A: Datasheet

Algorithm: innovatrics_008

Developer: Innovatrics

Submission Date: 2023_01_12

Template size: 4136 bytes

Template time (2.5 percentile): 958 msec

Template time (median): 960 msec

Template time (97.5 percentile): 1019 msec

Investigation:

Frontal mugshot ranking 40 (out of 388) -- FNIR(1600000, 0, 1) = 0.0013 vs. lowest 0.0008 from sensetime_009

Mugshot webcam ranking 40 (out of 350) -- FNIR(1600000, 0, 1) = 0.0084 vs. lowest 0.0054 from sensetime_009

Mugshot profile ranking 43 (out of 319) -- FNIR(1600000, 0, 1) = 0.0824 vs. lowest 0.0517 from sensetime_009

Immigration visa-border ranking 38 (out of 277) -- FNIR(1600000, 0, 1) = 0.0017 vs. lowest 0.0006 from cloudwalk_mt_001

Immigration visa-kiosk ranking 46 (out of 222) -- FNIR(1600000, 0, 1) = 0.0668 vs. lowest 0.0395 from cloudwalk_mt_001

Identification:

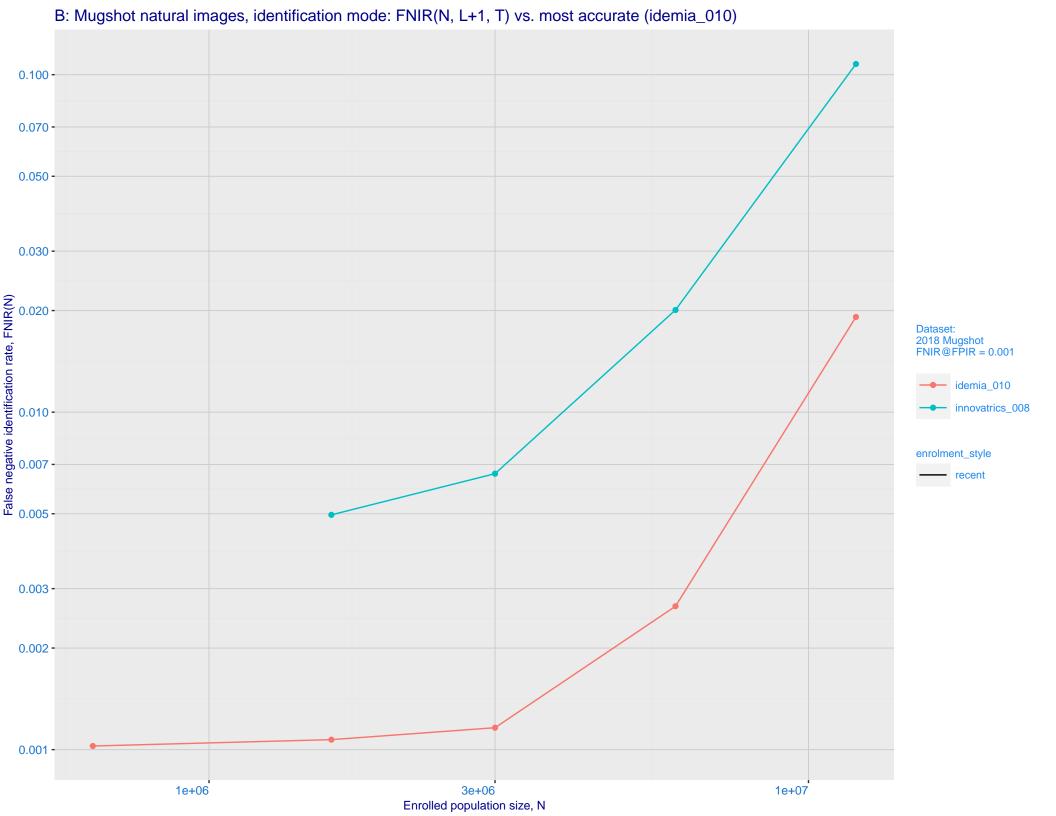
Frontal mugshot ranking 44 (out of 388) -- FNIR(1600000, T, L+1) = 0.0050, FPIR=0.001000 vs. lowest 0.0011 from idemia_010

Mugshot webcam ranking 62 (out of 348) -- FNIR(1600000, T, L+1) = 0.0362, FPIR=0.001000 vs. lowest 0.0072 from sensetime_009

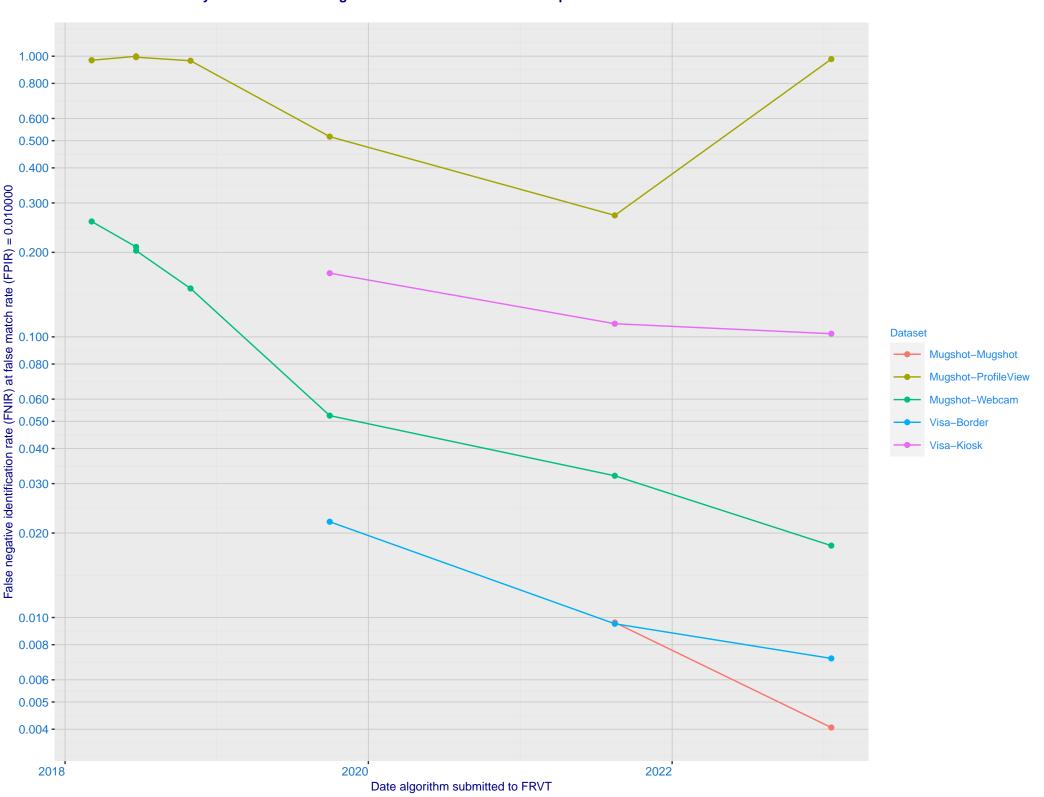
Mugshot profile ranking 288 (out of 318) -- FNIR(1600000, T, L+1) = 0.9999, FPIR=0.001000 vs. lowest 0.0698 from cloudwalk_mt_001

Immigration visa-border ranking 58 (out of 276) -- FNIR(1600000, T, L+1) = 0.0129, FPIR=0.001000 vs. lowest 0.0013 from cloudwalk_mt_001

Immigration visa-kiosk ranking 47 (out of 222) -- FNIR(1600000, T, L+1) = 0.1397, FPIR=0.001000 vs. lowest 0.0532 from cloudwalk_mt_001

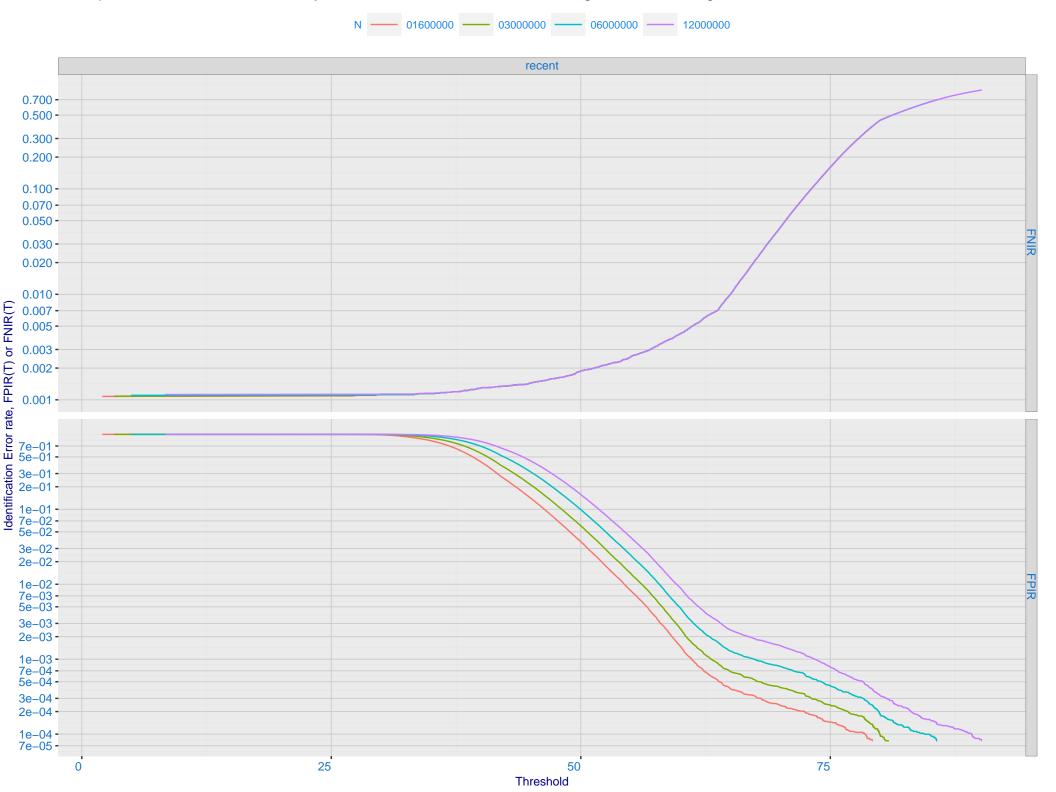


C: Evolution of accuracy for INNOVATRICS algorithms on three datasets 2018 – present

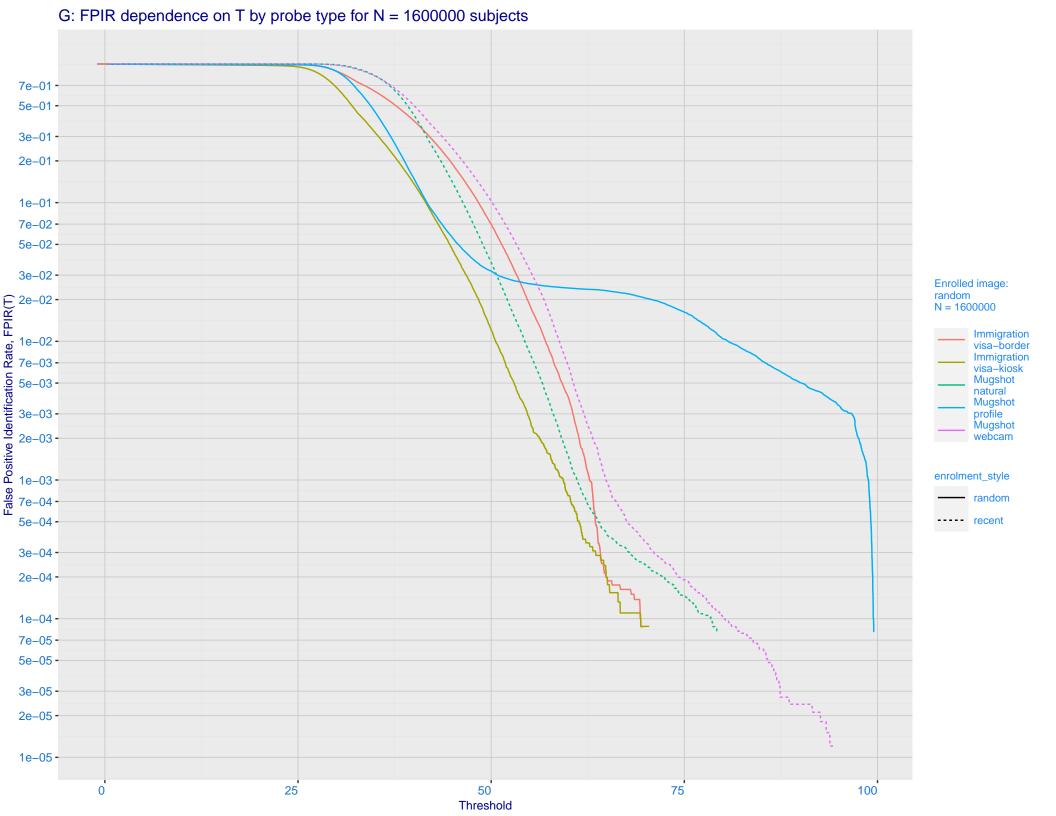


D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Immigration Immigration Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 - 0.003 - 0.002 - 0.001 - 0.700 - 0.500 - 0.200 - 0.100 enrolment_style random-ONE-MATE recent-ONE-MATE 0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -0.002 -0.001 -False positive identification rate, FPIR(T)

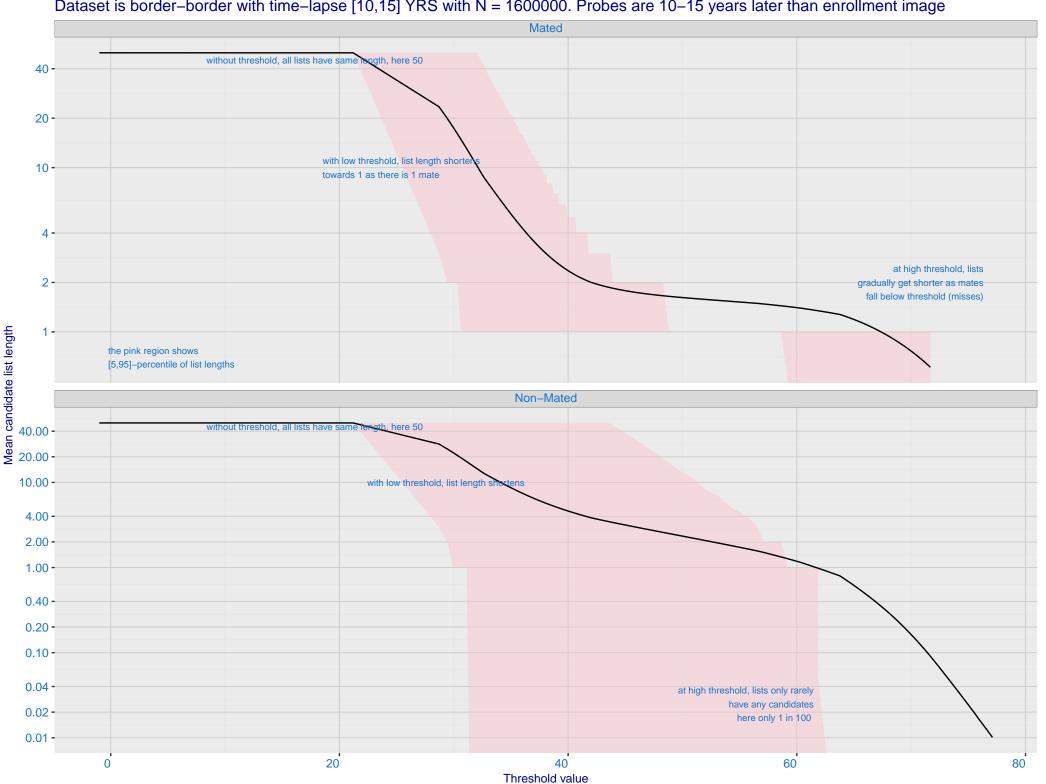
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images



F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 -5e+01 -3e+01 -2e+01 -1e+01 -7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -5e-01 -3e-01 -2e-01 -1e-01 -7e-02 -5e-02 -5e-02 -2e-02 -**Enrolled images:** recent N = 1600000 Mugshot natural Mugshot webcam 1e-02 -7e-03 -5e-03 -3e-03 -2e-03 -1e-03 -7e-04 -5e-04 -3e-04 -2e-04 -1e-04 -7e-05 -5e-05 -3e-05 -2e-05 -3e-02 1e-05 3e-05 1e-04 3e-04 1e-03 3e-03 1e-02 1e-01 3e-01 False Positive Identification Rate, FPIR(T)



H: Reduced length candidate lists for human review Dataset is border–border with time–lapse [10,15] YRS with N = 1600000. Probes are 10–15 years later than enrollment image



I: FNIR and FPIR dependence on threshold Dataset is border–border with time–lapse [10,15] YRS with N = 1600000. Probes are 10–15 years later than enrollment image

