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(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, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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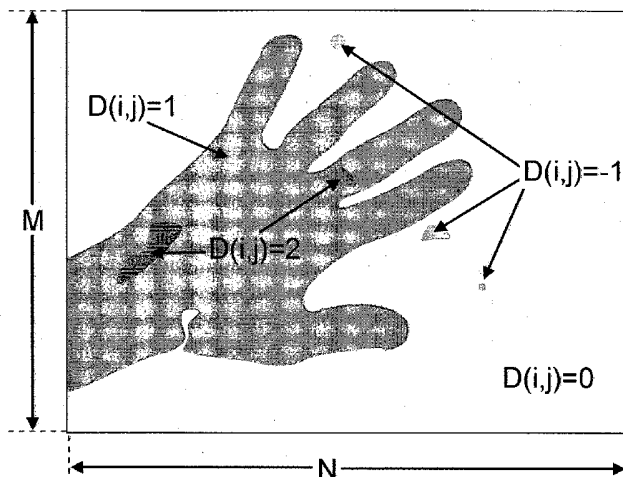(54) Title: FRONT-END ARCHITECTURE FOR IMAGE PROCESSING

FIG. 4

(57) **Abstract**: Systems and methods for image processing may perform one or more operations including, but not limited to: receiving raw image data from at least one imaging device; computing at least one image depth distance from the raw image data; computing one or more image validity flags from the raw image data; generating at least one data validity mask from the one or more image validity flags; determining a background imagery estimation from at least one image depth distance; generating at least one foreground mask from the background imagery estimation and the at least one image depth distance; generating at least one region-of-interest mask from the data validity mask and the foreground mask; and generating filtered raw image data from the raw image data and at least one region of interest mask.