A: Datasheet

Algorithm: microfocus_4

Developer: MicroFocus

Submission Date: 2018_06_22

Template size: 256 bytes

Template time (2.5 percentile): 228 msec

Template time (median): 267 msec

Template time (97.5 percentile): 315 msec

Investigation:

Frontal mugshot ranking 271 (out of 279) -- FNIR(1600000, 0, 1) = 0.5763 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 236 (out of 241) -- FNIR(1600000, 0, 1) = 0.7577 vs. lowest 0.0062 from sensetime_005

Immigration visa-border ranking 154 (out of 168) -- FNIR(1600000, 0, 1) = 0.7006 vs. lowest 0.0013 from visionlabs_010

Immigration visa-kiosk ranking 156 (out of 165) -- FNIR(1600000, 0, 1) = 0.9035 vs. lowest 0.0568 from cloudwalk_hr_000

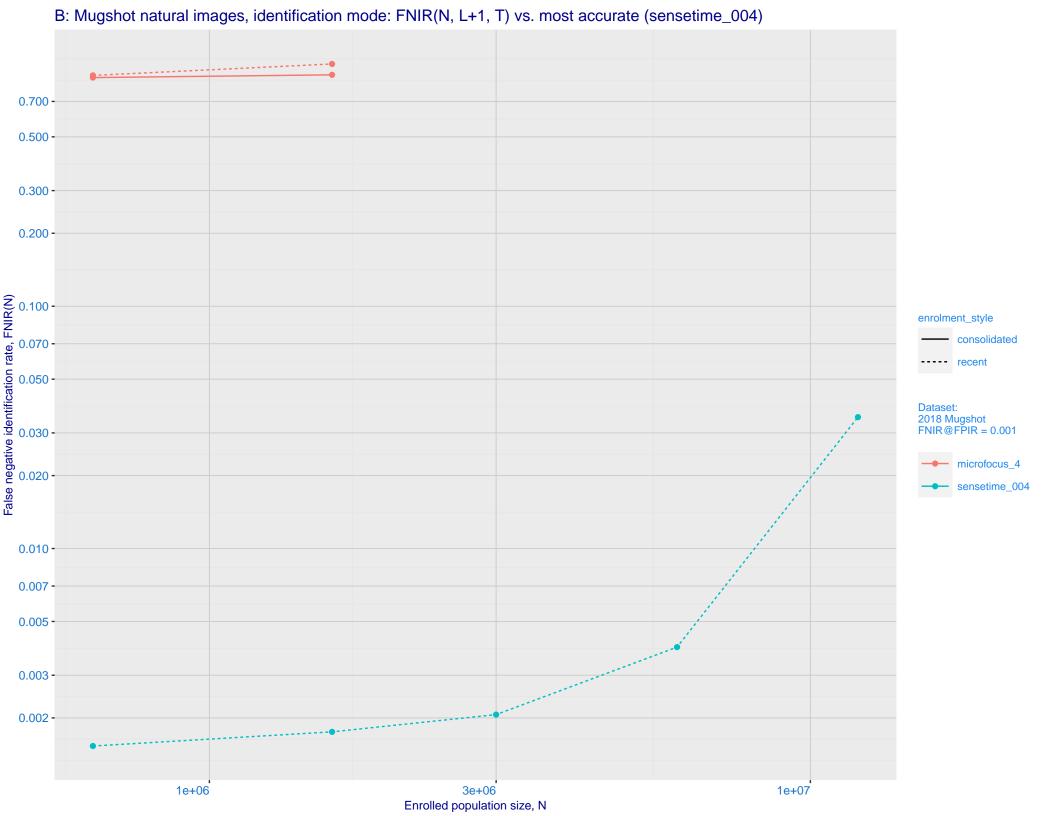
Identification:

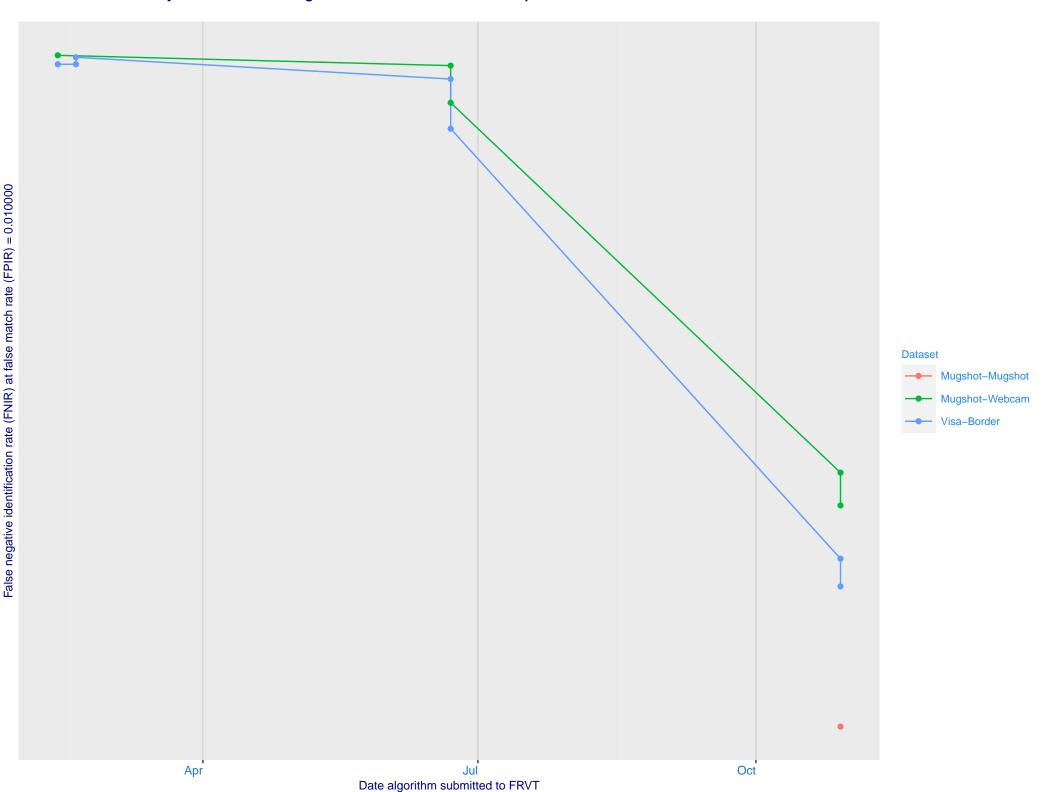
Frontal mugshot ranking 274 (out of 279) -- FNIR(1600000, T, L+1) = 0.9994, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot webcam ranking 227 (out of 236) -- FNIR(1600000, T, L+1) = 0.9747, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Immigration visa-border ranking 149 (out of 167) -- FNIR(1600000, T, L+1) = 0.9744, FPIR=0.001000 vs. lowest 0.0047 from idemia_008

Immigration visa-kiosk ranking 135 (out of 162) -- FNIR(1600000, T, L+1) = 0.9893, FPIR=0.001000 vs. lowest 0.0996 from cloudwalk_hr_000

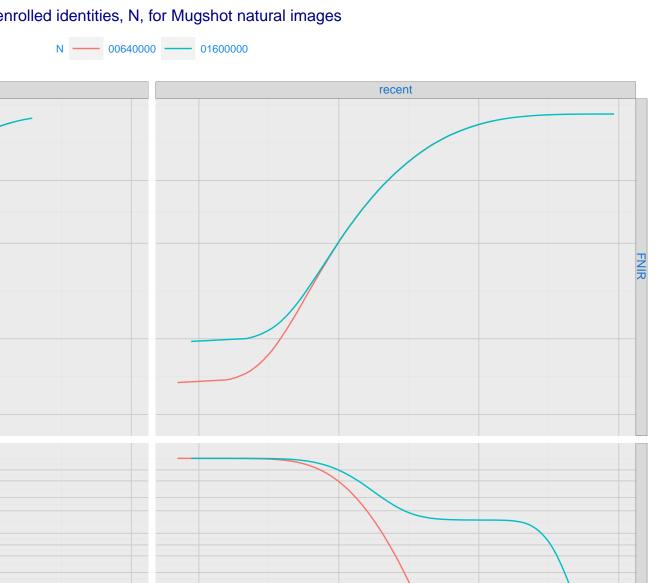


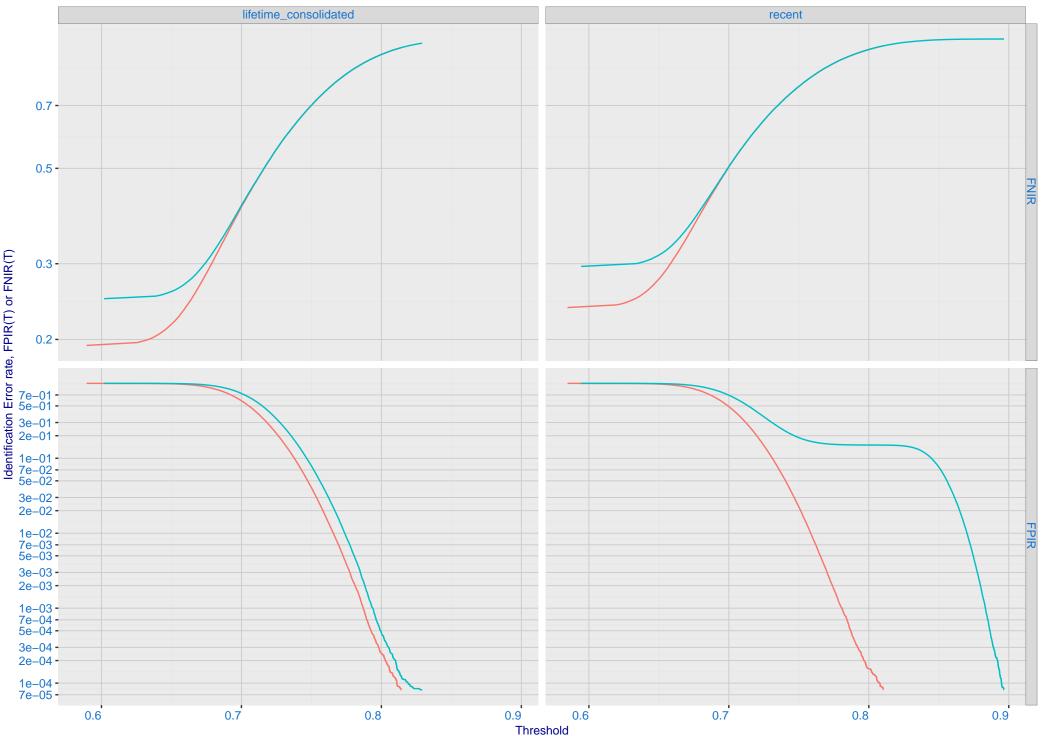


D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals **Immigration** Immigration Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 - 0.005 - 0.005 - 0.002 - 0.001 - 0.001 - 0.700 - 0.500 - 0.200 enrolment_style consolidated-ONE-MATE random-ONE-MATE recent-ONE-MATE 0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -0.002 -0.001 -1e-03e-04e-03e-03e-03e-02e-01e-01e-01e-03e-04e-03e-04e-03e-04e-03e-01e+00e-03e-01e+00e-03e-01e+00e-03e-01e-03e-01e-03e-01e+00

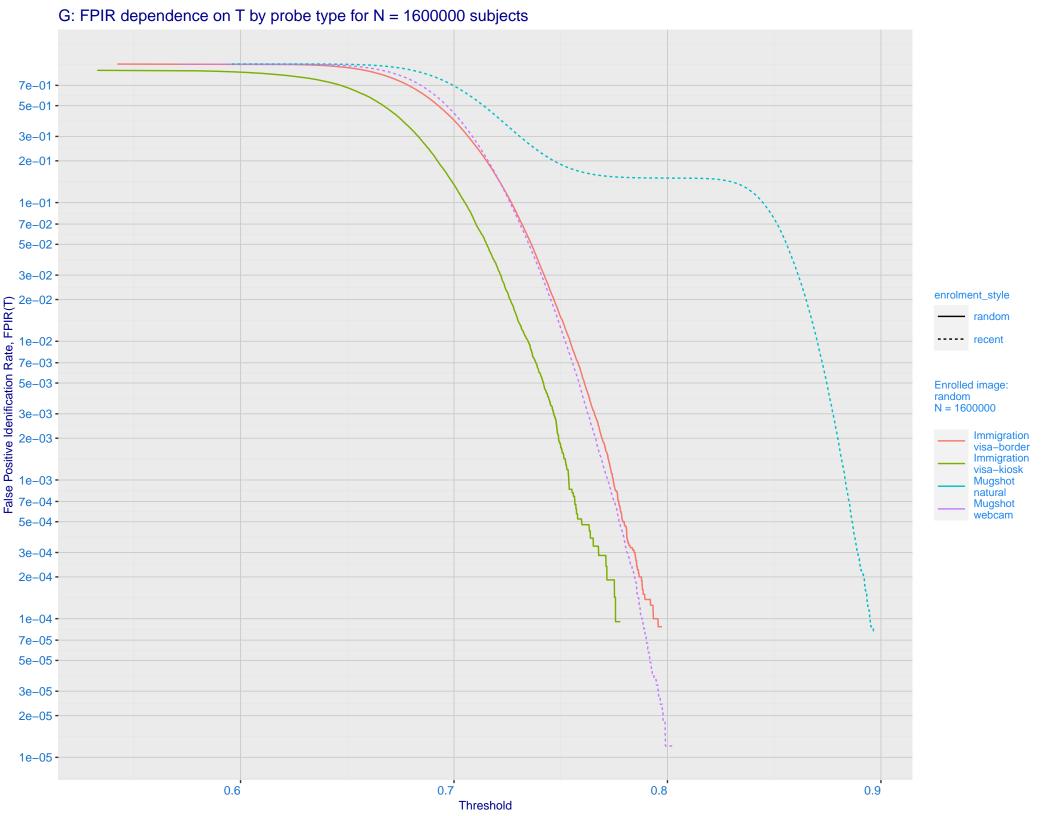
False positive identification rate, FPIR(T)

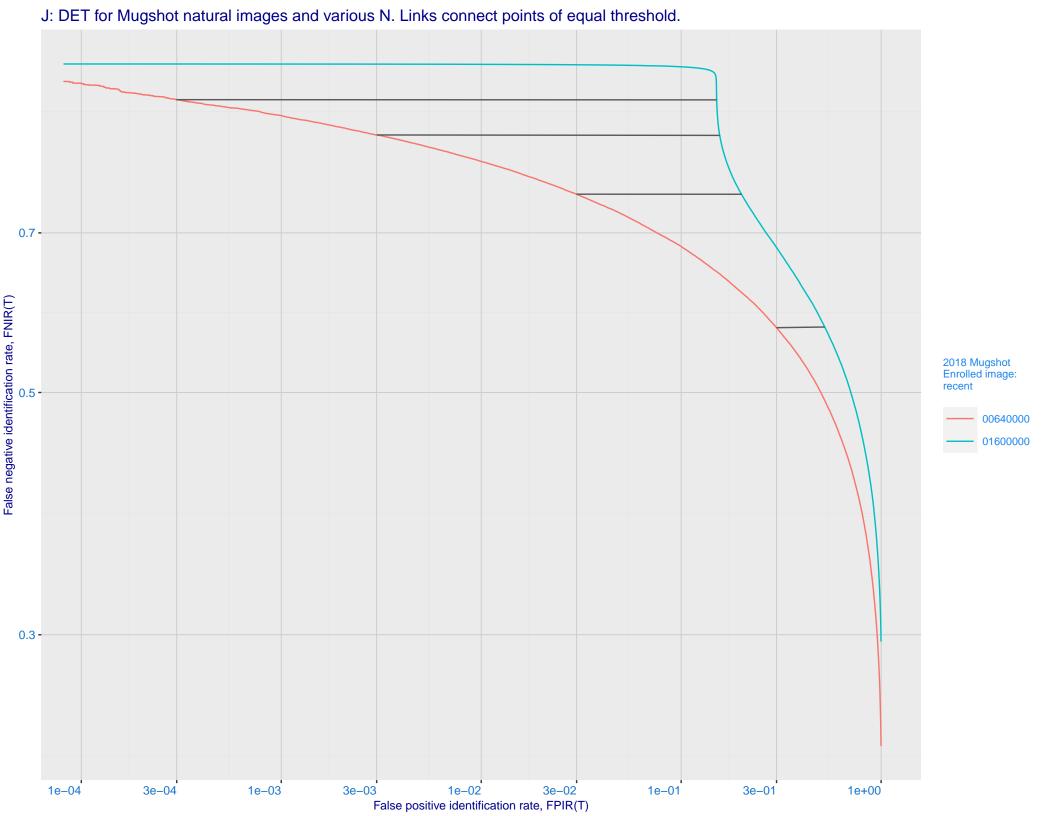
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images





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 -**Enrolled images:** recent N = 1600000 % 3e-02 -2e-02 -1e-02 -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 - 0.300 - 0.300 - 0.200 enrolment_style consolidated ---- random --- recent Mugshot webcam Mugshot natural FNIR@Rank = 1 microfocus_4 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_4 sensetime_005 0.700 -0.500 -0.300 -0.200 -0.100 enrolment_style False negative identification rate, FNIR(N) - 0.000 - 0.000 - 0.000 - 0.010 - 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

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



