A: Datasheet

Algorithm: visionlabs_3

Developer: VisionLabs

Submission Date: 2018_02_16

Template size: 256 bytes

Template time (2.5 percentile): 219 msec

Template time (median): 232 msec

Template time (97.5 percentile): 245 msec

Investigation:

Frontal mugshot ranking 94 (out of 259) -- FNIR(1600000, 0, 1) = 0.0068 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 104 (out of 221) -- FNIR(1600000, 0, 1) = 0.0300 vs. lowest 0.0062 from sensetime_005

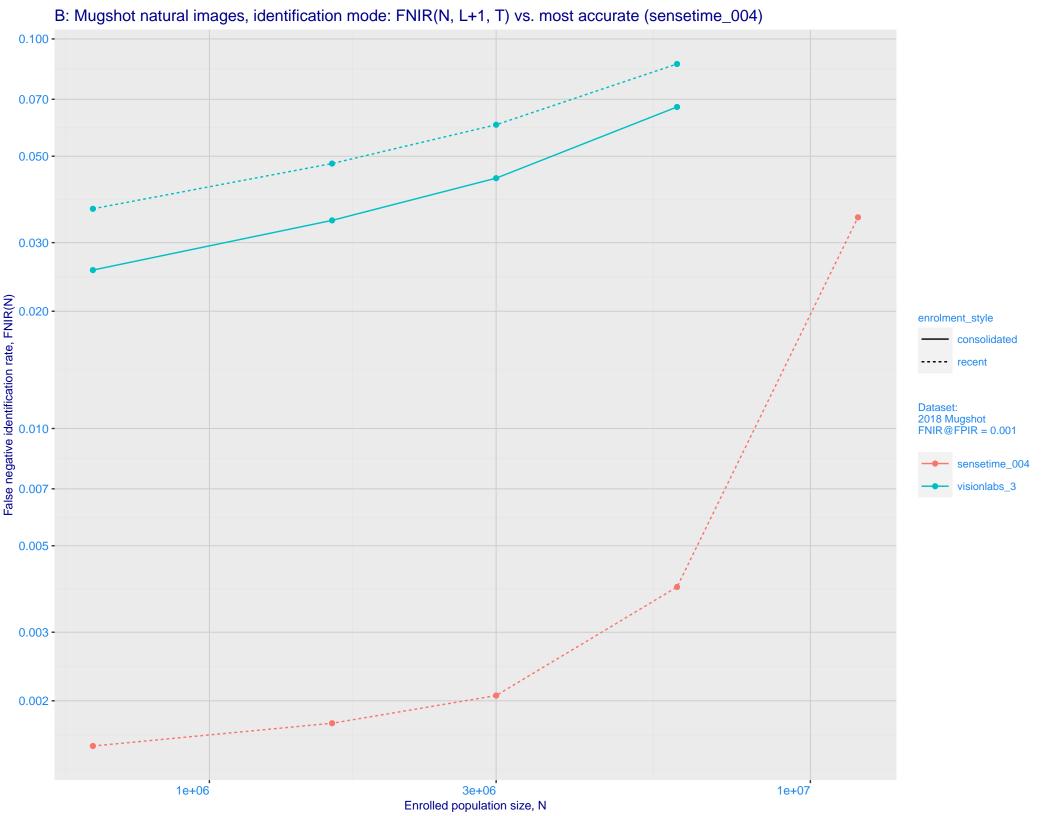
Mugshot profile ranking 64 (out of 190) -- FNIR(1600000, 0, 1) = 0.6400 vs. lowest 0.0591 from sensetime_005

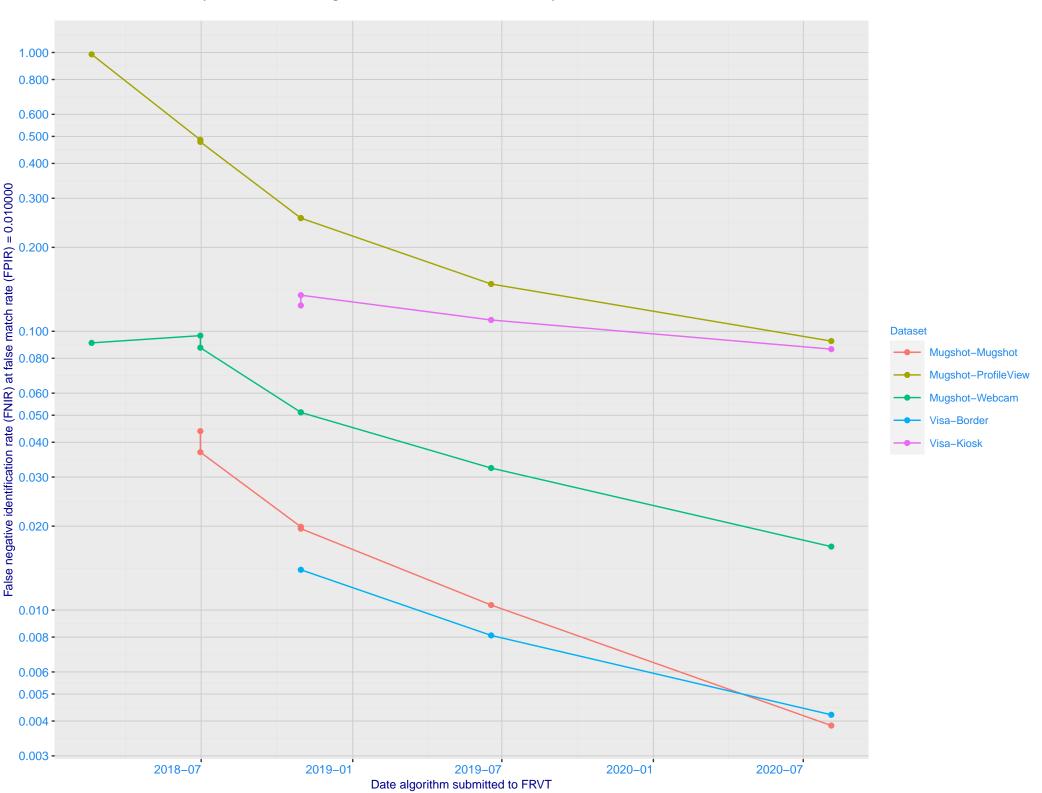
Identification:

Frontal mugshot ranking 75 (out of 259) -- FNIR(1600000, T, L+1) = 0.0479, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot webcam ranking 92 (out of 219) -- FNIR(1600000, T, L+1) = 0.1371, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 128 (out of 189) -- FNIR(1600000, T, L+1) = 0.9991, FPIR=0.001000 vs. lowest 0.1733 from sensetime_005

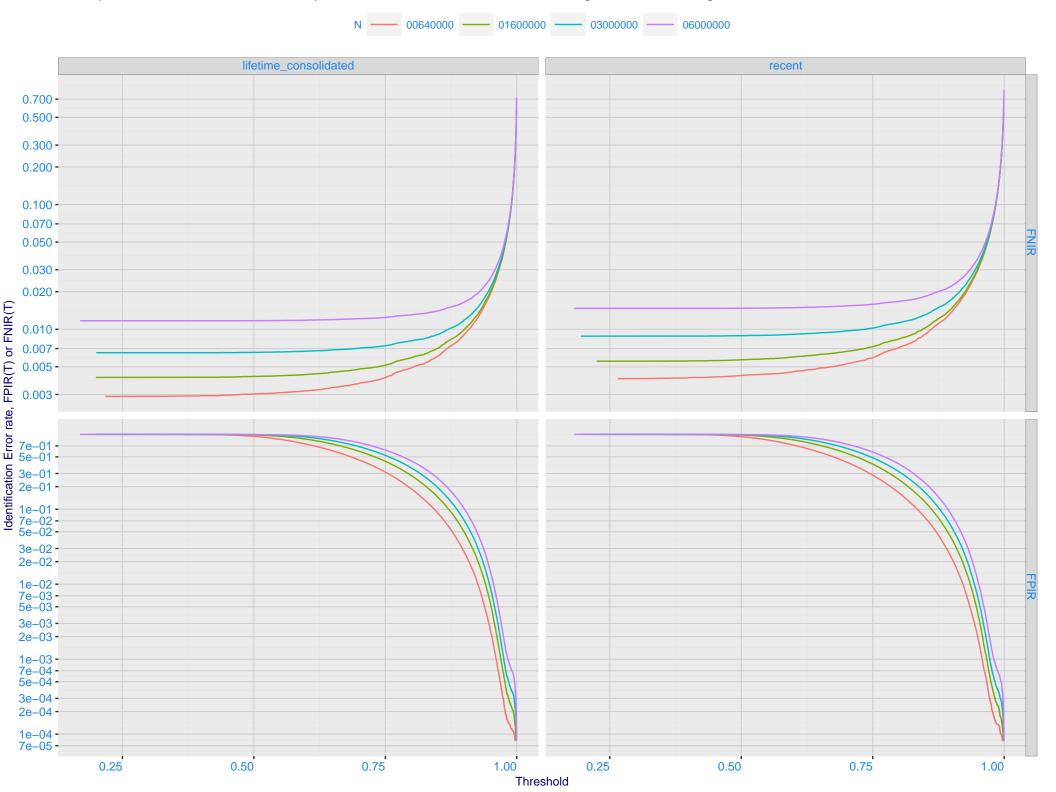




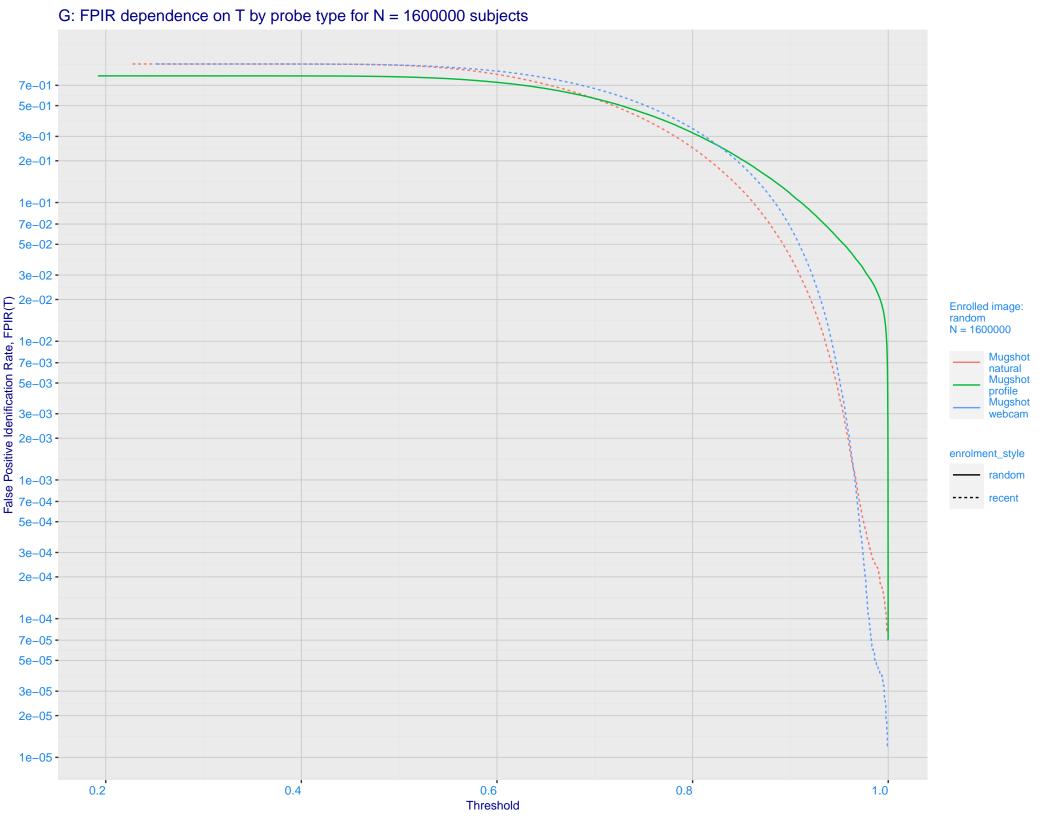
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Immigration Immigration Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -Ealse negative identification rate, FNIR(T) 0.003 - 0.0001 - 0.700 - 0.500 - 0.200 - 0.100 - 0 enrolment_style consolidated-ONE-MATE random-ONE-MATE recent-ONE-MATE 0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -0.002 -0.001 -

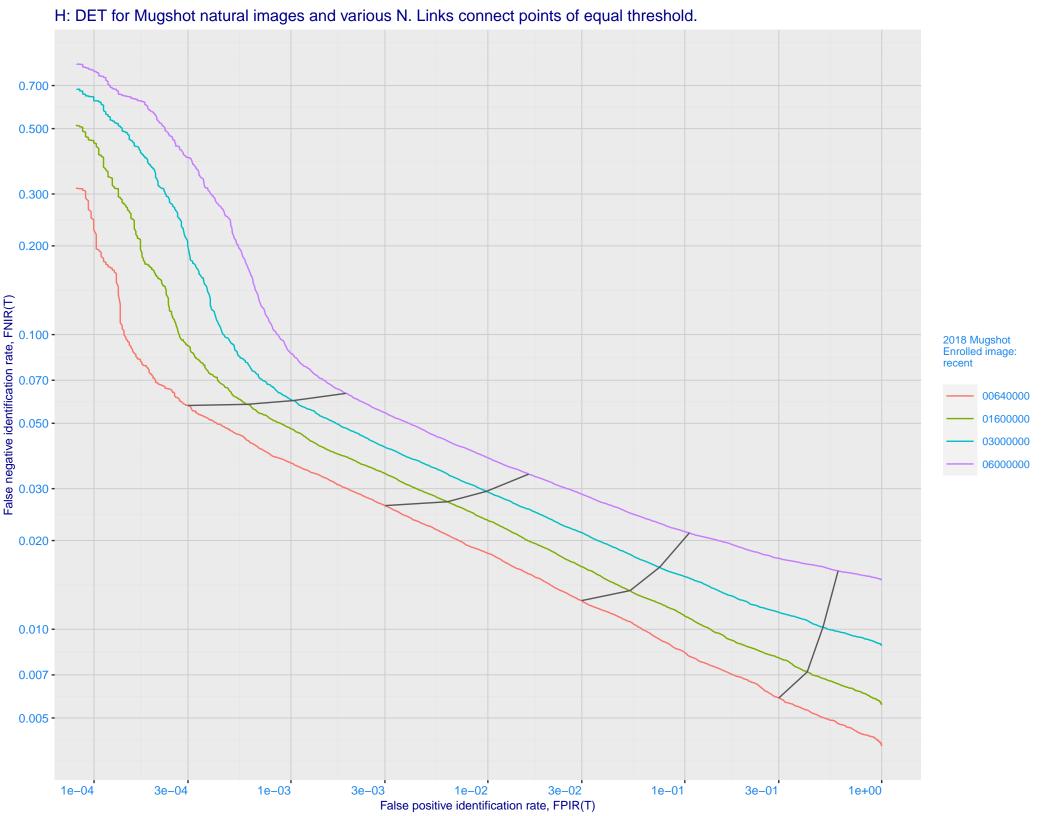
False positive identification rate, FPIR(T)

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

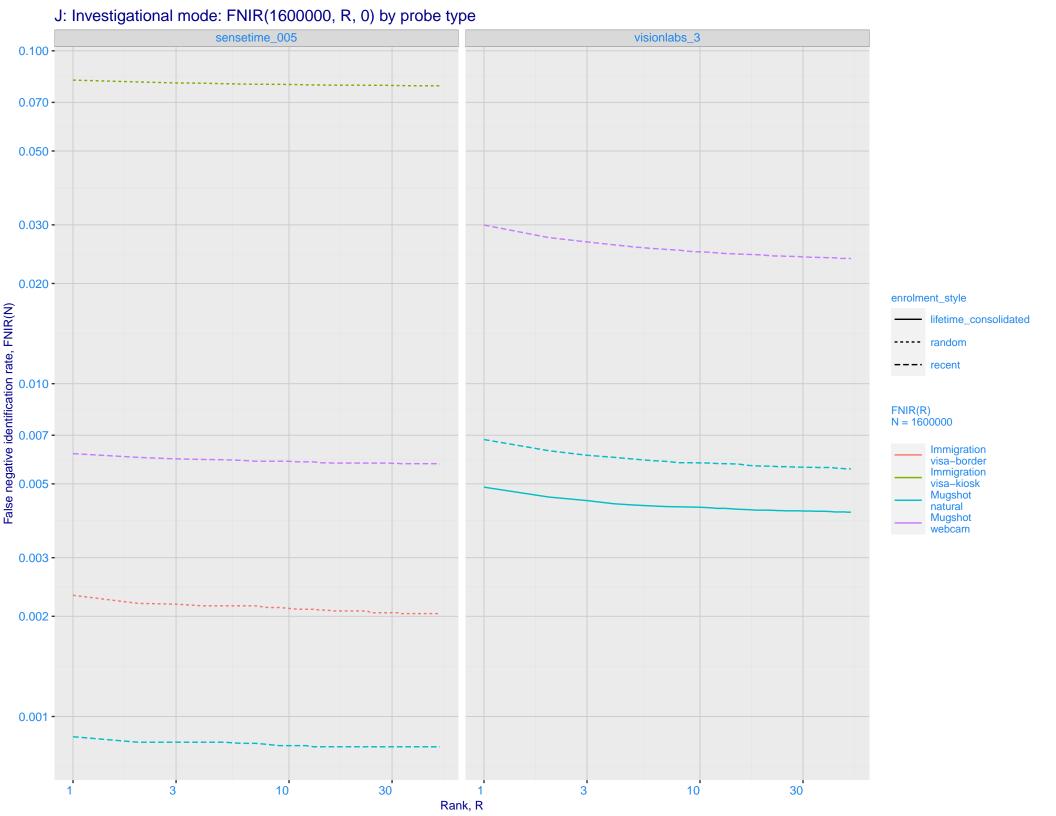


F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 -5e+01 -3e+01 -2e+01 -1e+01 -7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -5e-01 -3e-01 -2e-01 -1e-01 - 7e-02 **Enrolled images:** recent N = 1600000 Mugshot natural Mugshot webcam 1e-02 -7e-03 -5e-03 -3e-03 -2e-03 -1e-03 -7e-04 -5e-04 -3e-04 -2e-04 -1e-04 -7e-05 -5e-05 -3e-05 -2e-05 -1e-05 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 0.100 0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -Palse negative identification rate, FNIR(N) 0.002 - 0.001 - 0.000 - 0.050 - 0.050 - 0.030 - 0. enrolment_style consolidated ---- random --- recent Mugshot webcam Mugshot natural FNIR@Rank = 1 sensetime_005 visionlabs_3 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



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 300 -MODEL — Log Model ---- Power Law Model 200 -100 -70 -50 -Search Duration (milliseconds) 30 -20 -10 -1e+06 3e+06 5e+06 Enrolled population size, N, one image per person

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



