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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
25 September 2025 (25.09.2025)

WIPO | PCT

(10) International Publication Number
WO 2025/199462 A1

(51) International Patent Classification:
A61B 5/00 (2006.01) *A61B 5/024* (2006.01)
A61B 5/01 (2006.01)

(21) International Application Number:
PCT/US2025/020956

(22) International Filing Date:
21 March 2025 (21.03.2025)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
18/612,879 21 March 2024 (21.03.2024) US

(71) Applicant: **OURA HEALTH OY** [FI/US]; Elektroniikkatie 10, 90590 Oulu (FI).

(72) Inventor: **KOSKIMÄKI, Heli Tuulia**; Elektroniikkatie 10, 90590 Oulu (FI).

(74) Agent: **MUTTER, Nathan J.**; Holland & Hart LLP, P.O. Box 11583, Salt Lake City, Utah 84147 (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, 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, UY, UZ, VC, VN, WS, ZA, ZM, ZW.

WO 2025/199462 A1

(54) Title: TECHNIQUES FOR MIGRAINE DETECTION USING A WEARABLE DEVICE

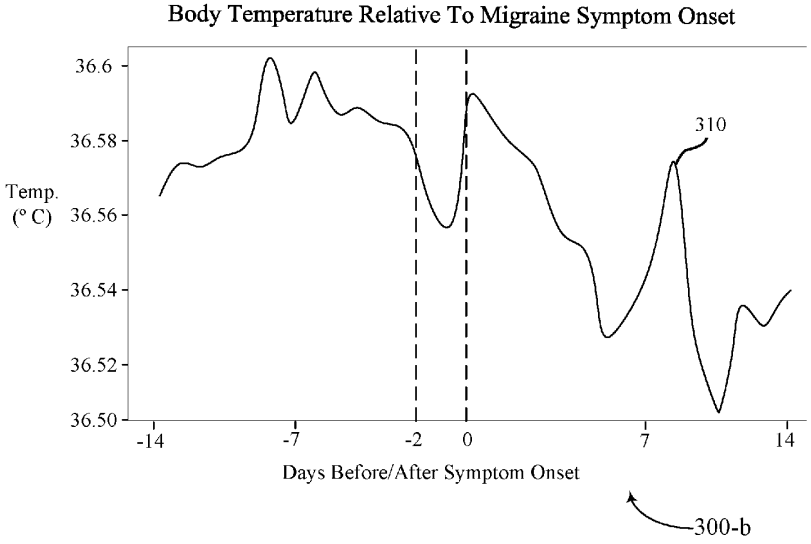


FIG. 3

(57) Abstract: Methods, systems, and devices for migraine detection are described. The described techniques may enable a wearable device to analyze collected physiological data to predict when a user may experience a migraine. In some examples, users may experience a decrease in total sleep time, a decrease in REM sleep, and a decrease in body temperature during one or more days prior to onset of migraine symptoms. Accordingly, a wearable device may use these physiological features observed within sleep data and temperature data collected via a wearable device to predict that a user will experience a migraine based on a comparison to baseline values. Such migraine prediction techniques may enable users to take medications prior to symptom onset, which may reduce a severity of the migraine symptoms. In some examples, the wearable device may utilize other physiological data to predict migraine onset.

[Continued on next page]

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

Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

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