

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
22 August 2024 (22.08.2024)



(10) International Publication Number
WO 2024/172833 A3

(51) International Patent Classification:

<i>H04L 9/08</i> (2006.01)	<i>G06F 21/60</i> (2013.01)
<i>G06F 9/455</i> (2018.01)	<i>G06F 21/71</i> (2013.01)
<i>G06F 9/50</i> (2006.01)	<i>G06F 21/78</i> (2013.01)
<i>G06F 12/0882</i> (2016.01)	<i>G06N 3/123</i> (2023.01)
<i>G06F 12/1009</i> (2016.01)	<i>H04L 9/32</i> (2006.01)
<i>G06F 12/109</i> (2016.01)	<i>H04N 19/184</i> (2014.01)
<i>G06F 21/44</i> (2013.01)	<i>H04N 21/462</i> (2011.01)

GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

(21) International Application Number:

PCT/US2023/029382

(22) International Filing Date:

03 August 2023 (03.08.2023)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/394,846 03 August 2022 (03.08.2022) US

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(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, CV,

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) Date of publication of the international search report:

31 October 2024 (31.10.2024)

WO 2024/172833 A3

(54) Title: CYPHERGENICS-ENABLED DIGITAL ECOSYSTEMS AND CYPHERGENICS-ENABLED DIGITAL SIGNATURES

(57) Abstract: In some embodiments, a method for encrypting a file includes receiving a file comprising file data and file metadata; retrieving a genomic differentiation object and genomic regulation instructions that define a set of operations that modify the genomic differentiation object; modifying the genomic differentiation object into a modified genomic differentiation object based on the genomic regulation instructions; extracting a sequence of bits from a predetermined set of bit locations of the file metadata; generating a genomic engagement factor based on the modified genomic differentiation object and the extracted sequence; and encrypting at least one portion of the file data using the genomic engagement factor.