



(51) International Patent Classification:

G06F 19/00 (2011.01) G06K 9/62 (2006.01)
G06K 9/46 (2006.01) G06T 7/00 (2017.01)
G06K 9/52 (2006.01)

(21) International Application Number:

PCT/US2017/058872

(22) International Filing Date:

27 October 2017 (27.10.2017)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/414,597 28 October 2016 (28.10.2016) US

(71) Applicant: VERILY LIFE SCIENCES LLC [US/US];
269 East Grand Ave., South San Francisco, California
94080 (US).

(72) Inventors: ZHA, Tiantian; c/o Verily Life Sciences LLC,
269 East Grand Ave., South San Francisco, California
94080 (US). OVADIA, Yaniv; c/o Verily Life Sciences
LLC, 269 East Grand Ave., South San Francisco, Califor-
nia 94080 (US). NEWBURGER, Daniel; c/o Verily Life

Sciences LLC, 269 East Grand Ave., South San Francis-
co, California 94080 (US). KRISHNAN, Dilip; c/o Verily
Life Sciences LLC, 269 East Grand Ave., South San Fran-
cisco, California 94080 (US). LIVNI, Josh; c/o Verily Life
Sciences LLC, 269 East Grand Ave., South San Francis-
co, California 94080 (US). DESNOYER, Mark; c/o Verily
Life Sciences LLC, 269 East Grand Ave., South San Fran-
cisco, California 94080 (US).

(74) Agent: MCALLISTER, Tyler et al.; Kilpatrick Townsend
& Stockton LLP, Mailstop: IP Docketing - 22, 1100
Peachtree Street, N.E., Suite 2800, Atlanta, Georgia 30309
(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, 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,

(54) Title: PREDICTIVE MODELS FOR VISUALLY CLASSIFYING INSECTS

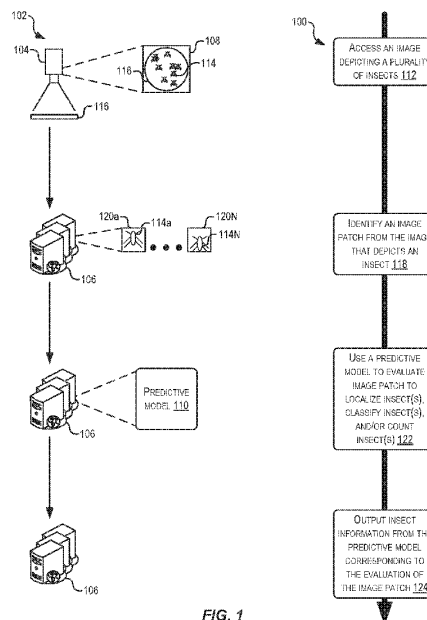


FIG. 1

(57) Abstract: Insects can be localized and classified using a predictive model. To begin, image data is obtained that corresponds to the insects.. Using a predictive model, samples of the image data are evaluated to determine whether the image portions include an insect and, if so, into what category the insect should be classified (e.g., male/female, species A/species B, etc.).

SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN,
TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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, 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))