A: Datasheet

Algorithm: microfocus_5

Developer: MicroFocus

Submission Date: 2018_10_29

Template size: 256 bytes

Template time (2.5 percentile): 225 msec

Template time (median): 263 msec

Template time (97.5 percentile): 312 msec

Investigation:

Frontal mugshot ranking 254 (out of 265) -- FNIR(1600000, 0, 1) = 0.4242 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 219 (out of 227) -- FNIR(1600000, 0, 1) = 0.6010 vs. lowest 0.0062 from sensetime_005

Immigration visa-border ranking 131 (out of 148) -- FNIR(1600000, 0, 1) = 0.4943 vs. lowest 0.0013 from visionlabs_010

Immigration visa-kiosk ranking 131 (out of 145) — FNIR(1600000, 0, 1) = 0.7774 vs. lowest 0.0568 from hr_000

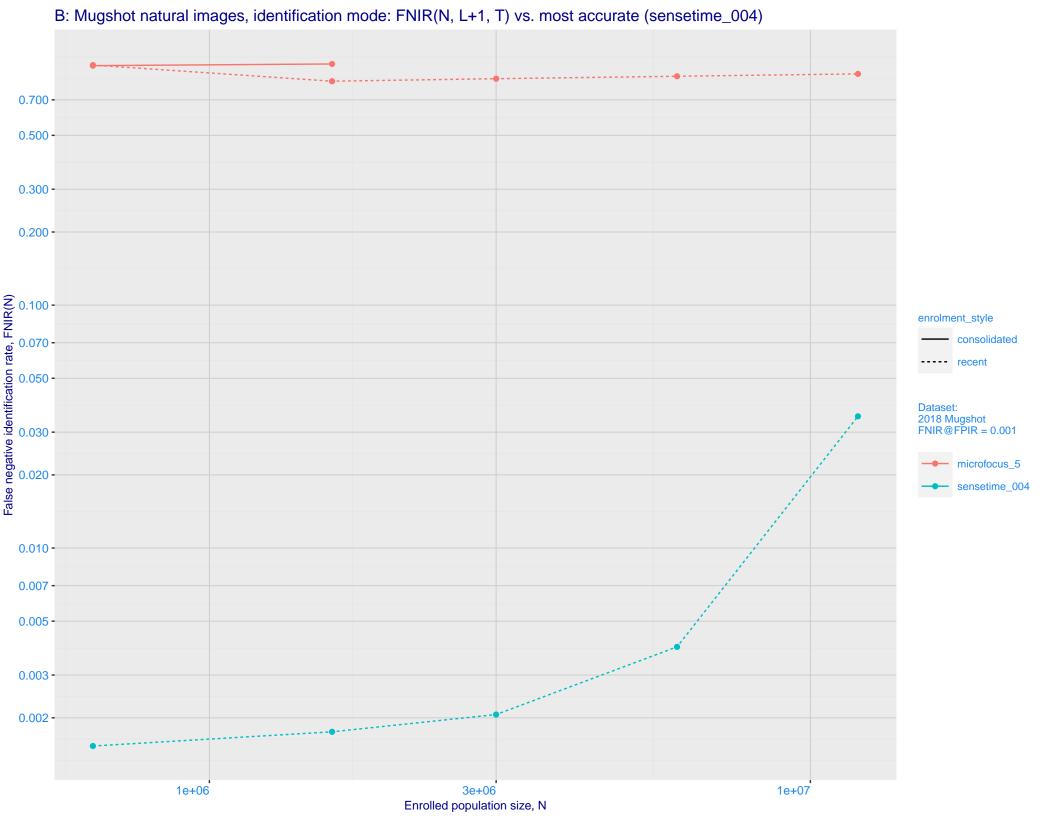
Identification:

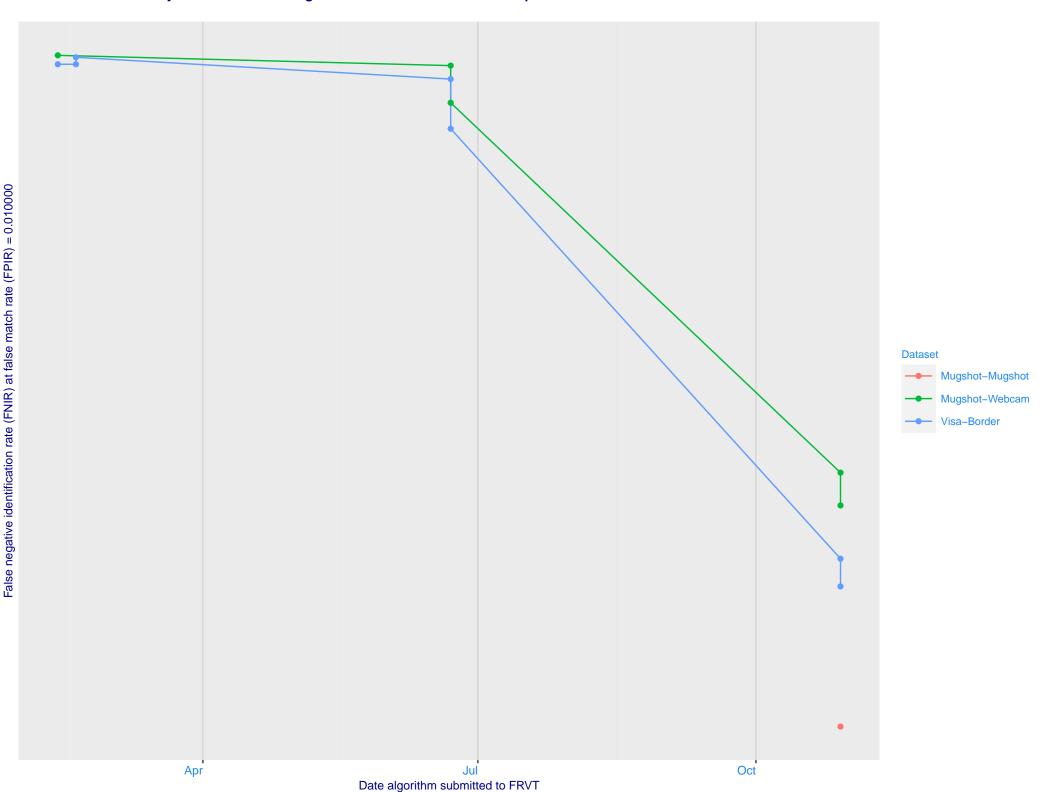
Frontal mugshot ranking 247 (out of 265) -- FNIR(1600000, T, L+1) = 0.8352, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot webcam ranking 211 (out of 225) -- FNIR(1600000, T, L+1) = 0.9281, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Immigration visa-border ranking 126 (out of 146) -- FNIR(1600000, T, L+1) = 0.9348, FPIR=0.001000 vs. lowest 0.0049 from hr_000

Immigration visa-kiosk ranking 120 (out of 141) -- FNIR(1600000, T, L+1) = 0.9848, FPIR=0.001000 vs. lowest 0.0996 from hr_000

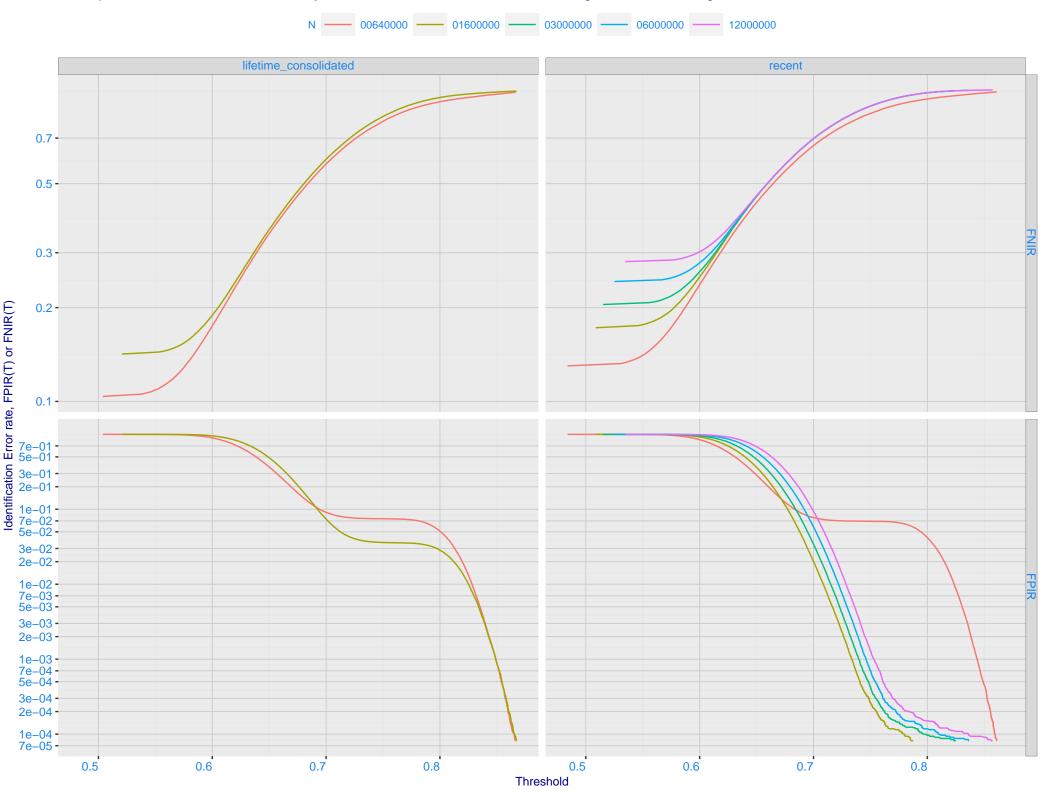




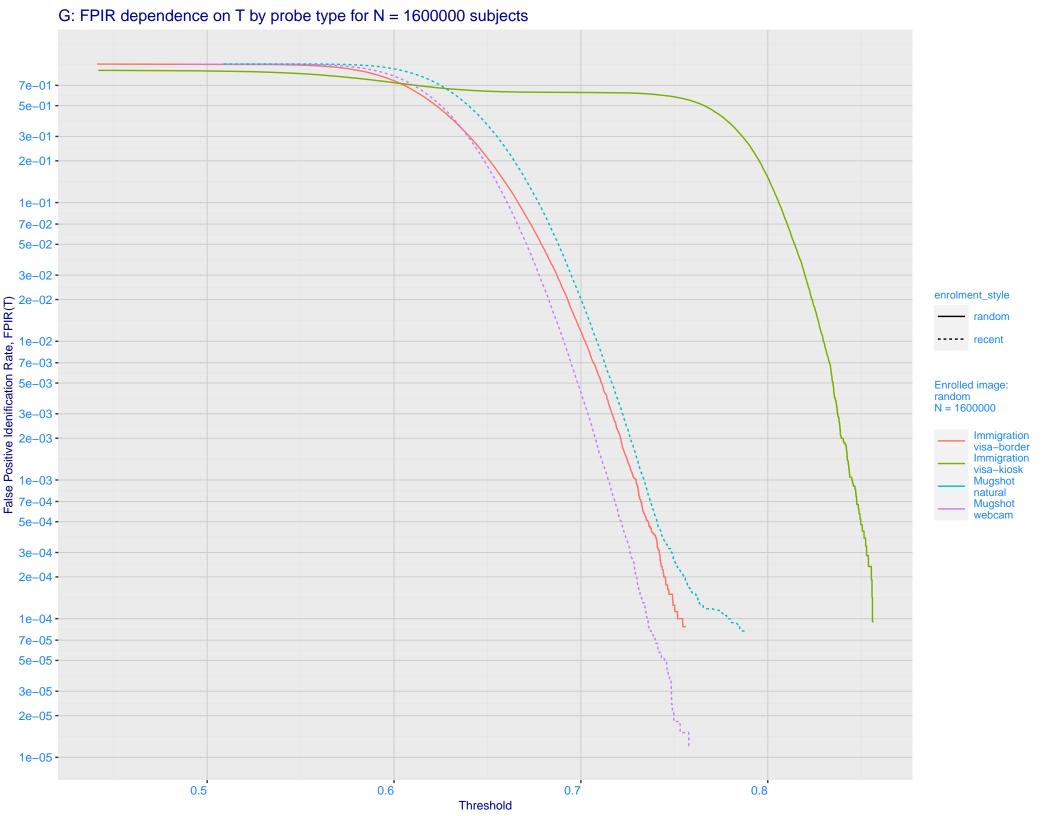
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals **Immigration Immigration** Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 - 0.005 - 0.005 - 0.002 - 0.001 - 0.001 - 0.500 - 0.300 - 0.200 enrolment_style 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 -

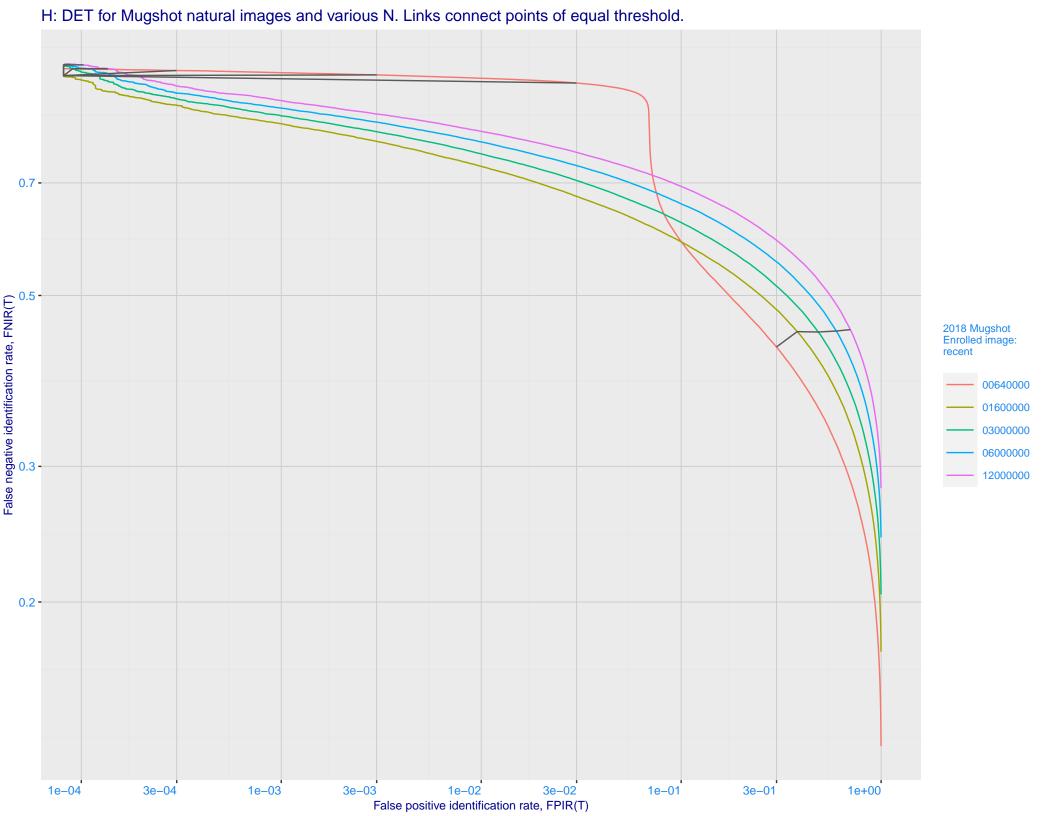
False positive identification rate, FPIR(T)

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 -Selectivity. SEL(T) 5e-02 - 5e-02 - 2e-02 - 1e-02 - 1 **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 -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)

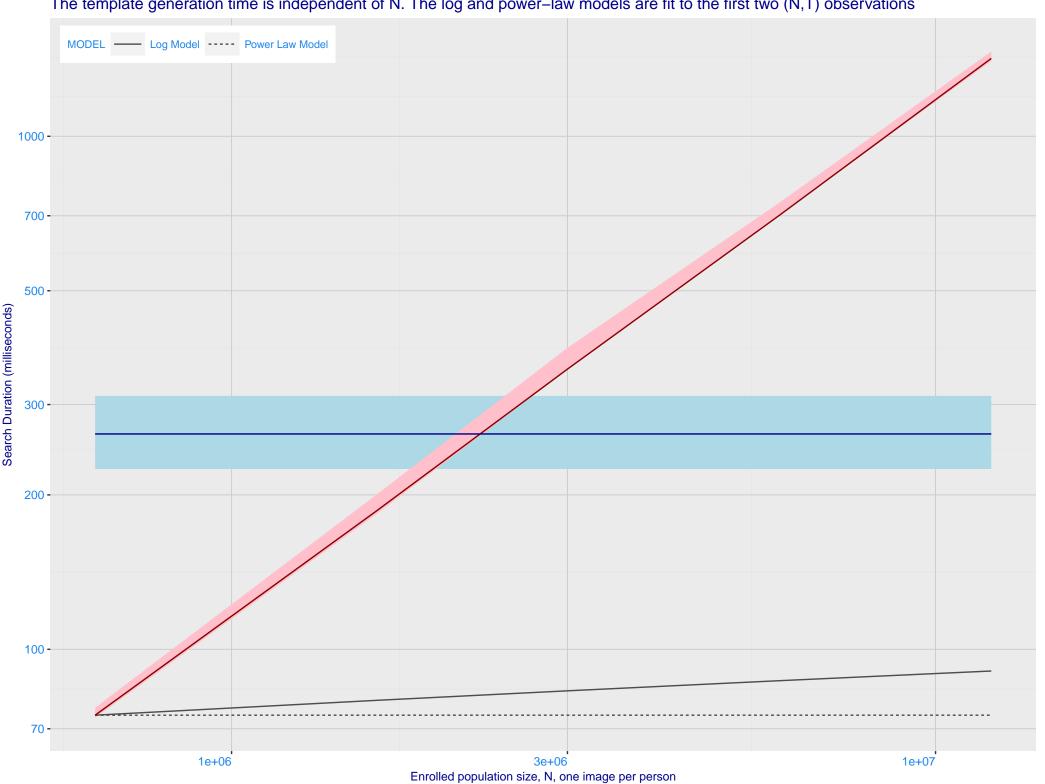




I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005) Immigration **Immigration** visa-border visa-kiosk 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 - 0.003 - 0.002 - 0.001 - 0.001 - 0.700 - 0.500 - 0.300 - 0.200 enrolment_style consolidated ---- random --- recent Mugshot Mugshot webcam natural FNIR@Rank = 1 . microfocus_5 sensetime_005 0.100 -0.070 -0.050 -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 microfocus_5 sensetime_005 0.700 -0.500 -0.300 -0.200 -0.100 enrolment_style Ealse negative identification rate, FNIR(N) 0.000 - 0.000 - 0.000 - 0.010 - 0. lifetime_consolidated ---- random --- recent FNIR(R) N = 1600000 Immigration visa-border Immigration visa-kiosk Mugshot natural Mugshot webcam 0.007 -0.005 -0.003 -0.002 -0.001 -10 30 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

