A: Datasheet

Algorithm: microfocus_6

Developer: MicroFocus

Submission Date: 2018_10_29

Template size: 256 bytes

Template time (2.5 percentile): 224 msec

Template time (median): 263 msec

Template time (97.5 percentile): 312 msec

Investigation:

Frontal mugshot ranking 268 (out of 279) -- FNIR(1600000, 0, 1) = 0.4268 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 230 (out of 241) -- FNIR(1600000, 0, 1) = 0.5828 vs. lowest 0.0062 from sensetime_005

Immigration visa-border ranking 148 (out of 168) -- FNIR(1600000, 0, 1) = 0.4899 vs. lowest 0.0013 from visionlabs_010

Immigration visa-kiosk ranking 154 (out of 165) -- FNIR(1600000, 0, 1) = 0.7825 vs. lowest 0.0568 from cloudwalk_hr_000

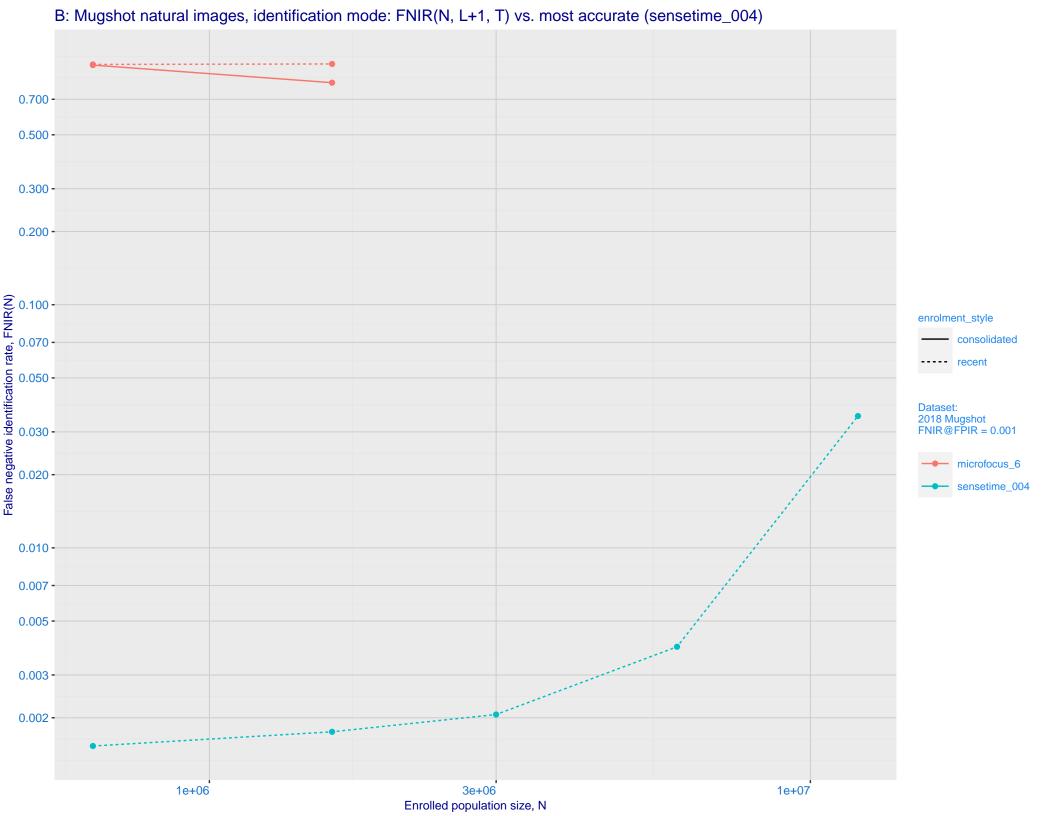
Identification:

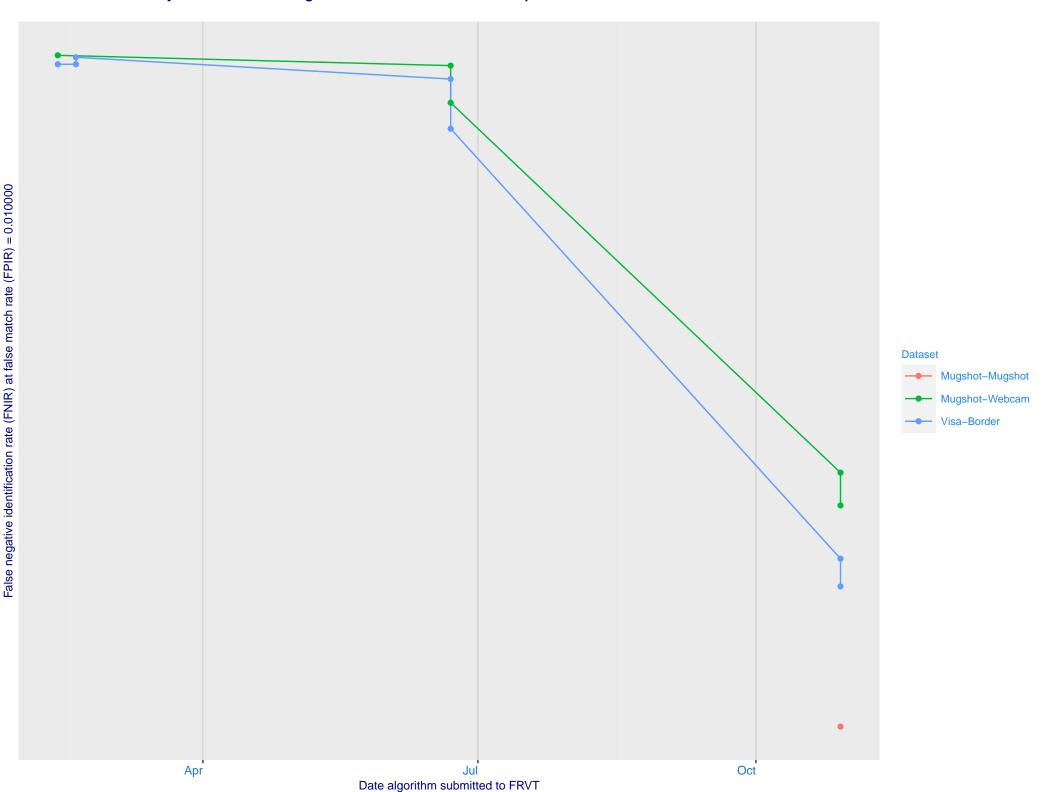
Frontal mugshot ranking 269 (out of 279) -- FNIR(1600000, T, L+1) = 0.9779, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot webcam ranking 221 (out of 236) -- FNIR(1600000, T, L+1) = 0.9232, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Immigration visa-border ranking 145 (out of 167) -- FNIR(1600000, T, L+1) = 0.9235, FPIR=0.001000 vs. lowest 0.0047 from idemia_008

Immigration visa-kiosk ranking 130 (out of 162) -- FNIR(1600000, T, L+1) = 0.9707, FPIR=0.001000 vs. lowest 0.0996 from cloudwalk_hr_000



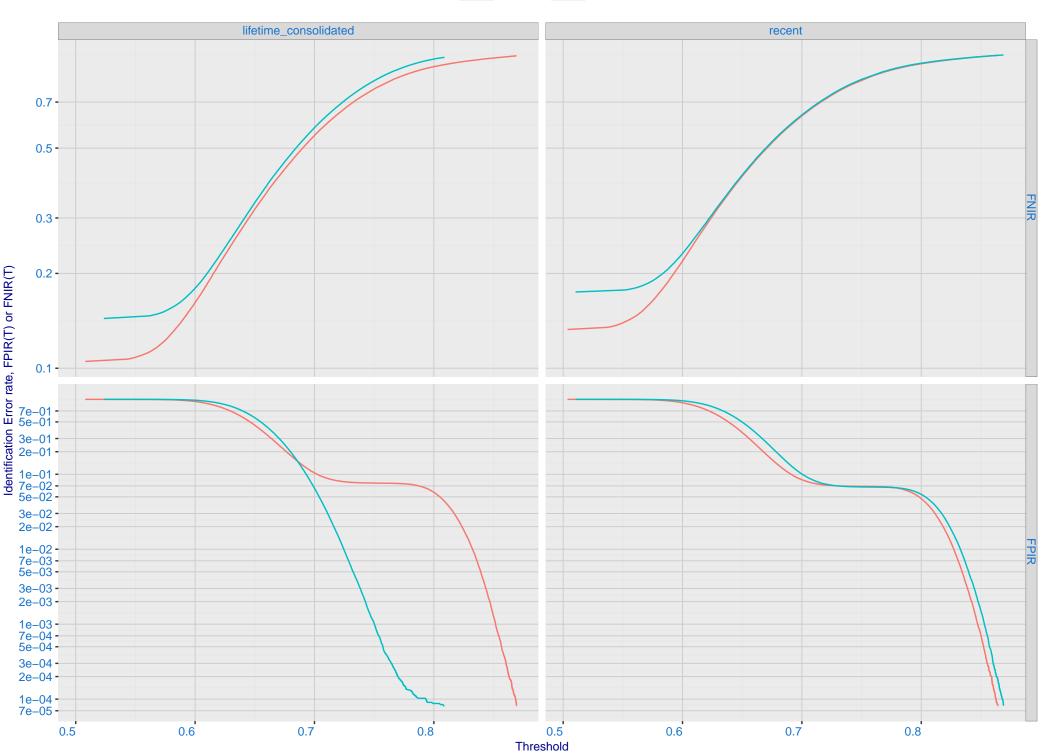


D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Immigration **Immigration** Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 microfocus 6 0.050 -0.030 -0.020 -0.010 -0.007 - 0.005 - 0.005 - 0.002 - 0.001 - 0.001 - 0.700 - 0.500 - 0.200 enrolment_style consolidated-ONE-MATE random-ONE-MATE recent-ONE-MATE unconsolidated-ALL-MATES unconsolidated-ANY-MATE 0.100 -0.070 sensetime 004 0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -0.002 -0.001 -

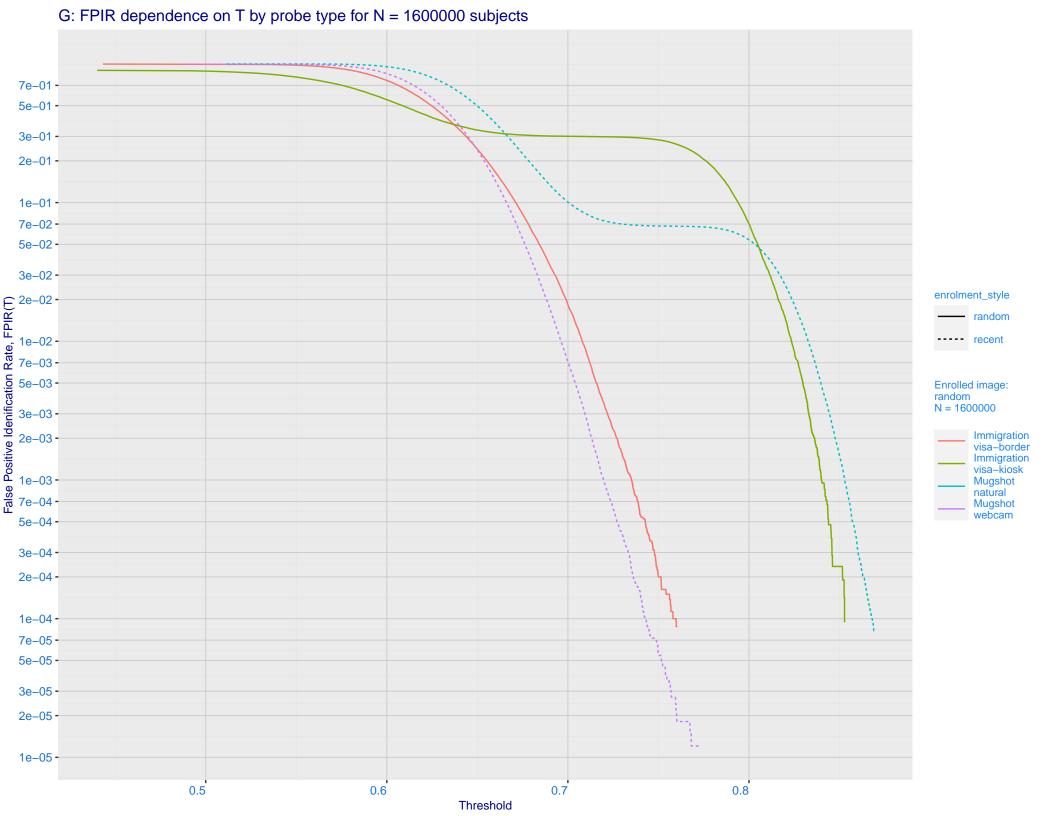
False positive identification rate, FPIR(T)

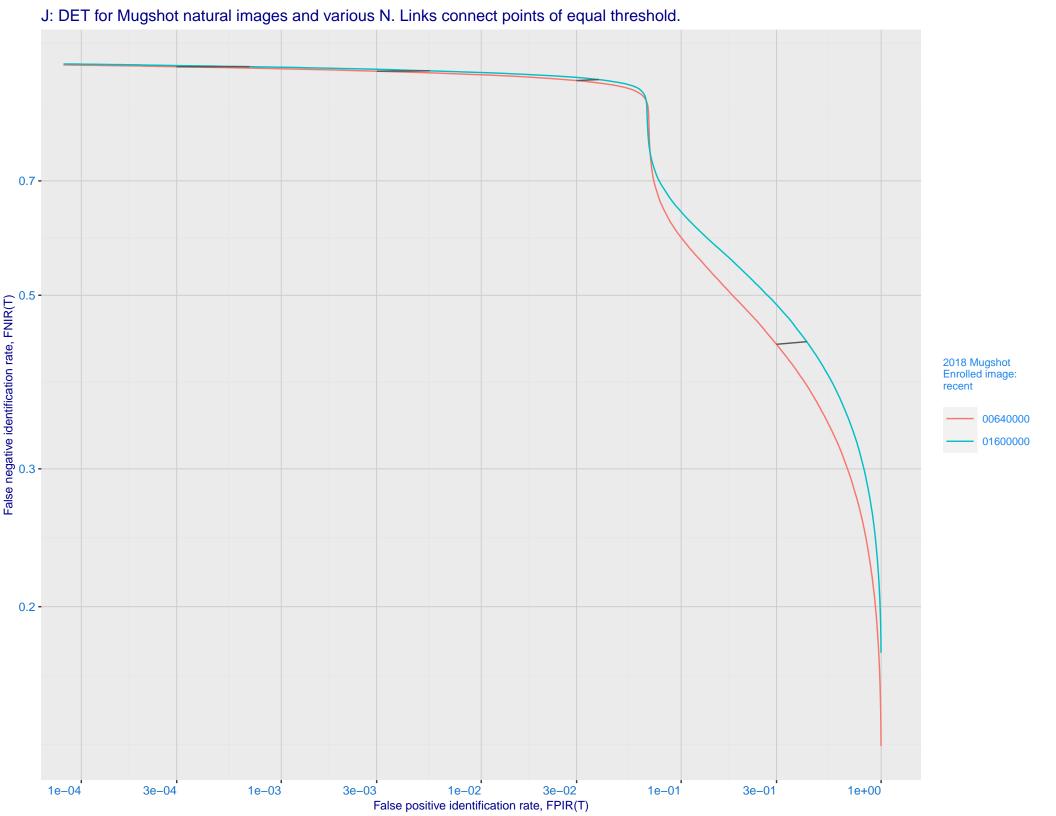
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images





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)





K: 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 - 0.200 enrolment_style consolidated ---- random --- recent Mugshot webcam Mugshot natural FNIR@Rank = 1 microfocus_6 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

L: Investigational mode: FNIR(1600000, R, 0) by probe type microfocus_6 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 3 10 30 Rank, R

M: 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 - Log Model ---- Power Law Model 300 -200 -100 -70 -7e+05 8e+05 1e+06

Enrolled population size, N, one image per person

Search Duration (milliseconds)

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



