A: Datasheet

Algorithm: synesis_3

Developer: Synesis

Submission Date: 2018_10_30

Template size: 4096 bytes

Template time (2.5 percentile): 98 msec

Template time (median): 100 msec

Template time (97.5 percentile): 117 msec

Investigation:

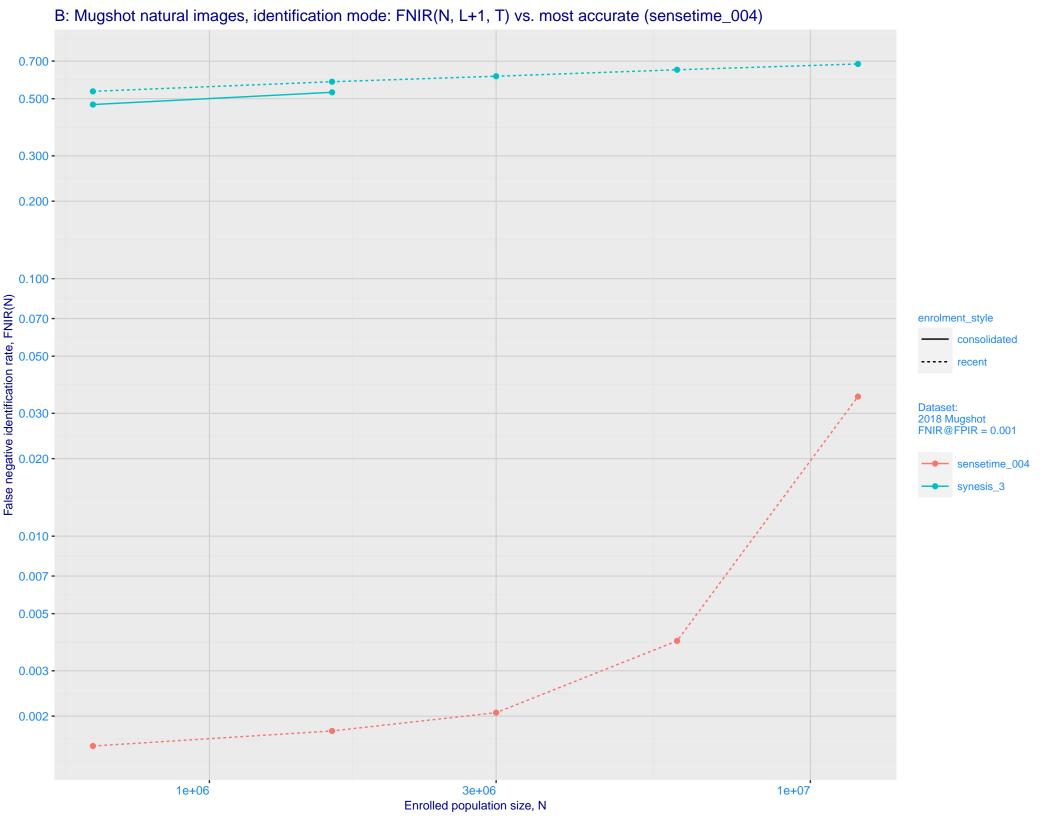
Frontal mugshot ranking 232 (out of 265) -- FNIR(1600000, 0, 1) = 0.1700 vs. lowest 0.0009 from sensetime_005

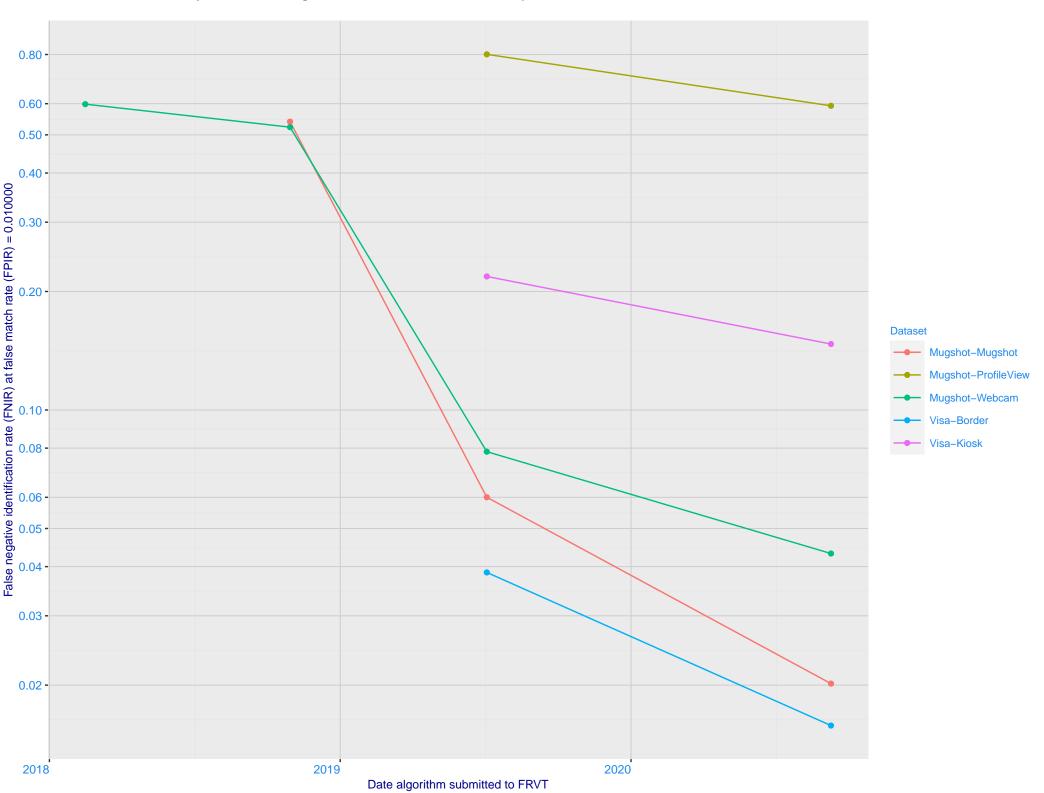
Mugshot webcam ranking 197 (out of 227) -- FNIR(1600000, 0, 1) = 0.2354 vs. lowest 0.0062 from sensetime_005

Identification:

Frontal mugshot ranking 227 (out of 265) -- FNIR(1600000, T, L+1) = 0.5821, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

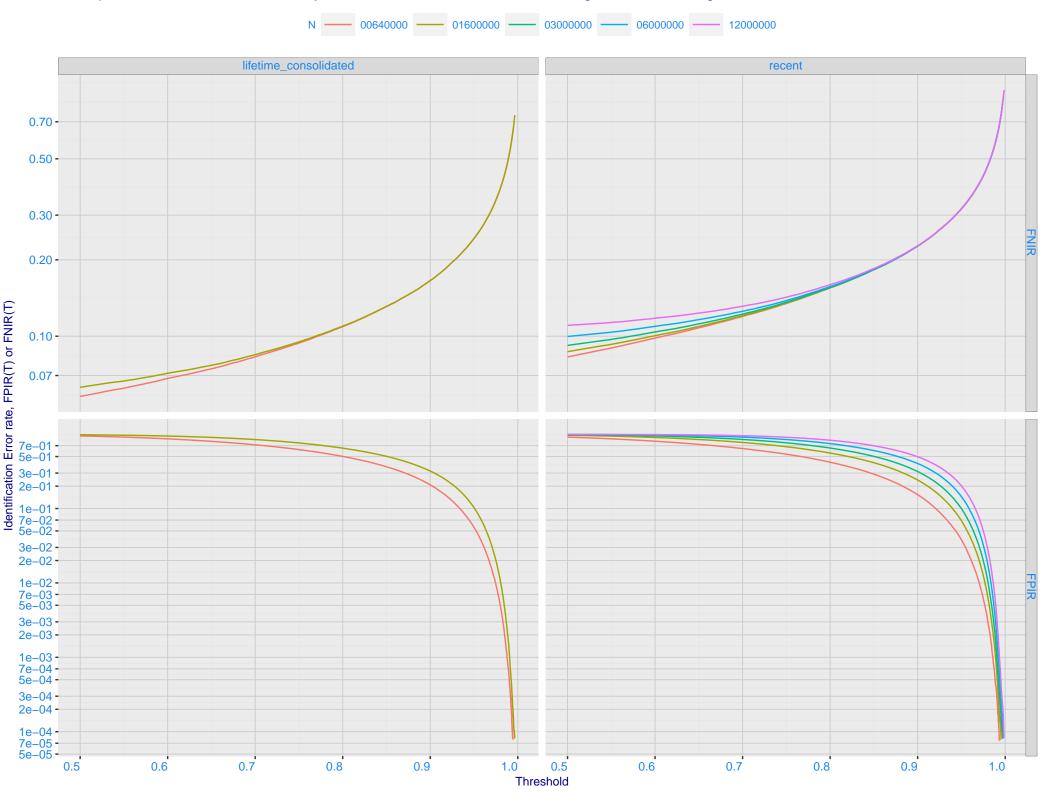
Mugshot webcam ranking 192 (out of 225) -- FNIR(1600000, T, L+1) = 0.6463, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003



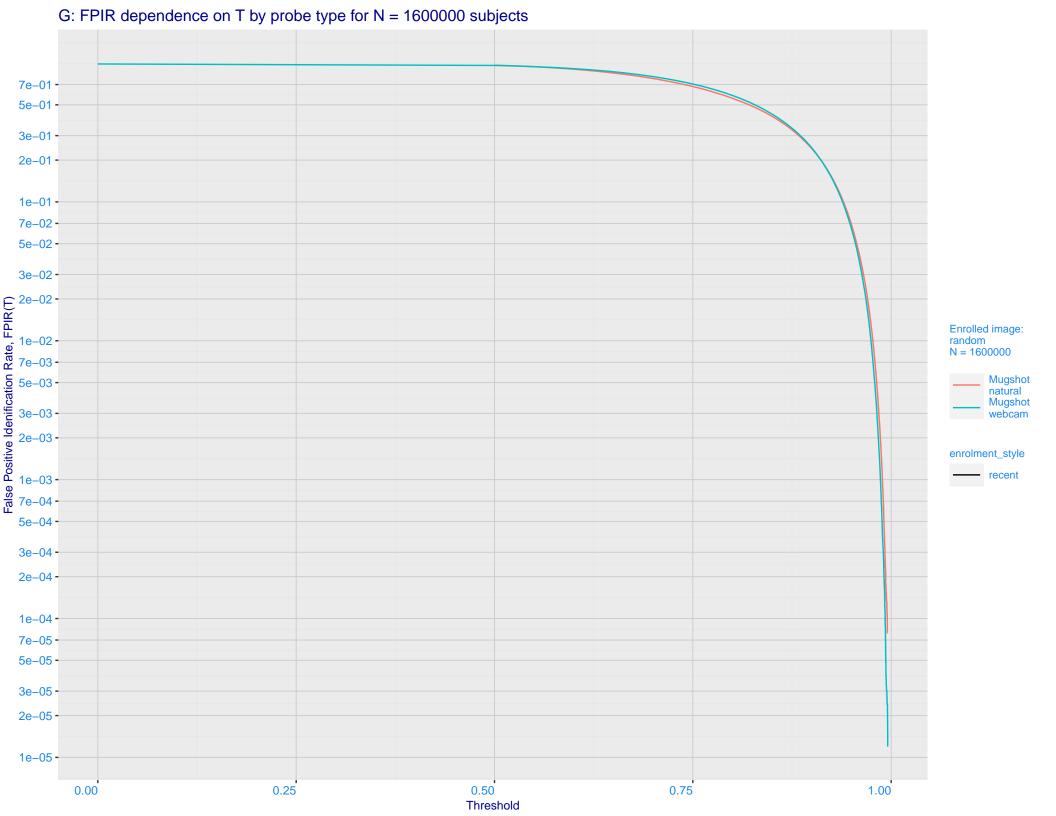


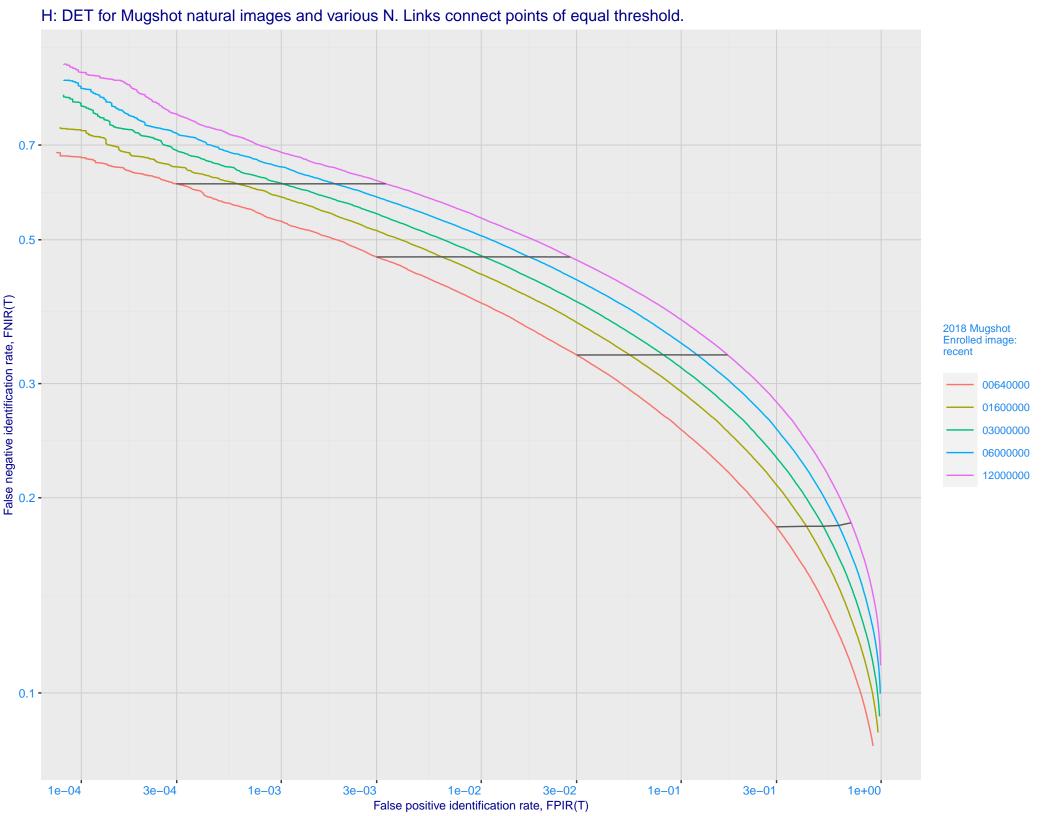
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals **Immigration** Mugshot **Immigration** visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -Ealse negative identification rate, FNIR(T) 0.003 - 0.002 - 0.001 - 0.500 -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

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

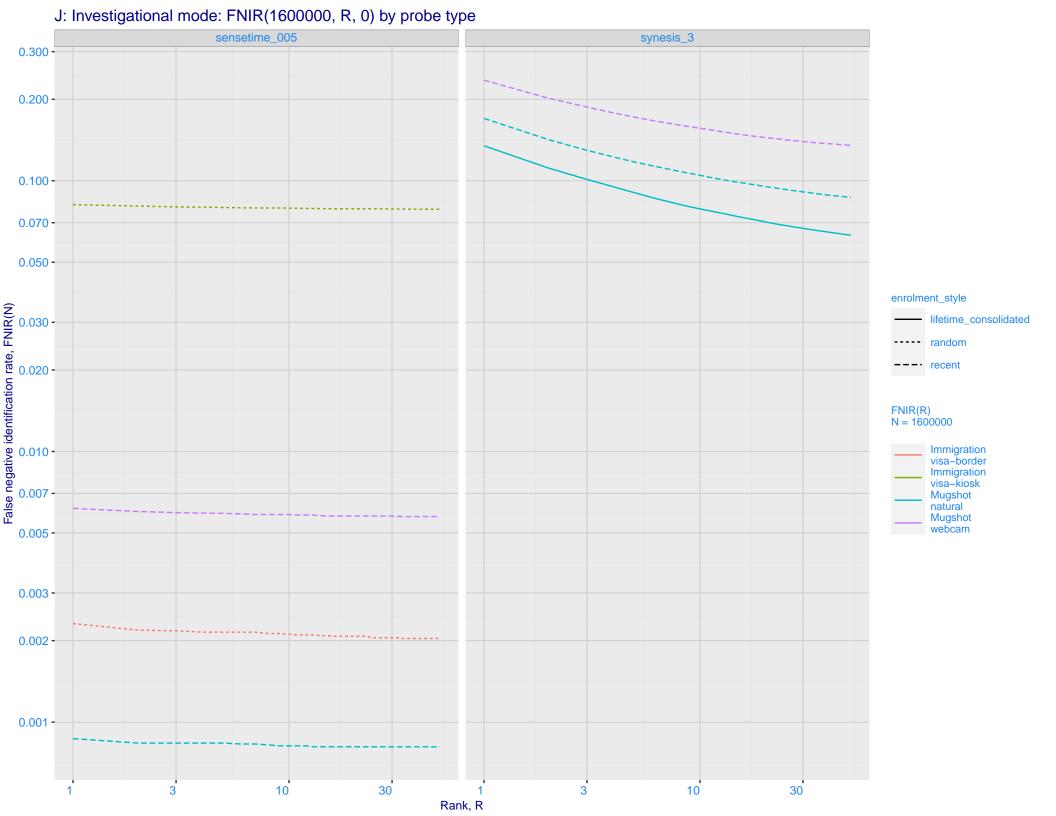


F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 -5e+01 -3e+01 -2e+01 -1e+01 -7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -5e-01 -3e-01 -2e-01 -1e-01 -7e-02 -5e-02 -3e-02 -3e-02 -1e-02 -**Enrolled images:** recent N = 1600000 Mugshot natural Mugshot webcam 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)

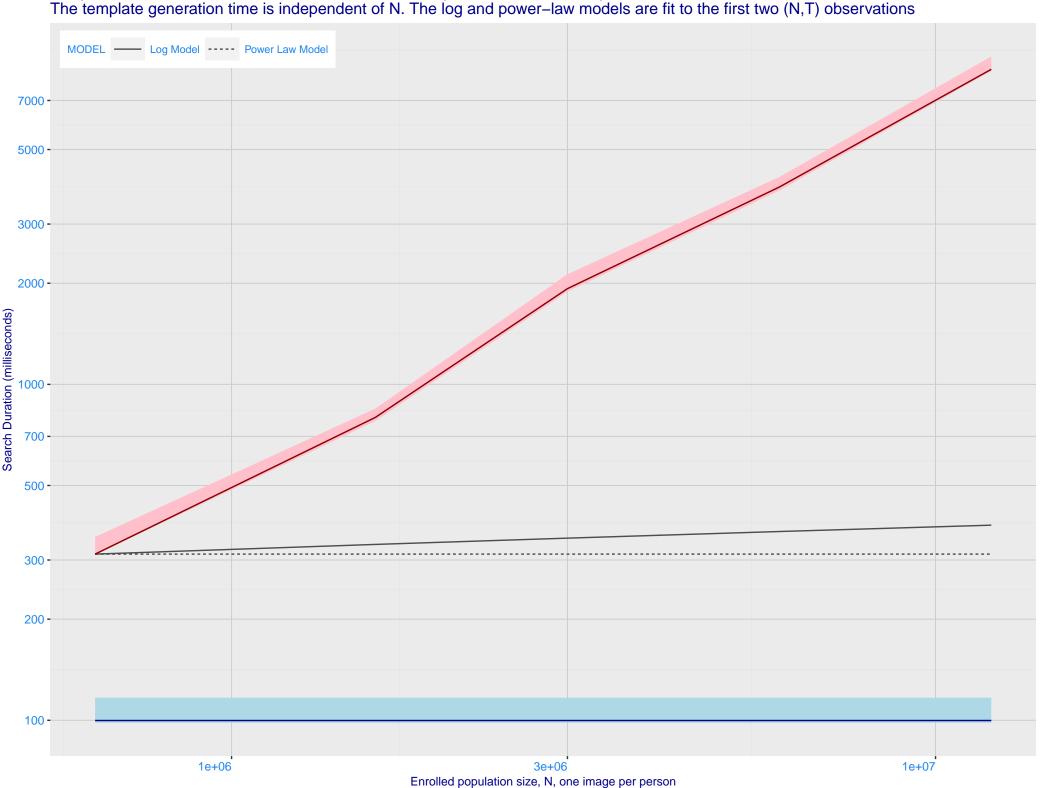




I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005) Immigration **Immigration** visa-border visa-kiosk 0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -Palse negative identification rate, FNIR(N) 0.003 - 0.001 - 0.300 - 0.200 - 0.100 - 0.070 - 0. • enrolment_style consolidated ---- random --- recent Mugshot Mugshot webcam natural FNIR@Rank = 1 sensetime_005 synesis_3 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



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



