



(51) International Patent Classification:

A61B 3/16 (2006.01) G06N 20/00 (2019.01)
A61B 5/03 (2006.01)

(21) International Application Number:

PCT/SG2022/050598

(22) International Filing Date:

22 August 2022 (22.08.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10202109128P 20 August 2021 (20.08.2021) SG

(71) Applicants: **NATIONAL UNIVERSITY OF SINGAPORE** [SG/SG]; 21 Lower Kent Ridge Road, Singapore 119077 (SG). **NATIONAL UNIVERSITY HOSPITAL (SINGAPORE) PTE LTD** [SG/SG]; Lower Kent Ridge Road, Singapore 119074 (SG).

(72) Inventors: **TEE, Chee Keong**; c/o National University of Singapore, Faculty of Engineering, Department of Materials Science and Engineering, 21 Lower Kent Ridge Road, Singapore 119077 (SG). **YU, Kelu**; c/o National University of Singapore, Faculty of Engineering, Department of Materials Science and Engineering, 21 Lower Kent Ridge Road, Singapore 119077 (SG). **LI, Si**; c/o National University of

Singapore, Faculty of Engineering, Department of Materials Science and Engineering, 21 Lower Kent Ridge Road, Singapore 119077 (SG). **KOH, Victor**; c/o National University Hospital (Singapore) Pte Ltd, Department of Ophthalmology, 1E Kent Ridge Road, Level 7, Singapore 119228 (SG).

(74) Agent: **VIERING, JENTSCHURA & PARTNER LLP**; P.O. Box 1088, Rochor Post Office, Rochor Road, Singapore 911833 (SG).

(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, 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, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK,

(54) Title: INTRAOCULAR PRESSURE SENSOR DEVICE AND METHOD

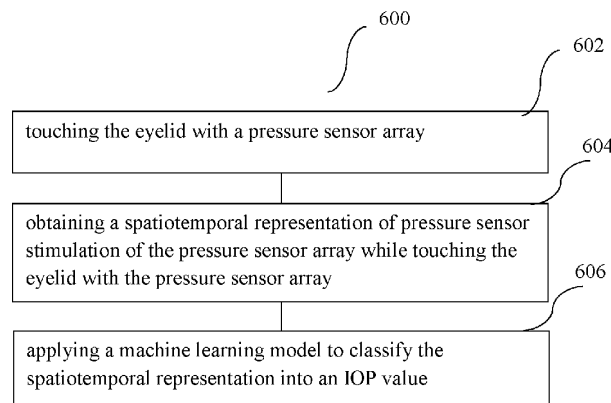


Figure 6

(57) Abstract: A system and method for measuring intraocular pressure (IOP) of the eye. The method comprises the steps of touching the eyelid with a pressure sensor array; obtaining a spatiotemporal representation of pressure sensor stimulation of the pressure sensor array while touching the eyelid with the pressure sensor array; and applying a machine learning model to classify the spatiotemporal representation into an IOP value.

[Continued on next page]



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))*
- *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:

11 May 2023 (11.05.2023)