the “wherein said electronic image comprises a set of imagery data other than words, and wherein said electronic image is configured such that a subset of said set of imagery data for said electronic image can be made perceptible in a first image state” limitation of claim 1 or the corresponding limitations of independent claims 5 and 10.

Petitioners admit that Qvarfordt’s looped animation CAPTCHAs involve “a foreground layer continuously obstruct[ing] different parts of the encoded image.” Paper 1 (Petition) at 25. In other words, Qvarfordt discloses the entire set of imagery data being presented but obscures some of this set through the use of an animation such as bars or dots in the foreground. The electronic image of Qvarfordt is not configured (as the claims require) such that only a subset of said imagery data for said electronic image can be made perceptible in a first image state. The electronic image underneath the animated bars or dots is not made perceptible or presentable by changing the subset of imagery data for the electronic image itself, but rather by moving the animated bars or dots. The entire image is being presented as a complete set, and this set of imagery data does not change. The only perceptible change

involves the animated bars' and dots' locations over the entire set of imagery data. The overlying animation of bars and dots may be configured to reveal a subset of imagery data, but the electronic image itself underneath the animations is certainly not "configured such that a subset of said set of imagery data for said electronic image can be made perceptible in a first image state."

Petitioners do not assert vonAhn against these limitations, relying exclusively on Qvarfordt. Paper 1 (Petition) at 62, 64.

**B. QVARFORDT AND VONAHN DO NOT DISCLOSE THE "CORRELATE AN ACCURACY OF GUESSES" AND "CALCULATING A PERCENTAGE OF PARTICIPANTS ABLE TO DECODE AND ACCURATELY GUESS SAID ONE OR MORE CONCEPTS" LIMITATIONS OF INDEPENDENT CLAIM 1 OR THE CORRESPONDING LIMITATIONS OF INDEPENDENT CLAIMS 5 AND 10**

Qvarfordt fails to teach or suggest the "correlate an accuracy of guesses" and "calculating a percentage of participants able to decode and accurately guess said one or more concepts" limitation of claim 1 or the corresponding limitations of claims 5 and 10.

The Petition alternates between vetted and unvetted CAPTCHAs in alleging disclosure of all of the limitations of the independent claims. Paper 1 (Petition) at 23, 27, 31, and 36 (vetted images used in preamble and with respect to limitation 1(B) while unvetted images are used in limitations 1(D) and 1(E)). However, vetted and unvetted CAPTCHAs are separate images that are used for different purposes in

Qvarfordt.

Qvarfordt discloses:

According to an embodiment of the invention, users are required to solve multiple CAPTCHAs consisting of two sets, one already vetted CAPTCHAs and a set of novel CAPTCHAs. A user does not know which is which and is required to attempt all elements of both sets. The answers to the first set determine whether the entity accessing the site is a human, and that information is used both to allow access to resources and to decide whether to use that entity's labels for the CAPTCHAs in the second set. The user's response to the second set is used to determine reasonable human responses to that CAPTCHA and assessing how vulnerable the CAPTCHA is for attacks. Once a CAPTCHA in the second category has been sufficiently vetted, it is moved to the first category. When the CAPTCHA is moved to the first category, a solution or a solution set is associated with it. That is, the decision to move the CAPTCHA can be made after a statistically significant number of solutions to the second test have been received.

In other words, with the vetted CAPTCHAs, no “calculating a percentage of participants able to decode and accurately guess said one or more concepts” occurs. With the unvetted CAPTCHAs, no “correlation of accuracy of guesses” occurs as data is simply being gathered and calculated but not compared to any correct answer yet. Even if the unvetted image ultimately becomes a vetted image and is subsequently presented, it will be to a different participant—not the same participant or participants as required by the claims.

The ‘141 Patent’s independent claims require that the “correlating” and “calculating” steps be performed on the same image to the same participant—not two separate images such as vetted and unvetted images presented to different participants.

vonAhn does not cure this deficiency. Indeed, vonAhn is not applied against the “correlate an accuracy of guesses” limitation. To the extent vonAhn is applied against the “calculating a percentage of participants able to decode and accurately guess said one or more concepts,” its combination with the Qvarfordt system still results only in a calculation related to the unvetted images. Petitioners concede as much stating, “Qvarfordt-vonAhn is thus Qvarfordt’s system implemented to calculate an overall percentage of users able to accurately guess the underlying concept of an unvetted CAPTCHA within a predetermined time as part of associating a ‘correct solution’ with an unvetted CAPTCHA and moving it ‘to the first [vetted] category.’” Paper 1 (Petition) at 61.

#### **IV. CONCLUSION**

Patent Owner has shown that Petitioners’ proposed grounds of unpatentability fail because they utilize a combination of references that does not disclose or suggest each and every limitation as recited by the ‘141 Patent claims. For at least the foregoing reasons, the Petition’s grounds for unpatentability are legally deficient and trial should not be instituted.

Date: July 12, 2023

Respectfully submitted,

/s/ Gregory S. Donahue

Gregory S. Donahue

Reg. No. 47,531

DiNovo Price LLP

7000 North MoPac Expressway

Suite 350

Austin, TX 78731

Telephone: (512) 539-2625

Facsimile: (512) 539-2627

CERTIFICATE OF WORD COUNT UNDER 37 C.F.R. § 42.24(b)(1)

I, the undersigned, do hereby certify that the foregoing Patent Owner Preliminary Response, including footnotes, contains 3,408 words, as measured by the Word Count function of Word. This is less than the limit of 14,000 words as specified by 37 C.F.R. § 42.24(b)(1).

/s/ Gregory S. Donahue  
Gregory S. Donahue

## **CERTIFICATE OF SERVICE**

I hereby certify that on this 12<sup>th</sup> day of July 2023, a true and correct copy of the foregoing PATENT OWNER HUMAN DIFFERENTIAL INTELLIGENCE LLC'S PRELIMINARY RESPONSE UNDER 37 C.F.R. § 42.107 was served by electronic mail upon the following counsel of record.

### **Lead Counsel**

Elliot C. Cook (Reg. No. 61,769)  
elliott.cook@finnegan.com  
Finnegan, Henderson, Farabow,  
Garrett, & Dunner, LLP  
Two Freedom Square  
1875 Explorer Street, Suite 800  
Reston, VA 20190-6023  
Tel: 571-203-2700

### **Back-Up Counsel**

Luke H. MacDonald (Reg. No. 79,064)  
luke.macdonald@finnegan.com  
Finnegan, Henderson, Farabow,  
Garrett, & Dunner, LLP  
Two Freedom Square  
1875 Explorer Street, Suite 800  
Reston, VA 20190-6023  
Tel: 571-203-2700

Christopher T. Bovenkamp (Reg. No. 44,551)  
cbovenkamp@ccrglaw.com  
Charhon, Callahan, Robson, & Garza, PLLC  
333 Lee Parkway, Suite 460  
Dallas, TX 75219  
Tel: 214-521-6400

/s/ Gregory S. Donahue

Gregory S. Donahue  
Reg. No. 47,531  
DiNovo Price LLP  
7000 North MoPac Expressway  
Suite 350  
Austin, TX 78731  
Telephone: (512) 539-2625  
Facsimile: (512) 539-2627