

(51) **International Patent Classification:**
A61B 5/0472 (2006.01) *A61B 5/04* (2006.01)
A61B 5/00 (2006.01) *A61B 5/0452* (2006.01)

(21) **International Application Number:**
PCT/IB2020/050850

(22) **International Filing Date:**
03 February 2020 (03.02.2020)

(25) **Filing Language:** English

(26) **Publication Language:** English

(30) **Priority Data:**
16/267,380 04 February 2019 (04.02.2019) US

(71) **Applicant:** **CARDIOLOGS TECHNOLOGIES SAS**
[FR/FR]; 136 rue Saint Denis, 75002 Paris (FR).

(72) **Inventors:** **LI, Jia**; 106 rue du Cherche-Midi, 75006 Paris (FR). **POMIER, Romain**; 17 rue Friant, 75014 Paris (FR).

(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, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, (FR). **SCABELLONE, Chiara**; 8 rue du Repos, 75020 Paris (FR). **GAUDEFROY, Cyril**; 41 boulevard Henri IV, 75004 Paris (FR). **BARRE, Benjamin**; 6 rue Ledru Rollin, 92150 Suresnes (FR). **FONTANARAVA, Julien**; 39 avenue d'Italie, 75013 Paris (FR). **GARDELLA, Christophe**; 30 rue Beaurepaire, 75010 Paris (FR). **SORNAY, Mathieu**; 10 rue de l'Ecole Polytechnique, 75005 Paris (FR). **BORDIER, Thomas**; 6 rue Lalande, 74014 Paris (FR). **PRIOR, Karen**; 2 Ruelle des Jaurielles, 51390 Jouy-les-Reims (FR). **DE SAINT VICTOR, Marie-Albane**; 1 cite Chaptal, 75009 Paris (FR).

(54) Title: ELECTROCARDIOGRAM PROCESSING SYSTEM FOR DELINEATION AND CLASSIFICATION

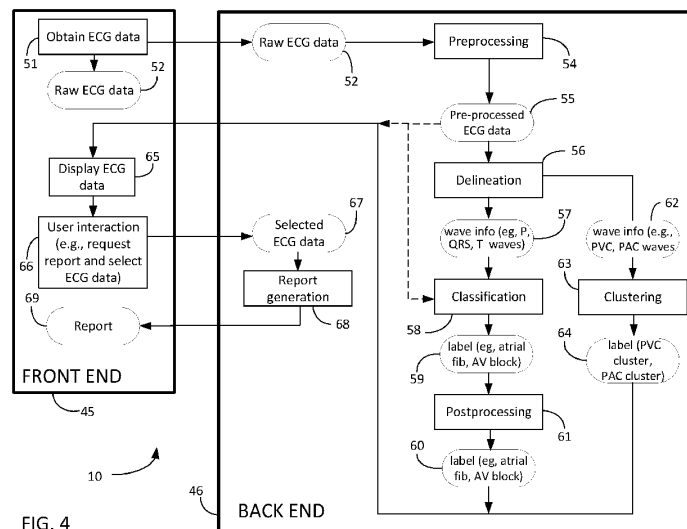


FIG. 4

(S7) Abstract: Systems and methods are provided for analyzing electrocardiogram (ECG) data of a patient using a substantial amount of ECG data. The systems receive ECG data from a sensing device positioned on a patient such as one or more ECG leads. The system may include an application that communicates with an ECG platform running on a server(s) that processes and analyzes the ECG data, e.g., using neural networks for delineation of the cardiac signal and classification of various abnormalities, conditions and/or descriptors. The ECG platform may further process and analyze the ECG data using neural networks and/or algorithms for embedding and grouping. The processed ECG data is used to generate a graphic user interface that is communicated from the server(s) to a computer for display in a user-friendly and interactive manner with enhanced accuracy.

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, 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).

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))*
- *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))*