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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
11 November 2021 (11.11.2021)

WIPO | PCT

(10) International Publication Number
WO 2021/226322 A1

(51) International Patent Classification:
G16H 30/40 (2018.01) *G16H 50/20* (2018.01)

(21) International Application Number:
PCT/US2021/031058

(22) International Filing Date:
06 May 2021 (06.05.2021)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/021,955 08 May 2020 (08.05.2020) US

(71) Applicant: **PAIGE.AI, INC.** [US/US]; 11 Times Square, 37th Floor, New York, NY 10036 (US).

(72) Inventors: **SUE, Jillian**; c/o Paige.AI, Inc., 11 Times Square, 37th Floor, New York, NY 10036 (US). **FUCHS, Thomas**; c/o Paige.AI, Inc., 11 Times Square, 37th Floor, New York, NY 10036 (US). **KANAN, Christopher**; c/o Paige.AI, Inc., 11 Times Square, 37th Floor, New York, NY 10036 (US).

(74) Agent: **YERETSKY, Andrew**; Bookoff McAndrews, PLLC, 2020 K Street, Suite 400, Washington, DC 20006 (US).

(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, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, 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, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ,

(54) Title: SYSTEMS AND METHODS TO PROCESS ELECTRONIC IMAGES TO DETERMINE SALIENT INFORMATION IN DIGITAL PATHOLOGY

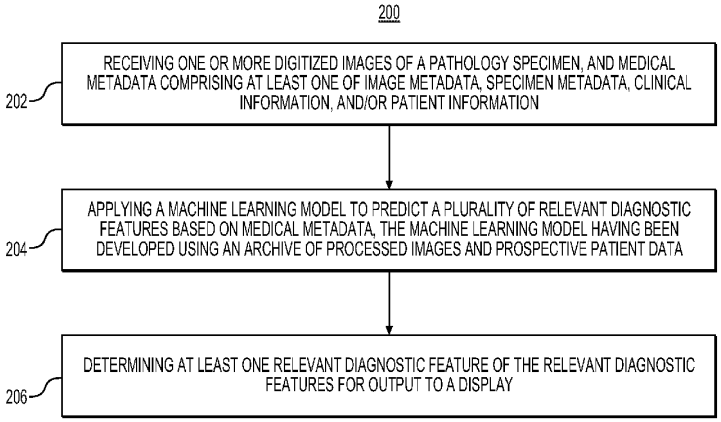


FIG. 2

(57) Abstract: Systems and methods are disclosed for identifying a diagnostic feature of a digitized pathology image, including receiving one or more digitized images of a pathology specimen, and medical metadata comprising at least one of image metadata, specimen metadata, clinical information, and/or patient information applying a machine learning model to predict a plurality of relevant diagnostic features based on medical metadata, the machine learning model having been developed using an archive of processed images and prospective patient data, and determining at least one relevant diagnostic feature of the relevant diagnostic features for output to a display.

[Continued on next page]

WO 2021/226322 A1

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, 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).

Published:

— *with international search report (Art. 21(3))*