

(51) International Patent Classification:
A61B 3/12 (2006.01)

(21) International Application Number:

PCT/SG2008/000482

(22) International Filing Date:

15 December 2008 (15.12.2008)

(25) Filing Language:

English

(26) Publication Language:

English

(71) Applicants (for all designated States except US): **SINGAPORE HEALTH SERVICES PTE LTD** [SG/SG]; 31 Third Hospital Avenue, #03-03 Bowyer Block, Singapore 168753 (SG). **AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH** [SG/SG]; 1 Fusionopolis Way, #20-01 Connexis, Singapore 138632 (SG). **NATIONAL UNIVERSITY OF SINGAPORE** [SG/SG]; 10 Kent Ridge Crescent, Singapore 119260 (SG).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **WONG, Wing Kee, Damon** [SG/SG]; IPTO, Insititute for Infocomm Research, 1 Fusionopolis Way, #21-01 Connexis, South Tower, Singapore 138632 (SG). **LIU, Jiang** [SG/SG]; IPTO, Insititute for Infocomm Research, 1 Fusionopolis Way, #21-01 Connexis, South Tower, Singapore 138632 (SG). **LIM, Joo Hwee** [SG/SG]; IPTO, Insititute for Infocomm Research, 1 Fusionopolis Way, #21-01 Connexis, South Tower, Singapore 138632 (SG). **LI, Huiqi** [SG/SG]; IPTO, Insititute for Infocomm Research, 1 Fusionopolis Way, #21-01 Connexis, South Tower, Singapore 138632 (SG). **TAN, Ngan Meng** [SG/SG]; IPTO, Insititute for Infocomm Research, 1 Fusionopolis Way, #21-01

Connexis, South Tower, Singapore 138632 (SG). **WONG, Tien Yin** [SG/SG]; 31 Third Hospital Avenue, #07-00 SNEC Building, Singapore 168751 (SG).

(74) Agent: **WATKIN, Timothy, Lawrence, Harvey**; Marks & Clerk Singapore LLP, Tanjong Pagar, PO Box 636, Singapore 910816 (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, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— of inventorship (Rule 4.17(iv))

Published:

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

(54) Title: A METHOD AND SYSTEM FOR DETERMINING THE POSITION OF AN OPTIC CUP BOUNDARY

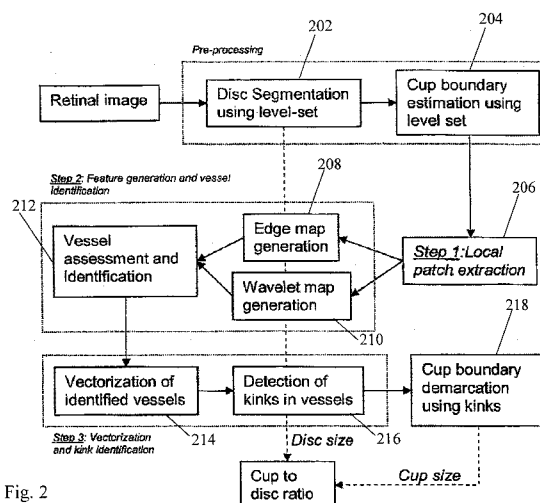


Fig. 2

(57) Abstract: A method for determining the position of an optic cup boundary in a 2D retinal image. The method includes detecting kinks in blood vessels at an estimated boundary of the optic cup and the optic disc, and determining the position of the optic cup boundary in the 2D retinal image based on the detected kinks. The determined optic cup boundary may be used for determining a CDR which may in turn be used for determining a risk of contracting glaucomatous.