A: Datasheet

Algorithm: microfocus_3

Developer: MicroFocus

Submission Date: 2018_06_22

Template size: 256 bytes

Template time (2.5 percentile): 226 msec

Template time (median): 265 msec

Template time (97.5 percentile): 338 msec

Investigation:

Frontal mugshot ranking 273 (out of 279) -- FNIR(1600000, 0, 1) = 0.5942 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 237 (out of 241) -- FNIR(1600000, 0, 1) = 0.7812 vs. lowest 0.0062 from sensetime_005

Immigration visa-border ranking 155 (out of 168) -- FNIR(1600000, 0, 1) = 0.7083 vs. lowest 0.0013 from visionlabs_010

Immigration visa-kiosk ranking 157 (out of 165) -- FNIR(1600000, 0, 1) = 0.9073 vs. lowest 0.0568 from cloudwalk_hr_000

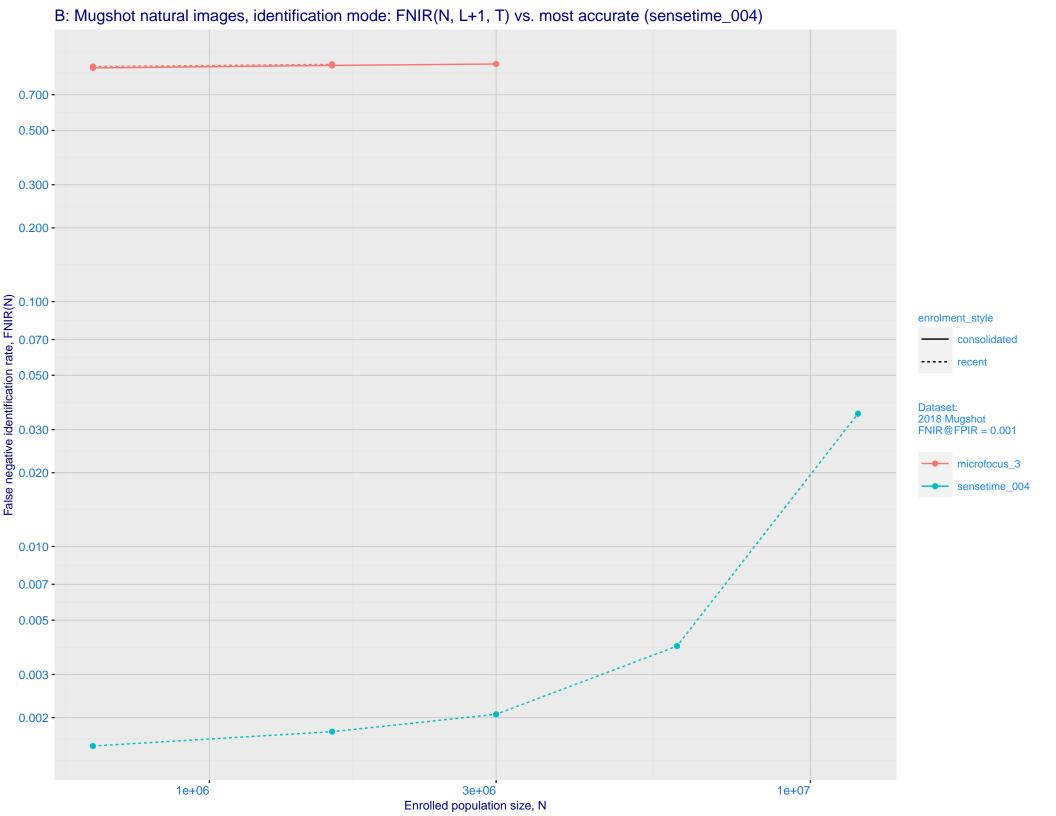
Identification:

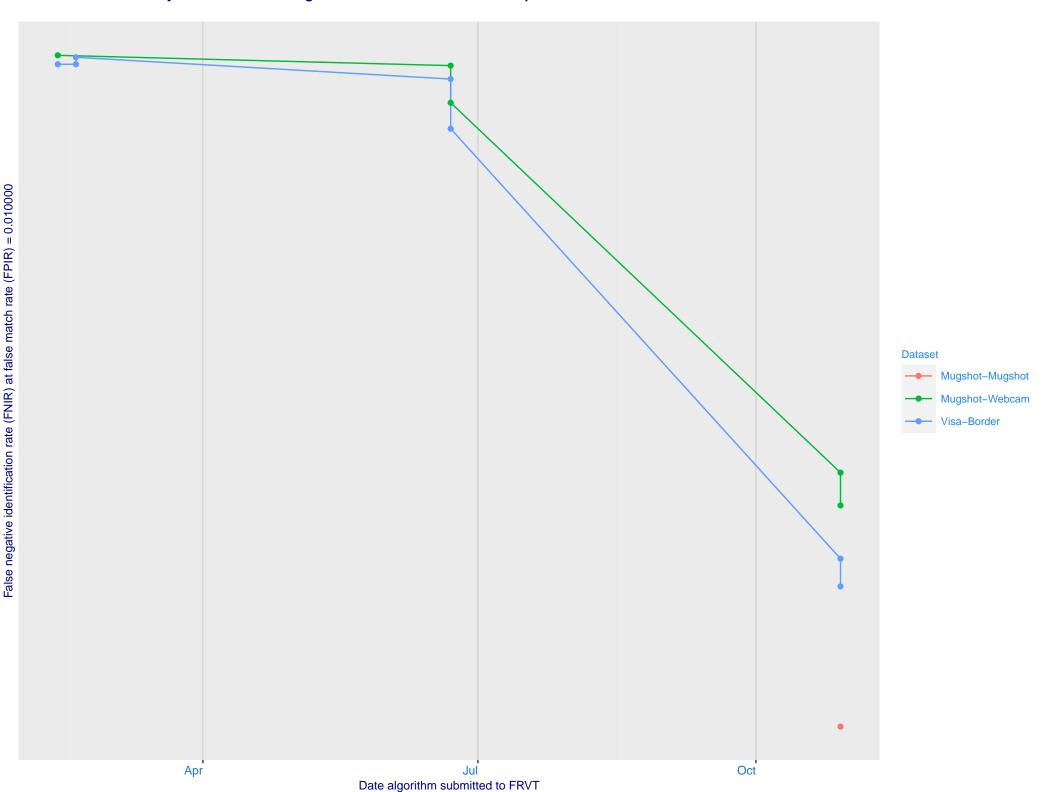
Frontal mugshot ranking 263 (out of 279) -- FNIR(1600000, T, L+1) = 0.9308, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot webcam ranking 229 (out of 236) -- FNIR(1600000, T, L+1) = 0.9792, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Immigration visa-border ranking 151 (out of 167) -- FNIR(1600000, T, L+1) = 0.9825, FPIR=0.001000 vs. lowest 0.0047 from idemia_008

Immigration visa-kiosk ranking 138 (out of 162) -- FNIR(1600000, T, L+1) = 0.9915, FPIR=0.001000 vs. lowest 0.0996 from cloudwalk_hr_000

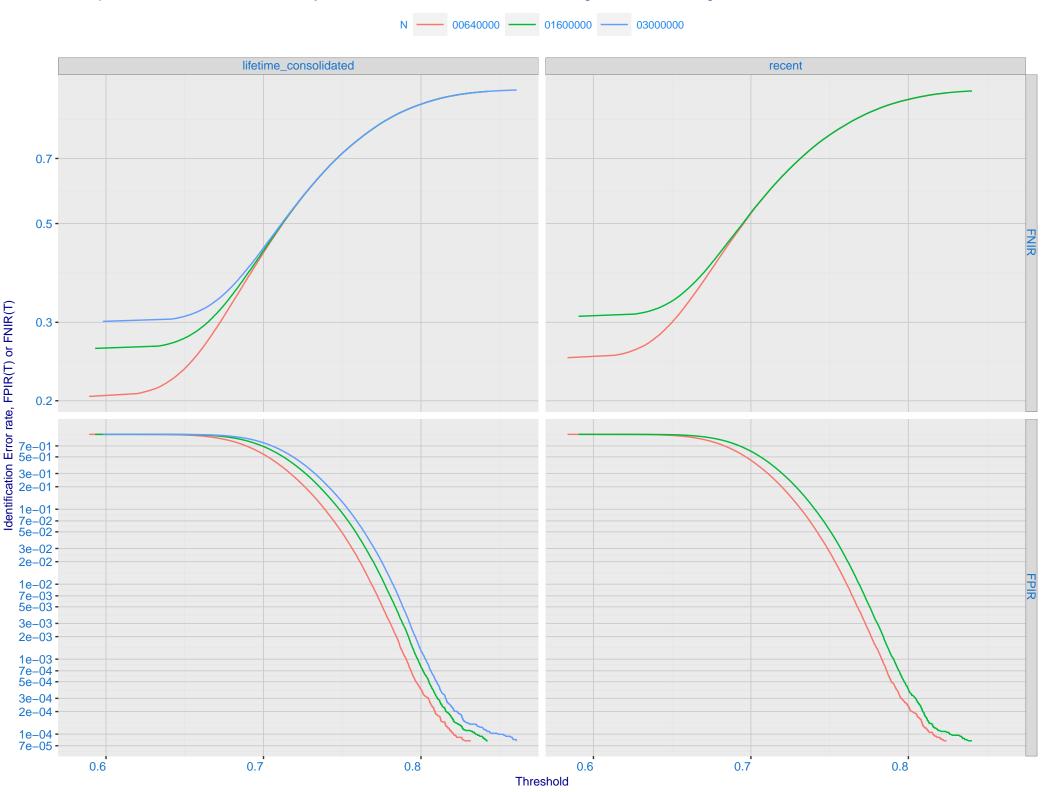




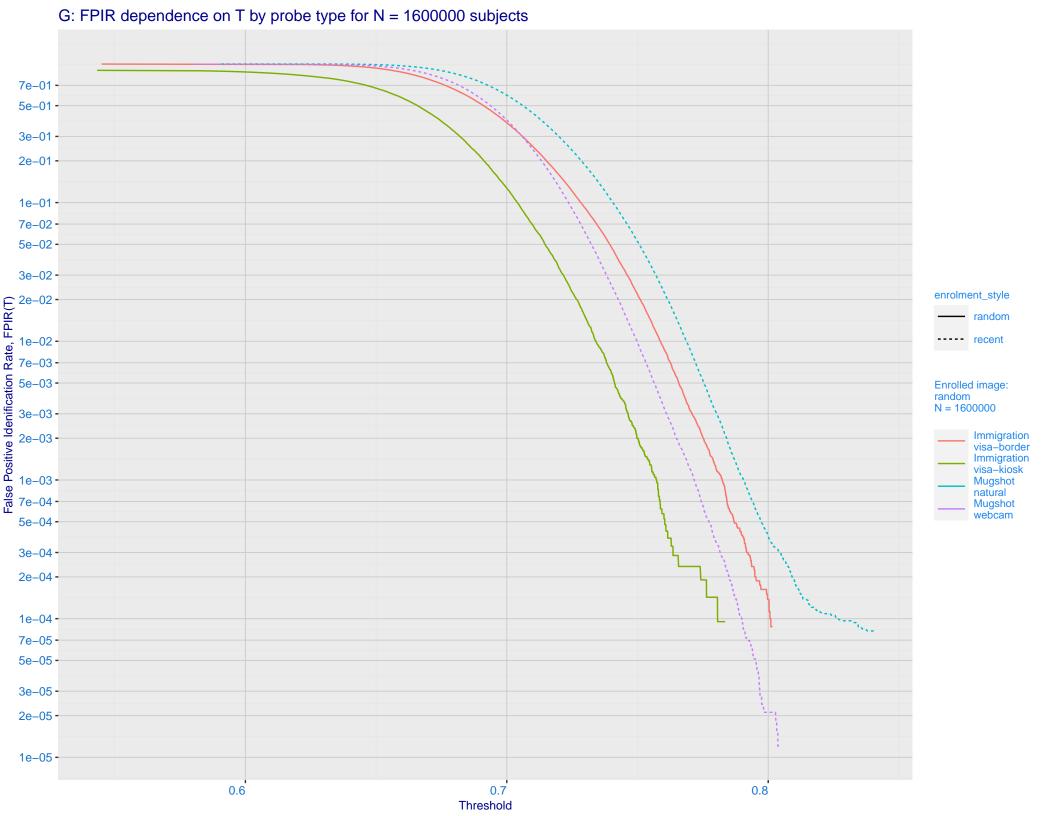
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals **Immigration** Immigration Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 - 0.005 - 0.005 - 0.002 - 0.001 - 0.001 - 0.700 - 0.500 - 0.200 enrolment_style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

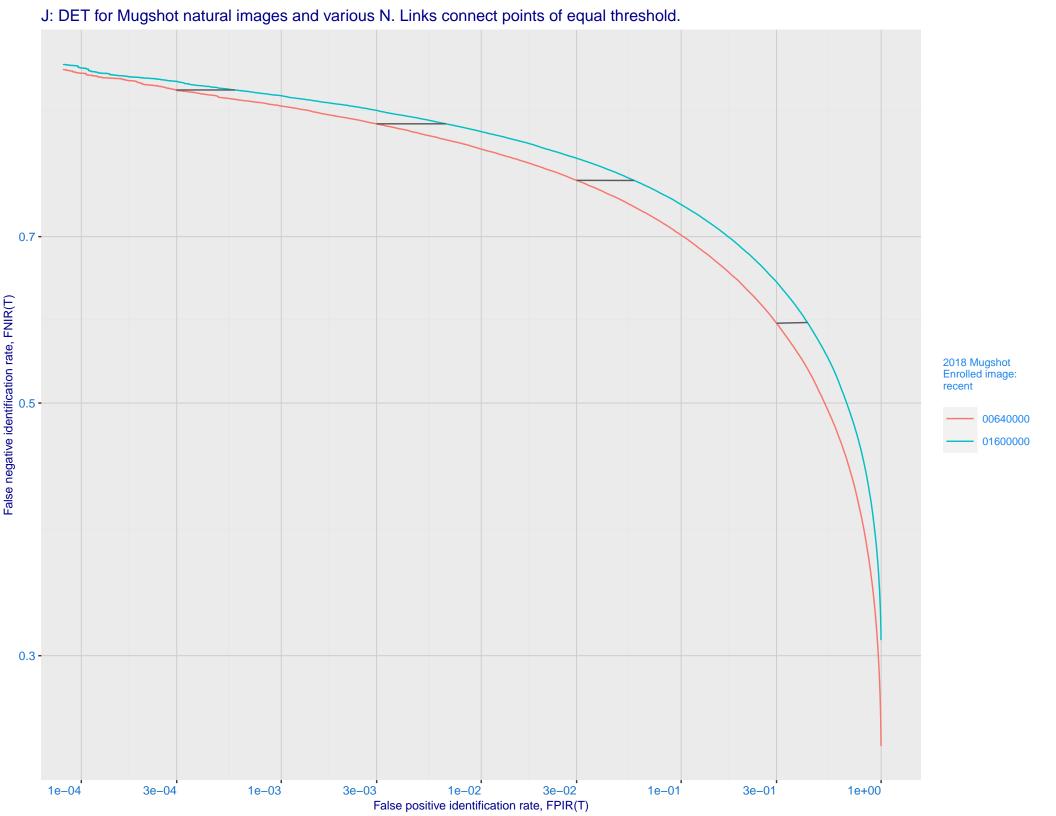
False positive identification rate, FPIR(T)

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 - 0.300 - 0.200 enrolment_style consolidated ---- random --- recent Mugshot webcam Mugshot natural FNIR@Rank = 1 microfocus_3 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_3 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



