

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
AUSTIN DIVISION**

HUMAN DIFFERENTIAL INTELLIGENCE  
LLC,

*Plaintiff,*

v.

CLOUDFLARE, INC.

*Defendant.*

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CASE NO. 1:22-cv-01334

**JURY TRIAL DEMANDED**

**ORIGINAL COMPLAINT**

Plaintiff Human Differential Intelligence LLC (“Plaintiff” or “HDI”), by and through its attorneys, file its Original Complaint against Cloudflare, Inc. (“Defendant” or “Cloudflare”), and demanding trial by jury, hereby alleges as follows:

**I. NATURE OF THE ACTION**

1. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 271, *et seq.*, to enjoin and obtain damages resulting from Cloudflare’s unauthorized use, sale, and offer to sell in the United States of products, methods, processes, services, and/or systems that infringe HDI’s United States patents, as described herein.

2. Cloudflare manufactures, provides, uses, sells, offers for sale, imports, and/or distributes infringing products and services; and encourages others to use its products and services in an infringing manner, including their customers, as set forth herein.

3. HDI seeks past and future damages and prejudgment and post judgment interest for Cloudflare’s past infringement of the Patents-in-Suit, as defined below.

## II. PARTIES

4. Plaintiff HDI is a limited liability company organized and existing under the laws of the State of Texas. HDI's registered agent for service of process in Texas is Capital Corporate Services, Inc., 206 E. 9<sup>th</sup> Street, Suite 1300, Austin, Texas 78701.

5. On information and belief, Cloudflare, Inc. is a corporation organized under the laws of the State of Delaware, having established a place of business in this District at 106 E. 6<sup>th</sup> Street, Suite 500, Austin, Texas 78701. Cloudflare may be served through its registered agent, Registered Agent Solutions, Inc., Corporate Center One, 5301 Southwest Parkway, Suite 400, Austin, Texas 78735.

## III. JURISDICTION AND VENUE

6. This is an action for patent infringement which arises under the Patent Laws of the United States, namely, 35 U.S.C. §§ 271, *et seq.*

7. This Court has original and exclusive jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331 and 1338(a).

8. On information and belief, venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b), 1391(c), and 1400(b) because Cloudflare has a regular and established place of business in this District, transacted business in this District, and has committed and/or induced acts of patent infringement in this District.

9. On information and belief, Cloudflare is subject to this Court's specific and general personal jurisdiction pursuant to due process and/or the Texas Long Arm Statute, due at least to its substantial business in this forum, including: (i) at least a portion of the infringements alleged herein; and (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct, and/or deriving substantial revenue from goods and services provided to individuals in Texas and in this Judicial District.

#### IV. FACTUAL ALLEGATIONS

##### PATENTS-IN-SUIT

10. HDI is the owner of all right, title, and interest in and to U.S. Patent No. 8,752,141 (the “’141 Patent”), entitled “Methods for Presenting and Determining the Efficacy of Progressive Pictorial and Motion-Based Captchas,” issued on June 10, 2014. A true and correct copy of the ’141 Patent is attached hereto as **Exhibit A**.

11. HDI is the owner of all right, title, and interest in and to U.S. Patent No. 9,192,861 (the “’861 Patent,” and together with the ’141 Patent “the Patents-in-Suit”), entitled “Motion, Orientation, and Touch-Based Captchas,” issued on November 24, 2015. A true and correct copy of the ’861 Patent is attached hereto as **Exhibit B**.

12. Together, the foregoing patents are referred to herein as the “Patents-in-Suit.” HDI is the assignee of the Patents-in-Suit and has all rights to enforce the Patents-in-Suit against infringers, sue for infringement of the Patents-in-Suit, and collect past and future damages for all relevant times, including the right to prosecute this action.

13. The Patents-in-Suit are directed to, *inter alia*, methods for distinguishing a human from a computer using a graphical/pictorial and/or motion-based verification or challenge system(s).

##### DEFENDANT’S ACTS

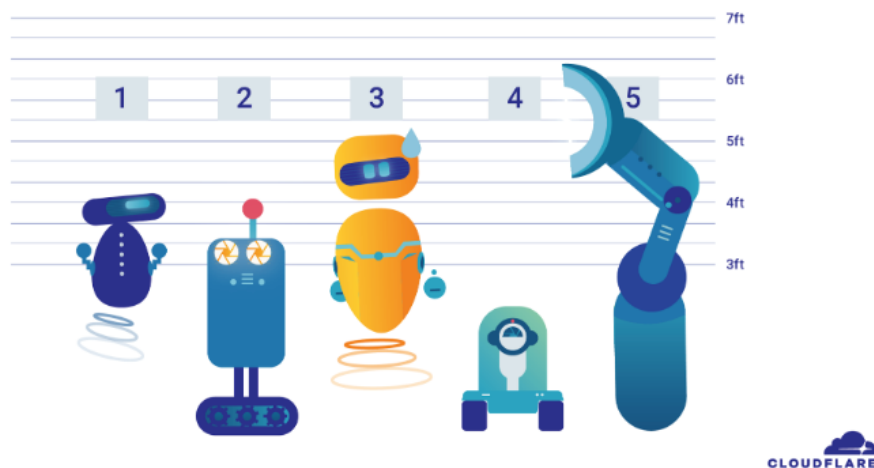
14. Upon information and belief, Cloudflare offers and/or operates one or more website(s) (for example the website accessible at <https://www.cloudflare.com/>), and operates as a content delivery network and Distributed Denial of Service (DDoS) mitigation company by acting as a reverse proxy between a website's visitor and the Cloudflare customer's hosting provider. Cloudflare directs end-users that wish to access offerings, resources, services, electronic transactions, and/or purchases from Cloudflare’s customers to visit associated backend web servers

supporting their content delivery network and DDoS mitigation services. See <https://www.cloudflare.com>.

15. Defendant protects access to certain resources and/or content of its website(s)/customer's website(s) from Internet bots (a/k/a web bots or robots), which are automated software applications that run tasks over the Internet with minimal, if any, human intervention. Defendant restricts access to these protected resources/content through the use of Completely Automatic Public Turing Test to Tell Humans and Computers Apart ("CAPTCHA"). Specifically, Defendant implements Intuition Machine Inc.'s hCaptcha framework on its commercial websites/customer's websites, as discussed on CloudFlare's company blog <https://blog.cloudflare.com/moving-from-recaptcha-to-hcaptcha/>, as a precondition to end-users or third parties accessing the protected resource and/or content.

We recently migrated the CAPTCHA provider we use from Google's reCAPTCHA to a service provided by the independent hCaptcha. We're excited about this change because it helps address a privacy concern inherent to relying on a Google service that we've had for some time and also gives us more flexibility to customize the CAPTCHAs we show. Since this change potentially impacts all Cloudflare customers, we wanted to walk through the rationale in more detail.

## CAPTCHAs at Cloudflare

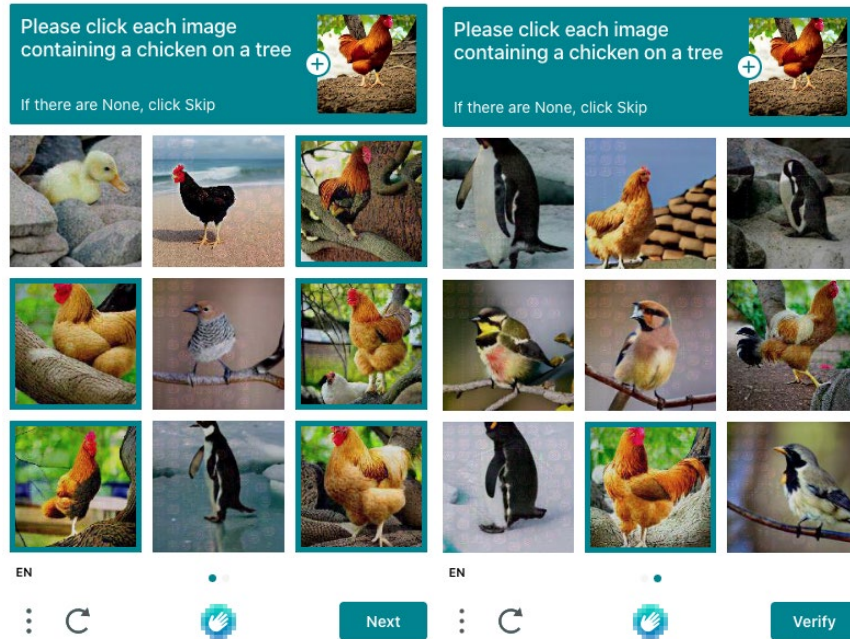


<https://blog.cloudflare.com/moving-from-recaptcha-to-hcaptcha/>

16. Defendant creates or registers an hCaptcha account with Intuition Machines, Inc. (“Intuition Machines”) to obtain an individualized API key. Defendant incorporates source code and other computerized instructions, including the individualized hCAPTCHA API key, into the architecture, design, and construction of its website(s) and/or its customer’s website(s). *See* <https://developers.cloudflare.com/pages/platform/functions/plugins/hcaptcha/>. That source code incorporated by Defendant into its website(s)/its customer’s website(s) directs and controls the electing, associating, presentation, processing, and calculation of information related to the graphical/pictorial and/or motion-based hCaptcha presented to a user of Defendant’s/Defendant’s customer’s website(s).

17. Defendant’s HTML and JavaScript code and other computerized instructions perform or direct and control the performance of the following actions, among others: When an end-user or other third party wishes to access a protected resource or content of Defendant’s website(s)/Defendant’s customer’s website(s) and is suspected of being a robot, Defendant’s website(s)/Defendant’s customer’s website(s) display an image-based CAPTCHA. When Defendant first displays the image-based CAPTCHA, 9-image tiles are shown to the website user. Defendant instructs the user to select all tiles within the displayed tiles that contain a certain concept, for example chickens on a tree, chickens on a beach, cupcakes, strawberry cakes, etc. As the user selects or clicks on an image-tile, a box is placed around the selected image-tile, and the user can select “Next” when all appropriate tiles are selected. An additional 9-image tiles are then shown to the user, and the user is asked again to select all images pertaining to the concept and instructed to select “Verify” when the task is completed. At the verification stage, the user’s

responses are either deemed accurate (no remaining tile of the image contains the specified concept) or inaccurate (any tile of the image contains the specified concept).



<https://accounts.hcaptcha.com/demo>

18. Defendant's HTML and JavaScript source code and other computerized instructions perform or direct and control the performance of the following actions, among others: When an end-user, or other third party wishes to access a protected resource or content of Defendant's website(s)/Defendant's customer's website(s), Defendant's website(s)/Defendant's customer's website(s) automatically loads a checkbox labeled "I am human." Defendant instructs and requires the user to check the box in order to access the protected record and processes, for example, through the user's mouse movements and click manipulation. If such movements and/or manipulation from the user meet a required threshold, the user is deemed human and granted access to the protected resource or content.

19. The website(s) identified above are exemplary infringing products. Each of Defendant's products and/or offerings that use hCaptcha technology and/or operate in a reasonably similar manner utilize the technology claimed in the Patents-in-Suit.

KNOWLEDGE OF PATENTS-IN-SUIT

20. Cloudflare had knowledge of the Patents-in-Suit and the infringing conduct at least as early as the date when HDI effected service of the Complaint.

**V. COUNTS OF PATENT INFRINGEMENT**

COUNT ONE

DIRECT INFRINGEMENT OF THE '141 PATENT PURSUANT TO 35 U.S.C. § 271(a)

21. HDI incorporates by reference its allegations in the paragraphs above as if fully restated herein.

22. On information and belief, Cloudflare, without authorization or license, has been and is presently directly infringing one or more claims of the '141 Patent, including at least claim 1 of the '141 Patent, as infringement is defined by 35 U.S.C. § 271(a), including through using in the United States methods infringing one or more claims of the '141 Patent. Cloudflare practices each element of at least claim 1 of the '141 Patent because it performs each step of the claimed method or performance of the step by a third party(s) is attributable to Cloudflare. Cloudflare is thus liable for direct infringement of at least claim 1 the '141 Patent pursuant to 35 U.S.C. § 271(a).

23. Cloudflare's infringement is based upon literal infringement or infringement under the doctrine of equivalents, or both.

24. As a result of Cloudflare's infringement of the '141 Patent, HDI has suffered monetary damages, and is entitled to an award of damages adequate to compensate it for such infringement under 35 U.S.C. § 284, but in no event, less than a reasonable royalty.

COUNT TWO

INDIRECT INFRINGEMENT OF THE '141 PATENT PURSUANT TO 35 U.S.C. § 271(b)

25. HDI incorporates by reference its allegations in the paragraphs above as if fully restated herein.

26. On information and belief, without authorization or license Cloudflare has been and is presently indirectly infringing one or more claims of the '141 Patent, including at least claim 1 of the '141 Patent, by *inter alia* actively inducing infringement of the '141 Patent under 35 U.S.C. § 271(b). Such inducements include without limitation, with specific intent to encourage the infringement, knowingly inducing Intuition Machines and/or Cloudflare's customers and/or end users to use infringing articles and methods that Cloudflare knows or should know infringe one or more claims of the '141 Patent. Cloudflare, *inter alia*, creates and provides its accused website(s), provides, implements and/or uploads the code for implementation of the hCaptcha technology on its customer's website(s), and/or instructs, directs, and/or requires Intuition Machines and/or Cloudflare's customers and/or end users, including through source code and computerized instructions, to perform one or more steps of the method claimed in the '141 Patent either literally or under the doctrine of equivalents.

27. In the alternative or in addition, such inducements include without limitation, with specific intent to encourage the infringement, knowingly inducing Cloudflare's customers, Intuition Machines, and/or end-users of Cloudflare's accused website(s)/Cloudflare's customer's accused website(s) to use infringing articles and methods that Cloudflare knows or should know infringe one or more claims of the '141 Patent. Cloudflare, *inter alia*, creates and provides its accused website(s), instructs, directs, and/or requires end-users to use the patented inventions of the '141 Patent by directing end-users to Cloudflare's website(s) or its customer's website(s) and requiring end-users to solve an hCaptcha (image-based and/or motion-based) to access certain



protected resources or content on Cloudflare's website/Cloudflare's customer's website in accordance with the code, service script(s), and other computerized instructions implemented by and/or for Cloudflare.

28. Cloudflare knew or was willfully blind to the fact that it was inducing others, including at least Intuition Machines, Cloudflare's customers, and/or end-users of Cloudflare's accused website(s)/Cloudflare's customer's website(s), to infringe by practicing, either themselves or in conjunction with others, one or more of method claims of the '141 Patent, including at least claim 1.

29. Cloudflare knowingly and actively aided and abetted the direct infringement of the '141 Patent by, *inter alia*, providing a mechanism through which Intuition Machines, Cloudflare's customers, and/or end-users of Cloudflare's website(s)/its customer's website(s) infringe the '141 Patent, requiring end-users to solve an hCaptcha to access protected content and resources in Cloudflare's website(s)/its customer's website(s), and instructing, directing, and/or requiring Intuition Machines to perform the steps of the asserted method claims, including at least claim 1 of the '141 Patent.

30. Cloudflare's inducement to infringe is based upon literal infringement or infringement under the doctrine of equivalents, or both.

31. As a result of Cloudflare's infringement of the '141 Patent, HDI has suffered monetary damages, and is entitled to an award of damages adequate to compensate it for such infringement under 35 U.S.C. § 284, but in no event, less than a reasonable royalty.

COUNT THREE  
INDIRECT INFRINGEMENT OF THE '141 PATENT PURSUANT TO 35 U.S.C. § 271(c)

32. HDI incorporates by reference its allegations in the paragraphs above as if fully restated herein.

33. On information and belief, Cloudflare, without authorization or license, has been and is presently indirectly infringing one or more claims of the '141 Patent, including at least claim 1, by contributing to infringement of the '141 Patent under 35 U.S.C. § 271(c) and/or §271(f), either literally and/or under the doctrine of equivalents.

34. Cloudflare has contributed to the infringement of the '141 Patent by, with knowledge of the '141 Patent and its infringing use, offering and/or providing to its end-users, customers, and/or other third parties and/or importing into the United States, its website(s), application(s), and/or other products. That website(s), application(s), and/or other product(s) (i) being a material part of the patented inventions claimed in the '141 Patent, (ii) is not a staple article or commodity of commerce suitable for substantial noninfringing use, and (iii) was especially made or especially adapted for use in an infringement of the '141 Patent, which Cloudflare knew.

35. As a result of Cloudflare's infringement of the '141 Patent, HDI has suffered monetary damages, and is entitled to an award of damages adequate to compensate it for such infringement under 35 U.S.C. § 284, but in no event, less than a reasonable royalty.

#### COUNT FOUR

##### DIRECT INFRINGEMENT OF THE '861 PATENT PURSUANT TO 35 U.S.C. § 271(a)

36. HDI incorporates by reference its allegations in the paragraphs above as if fully restated herein.

37. On information and belief, Cloudflare, without authorization or license, has been and is presently directly infringing one or more claims of the '861 Patent, including at least claim 1 of the '861 Patent, as infringement is defined by 35 U.S.C. § 271(a), including through using in the United States methods infringing one or more claims of the '861 Patent. Cloudflare practices each element of at least claim 1 of the '861 Patent because it performs each step of the claimed

method or performance of the step by a third party(s) is attributable to Cloudflare. Cloudflare is thus liable for direct infringement of at least claim 1 the '861 Patent pursuant to 35 U.S.C. § 271(a).

38. Cloudflare's infringement is based upon literal infringement or infringement under the doctrine of equivalents, or both.

39. As a result of Cloudflare's infringement of the '861 Patent, HDI has suffered monetary damages, and is entitled to an award of damages adequate to compensate it for such infringement under 35 U.S.C. § 284, but in no event, less than a reasonable royalty.

COUNT FIVE

INDIRECT INFRINGEMENT OF THE '861 PATENT PURSUANT TO 35 U.S.C. § 271(b)

40. HDI incorporates by reference its allegations in the paragraphs above as if fully restated herein.

41. On information and belief, without authorization or license Cloudflare has been and is presently indirectly infringing one or more claims of the '861 Patent, including at least claim 1 of the '861 Patent, by *inter alia*, actively inducing infringement of the '861 Patent under 35 U.S.C. § 271(b). Such inducements include without limitation, with specific intent to encourage the infringement, knowingly inducing Intuition Machines and/or Cloudflare's customers and/or end users to use infringing articles and methods that Cloudflare knows or should know infringe one or more claims of the '861 Patent. Cloudflare, *inter alia*, creates and provides its accused website(s), provides, implements and/or uploads the code for implementation of the hCaptcha technology on its customer's website(s), and/or instructs, directs, and/or requires Intuition Machines and/or Cloudflare's customers and/or end users, including through source code and computerized instructions, to perform one or more steps of the method claimed in the '861 Patent either literally or under the doctrine of equivalents.

42. In the alternative or in addition, such inducements include without limitation, with specific intent to encourage the infringement, knowingly inducing Cloudflare's customers, Intuition Machines, and/or end-users of Cloudflare's accused website(s)/Cloudflare's customer's accused website(s) to use infringing articles and methods that Cloudflare knows or should know infringe one or more claims of the '861 Patent. Cloudflare, *inter alia*, creates and provides its accused website(s), instructs, directs, and/or requires end-users to use the patented inventions of the '861 Patent by directing end-users to Cloudflare's website(s) or its customer's website(s) and requiring end-users to solve an hCaptcha (image-based and/or motion-based) to access certain protected resources or content on Cloudflare's website/Cloudflare's customer's website in accordance with the code, service script(s), and other computerized instructions implemented by and/or for Cloudflare.

43. Cloudflare knew or was willfully blind to the fact that it was inducing others, including at least Intuition Machines, Cloudflare's customers, and/or end-users of Cloudflare's accused website(s)/Cloudflare's customer's website(s), to infringe by practicing, either themselves or in conjunction with others, one or more of method claims of the '861 Patent, including at least claim 1.

44. Cloudflare knowingly and actively aided and abetted the direct infringement of the '861 Patent by, *inter alia*, providing a mechanism through which Intuition Machines, Cloudflare's customers, and/or end-users of Cloudflare's website(s)/its customer's website(s) infringe the '861 Patent, requiring end-users to solve an hCaptcha to access protected content and resources in Cloudflare's website(s)/its customer's website(s), and instructing, directing, and/or requiring Intuition Machines to perform the steps of the asserted method claims, including at least claim 1 of the '861 Patent.

45. Cloudflare's inducement to infringe is based upon literal infringement or infringement under the doctrine of equivalents, or both.

46. As a result of Cloudflare's infringement of the '861 Patent, HDI has suffered monetary damages, and is entitled to an award of damages adequate to compensate it for such infringement under 35 U.S.C. § 284, but in no event, less than a reasonable royalty.

COUNT SIX

INDIRECT INFRINGEMENT OF THE '861 PATENT PURSUANT TO 35 U.S.C. § 271(c)

47. HDI incorporates by reference its allegations in the paragraphs above as if fully restated herein.

48. On information and belief, Cloudflare, without authorization or license, has been and is presently indirectly infringing one or more claims of the '861 Patent, including at least claim 1, by contributing to infringement of the '861 Patent under 35 U.S.C. § 271(c) and/or § 271(f), either literally and/or under the doctrine of equivalents.

49. Cloudflare has contributed to the infringement of the '861 Patent by, with knowledge of the '861 Patent and its infringing use, offering and/or providing to its end-users, customers, and/or other third parties and/or importing into the United States, its website(s), application(s), and/or other products. That website(s), application(s), and/or other product(s) (i) being a material part of the patented inventions claimed in the '861 Patent, (ii) is not a staple article or commodity of commerce suitable for substantial noninfringing use, and (iii) was especially made or especially adapted for use in an infringement of the '861 Patent, which Cloudflare knew.

50. As a result of Cloudflare's infringement of the '861 Patent, HDI has suffered monetary damages, and is entitled to an award of damages adequate to compensate it for such infringement under 35 U.S.C. § 284, but in no event, less than a reasonable royalty.

## VI. JURY DEMAND

51. HDI demands a trial by jury of all matters to which it is entitled to trial by jury, pursuant to FED. R. CIV. P. 38.

## VII. PRAYER FOR RELIEF

WHEREFORE, HDI prays for judgment and seeks relief against Cloudflare as follows:

- A. That the Court determine that one or more claims of the Patents-in-Suit is infringed by Cloudflare, either literally or under the doctrine of equivalents;
- B. That the Court award damages adequate to compensate HDI for the patent infringement that has occurred, together with prejudgment and post-judgment interest and costs, and an ongoing royalty for continued infringement;
- C. That the Court permanently enjoin Cloudflare pursuant to 35 U.S.C. § 283; and
- D. That the Court award such other relief to HDI as the Court deems just and proper.

DATED: December 20, 2022

Respectfully submitted,

/s/ Andrew G. DiNovo

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