

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
15 July 2021 (15.07.2021)



(10) International Publication Number
WO 2021/142267 A1

(51) International Patent Classification:

A61B 8/00 (2006.01) *A61B 18/00* (2006.01)
A61B 5/00 (2006.01) *A61B 90/00* (2016.01)
A61B 17/00 (2006.01)

da 33139 (US). **SEALE, Christian**; 1900 Purdy Avenue, Suite 1A, Miami Beach, Florida 33139 (US). **KAK, Subhash**; 1900 Purdy Avenue, Suite 1A, Miami Beach, Florida 33139 (US).

(21) International Application Number:

PCT/US2021/012708

(74) **Agent: LI, Chen**; Medler Ferro Woodhouse & Mills PLLC, 8201 Greensboro Drive, Suite 1060, McLean, Virginia 22102 (US).

(22) International Filing Date:

08 January 2021 (08.01.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/958,430 08 January 2020 (08.01.2020) US

(71) **Applicant: SCARPMAP LLC** [US/US]; 1900 Purdy Avenue, Suite 1A, Miami Beach, Florida 33139 (US).

(72) **Inventors: GAUTAM, Abhinav**; 1900 Purdy Avenue, Suite 1A, Miami Beach, Florida 33139 (US). **KINI, Narendra**; 1900 Purdy Avenue, Suite 1A, Miami Beach, Florida 33139 (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.

(54) **Title:** METHODS AND COMPUTING SYSTEM FOR PROCESSING ULTRASOUND IMAGE TO DETERMINE HEALTH OF SUBDERMAL TISSUE

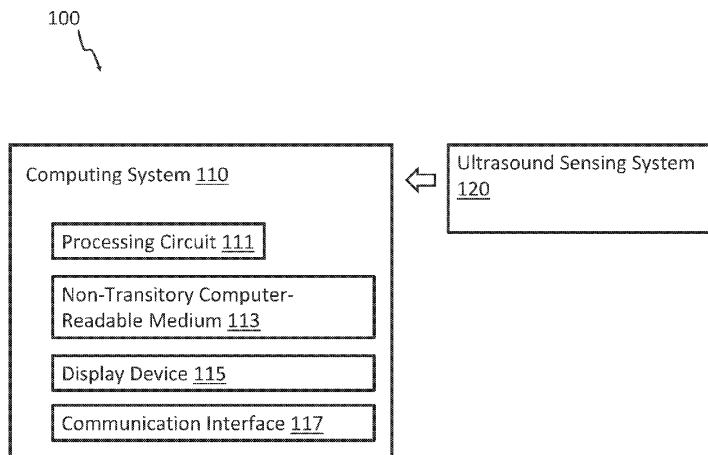


FIG. 1

(57) **Abstract:** A computing system and a non-transitory computer-readable medium with instructions for processing ultrasound images are presented. The computing system is configured to: receive an ultrasound image that includes image data representing subdermal tissue; apply a trained neural network to the ultrasound image to generate at least one of: a pliability parameter value which indicates pliability of the subdermal tissue, one or more regions of the ultrasound image that represents damaged tissue, or an indication of presence and/or location of an entrapped nerve.

[Continued on next page]

(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))*