A: Datasheet

Algorithm: everai_2

Developer: Paravision (EverAI)

Submission Date: 2018_10_30

Template size: 2048 bytes

Template time (2.5 percentile): 365 msec

Template time (median): 366 msec

Template time (97.5 percentile): 388 msec

Investigation:

Frontal mugshot ranking 65 (out of 259) -- FNIR(1600000, 0, 1) = 0.0040 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 77 (out of 221) -- FNIR(1600000, 0, 1) = 0.0218 vs. lowest 0.0062 from sensetime_005

Mugshot profile ranking 27 (out of 190) -- FNIR(1600000, 0, 1) = 0.3355 vs. lowest 0.0591 from sensetime_005

Immigration visa-border ranking 64 (out of 142) -- FNIR(1600000, 0, 1) = 0.0151 vs. lowest 0.0014 from visionlabs_009

Immigration visa-kiosk ranking 65 (out of 139) -- FNIR(1600000, 0, 1) = 0.1753 vs. lowest 0.0694 from cib_000

Identification:

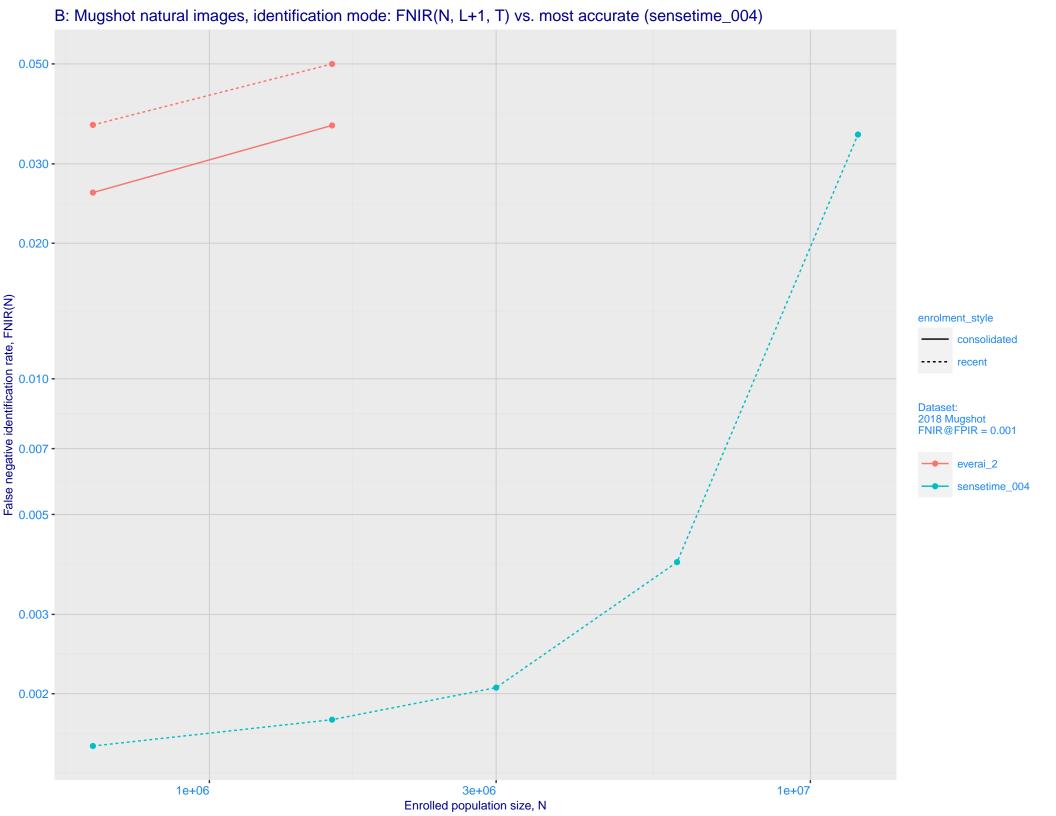
Frontal mugshot ranking 77 (out of 259) -- FNIR(1600000, T, L+1) = 0.0500, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot webcam ranking 80 (out of 219) -- FNIR(1600000, T, L+1) = 0.1194, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 62 (out of 189) -- FNIR(1600000, T, L+1) = 0.9831, FPIR=0.001000 vs. lowest 0.1733 from sensetime_005

Immigration visa-border ranking 58 (out of 139) -- FNIR(1600000, T, L+1) = 0.0803, FPIR=0.001000 vs. lowest 0.0059 from sensetime_004

Immigration visa-kiosk ranking 59 (out of 134) -- FNIR(1600000, T, L+1) = 0.5200, FPIR=0.001000 vs. lowest 0.1048 from sensetime_005

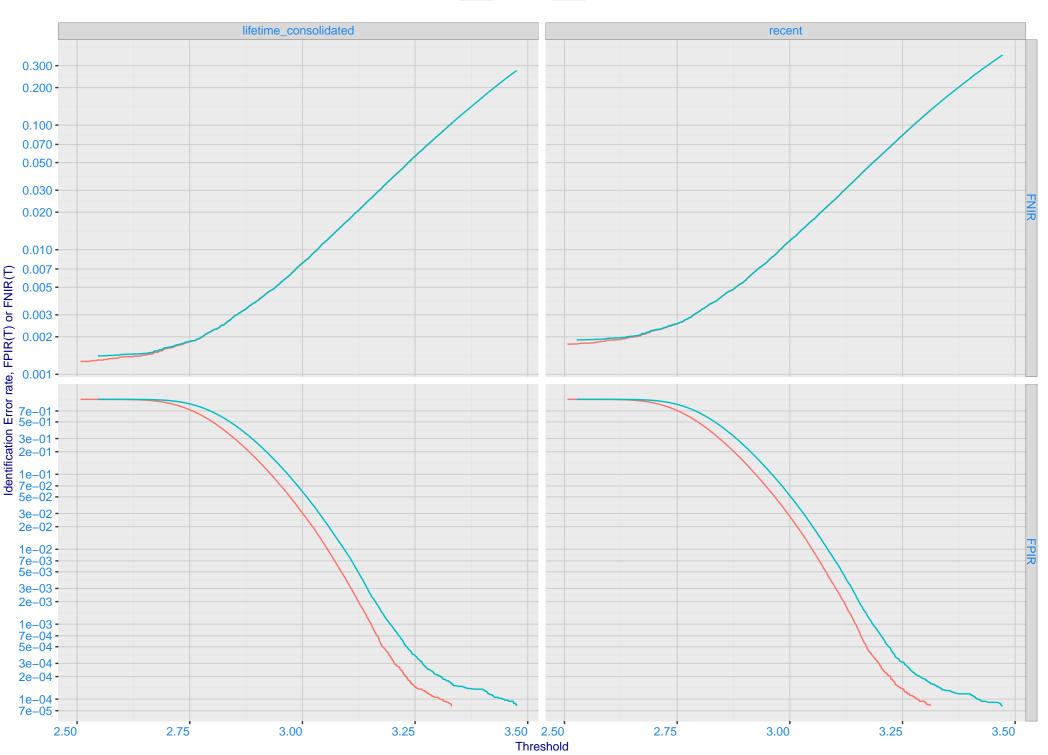


D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals **Immigration** Mugshot **Immigration** visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -Ealse negative identification rate, FNIR(T) 0.003 - 0.000 - 0.000 - 0.500 - 0.200 - 0. enrolment_style consolidated-ONE-MATE random-ONE-MATE recent-ONE-MATE unconsolidated-ALL-MATES unconsolidated-ANY-MATE 0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -0.002 -0.001 -

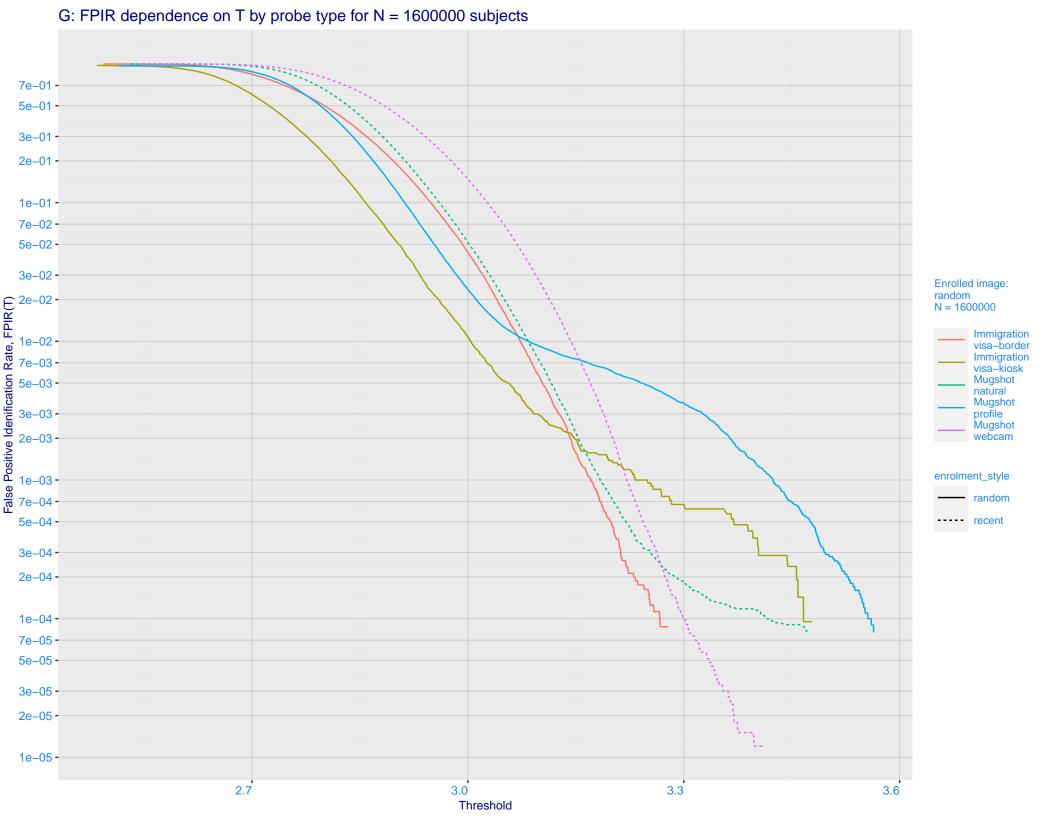
False positive identification rate, FPIR(T)

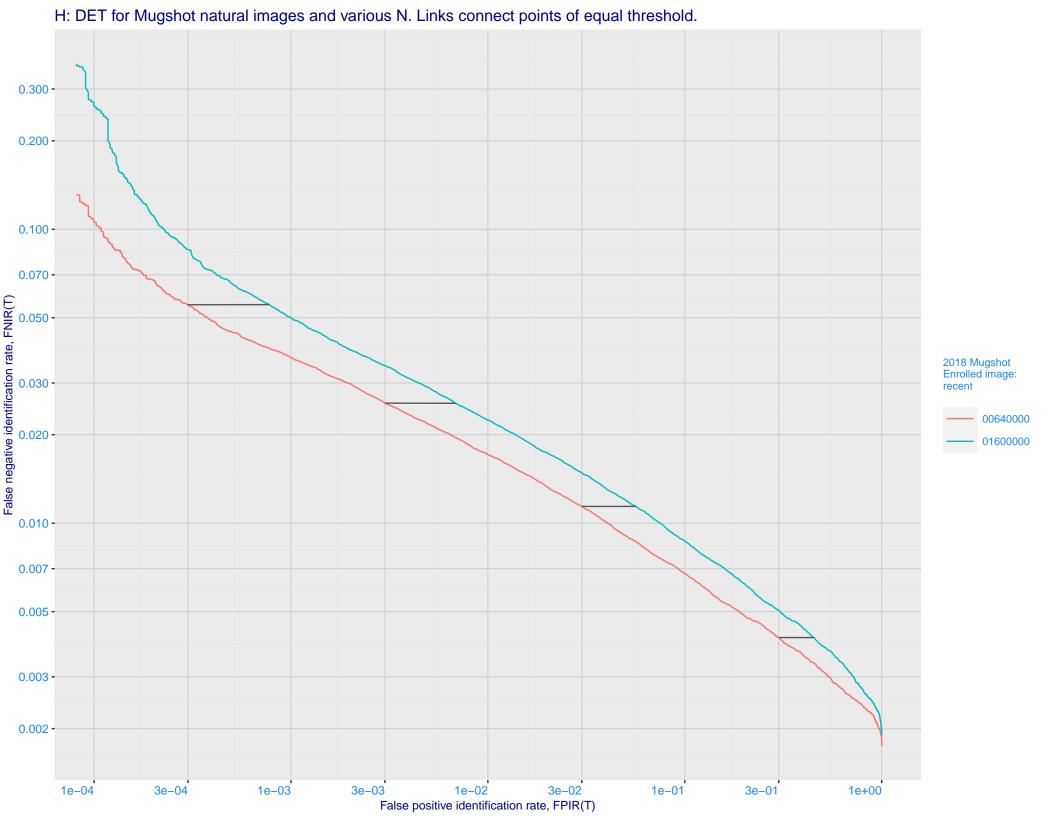
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images





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 -3e-02 -3e-02 -1e-02 -**Enrolled images:** recent N = 1600000 Mugshot natural Mugshot webcam 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 -1e-05 -1e-05 3e-05 1e-04 3e-04 1e-03 3e-03 1e-02 3e-02 1e-01 3e-01 False Positive Idenification Rate, FPIR(T)

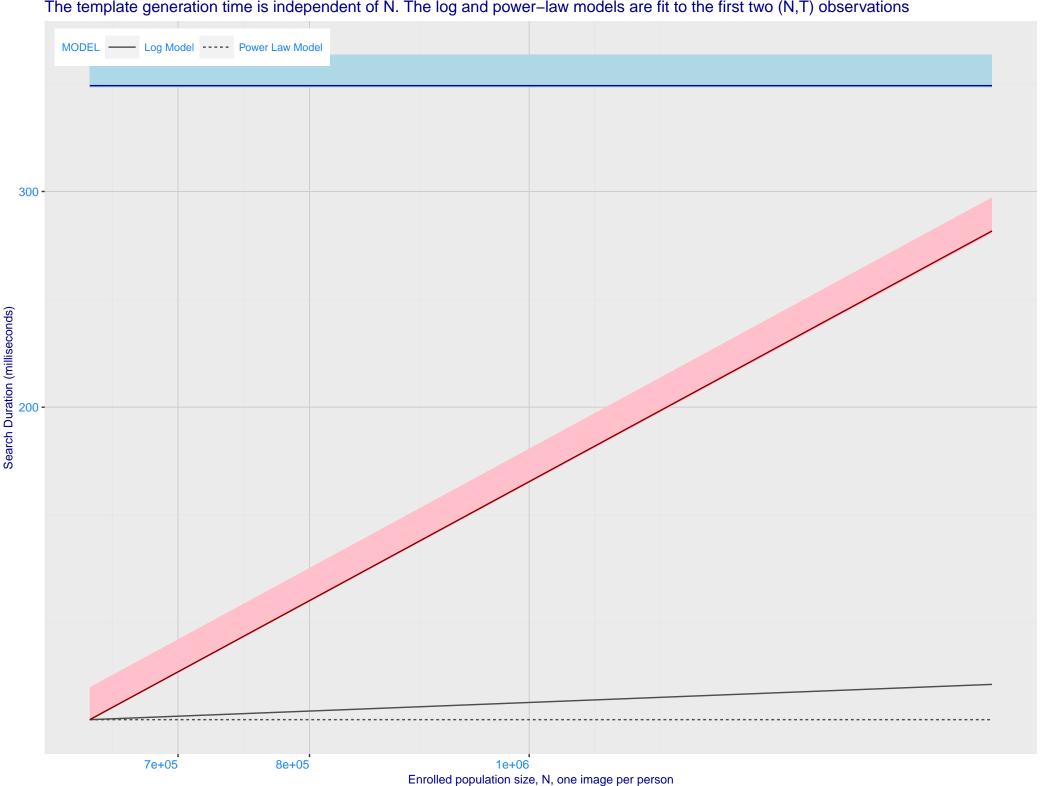




I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005) Immigration **Immigration** visa-border visa-kiosk 0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -Ealse negative identification rate, FNIR(N) 0.002 - 0.001 - 0.000 - 0. enrolment_style consolidated ---- random --- recent Mugshot webcam Mugshot natural FNIR@Rank = 1 everai_2 sensetime_005 0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -0.002 -0.001 -1e+06 3e+06 1e+07 1e+06 3e+06 1e+07 Enrolled population size, N

J: Investigational mode: FNIR(1600000, R, 0) by probe type everai_2 sensetime_005 0.200 -0.100 -0.070 -0.050 enrolment_style 0.030 - 0.000 lifetime_consolidated ---- random --- recent FNIR(R) N = 1600000 Immigration visa-border Immigration visa-kiosk Mugshot natural Mugshot webcam 0.003 -0.002 -0.001 -10 30 3 10 30 Rank, R

Template duration; search duration vs. N. The blue and pink ribbon covers 95 percent of observed measurements. The template generation time is independent of N. The log and power–law models are fit to the first two (N,T) observations



M: Identification FNIR(N, T, L+1) and Investigational FNIR(N, 0, R) under ageing

