A: Datasheet

Algorithm: incode_2

Developer: Incode Technologies Inc

Submission Date: 2018_10_29

Template size: 2048 bytes

Template time (2.5 percentile): 259 msec

Template time (median): 290 msec

Template time (97.5 percentile): 338 msec

Investigation:

Frontal mugshot ranking 159 (out of 265) -- FNIR(1600000, 0, 1) = 0.0178 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 146 (out of 227) -- FNIR(1600000, 0, 1) = 0.0479 vs. lowest 0.0062 from sensetime_005

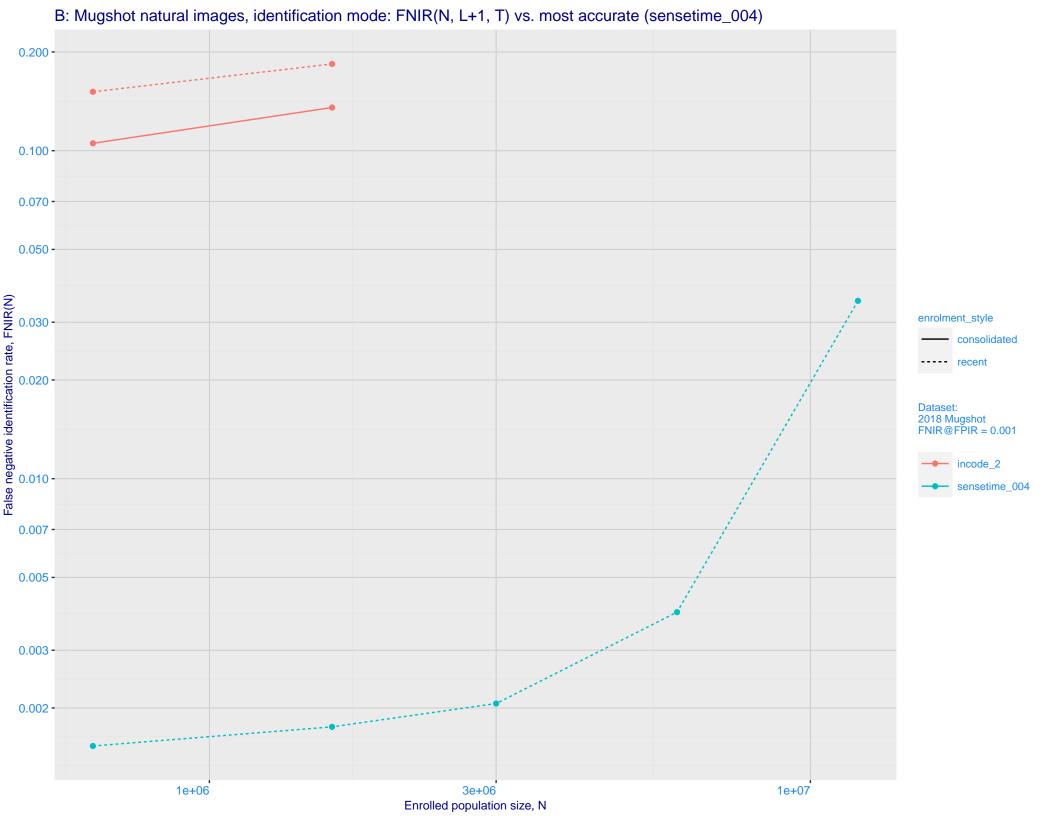
Mugshot profile ranking 104 (out of 196) -- FNIR(1600000, 0, 1) = 0.8425 vs. lowest 0.0591 from sensetime_005

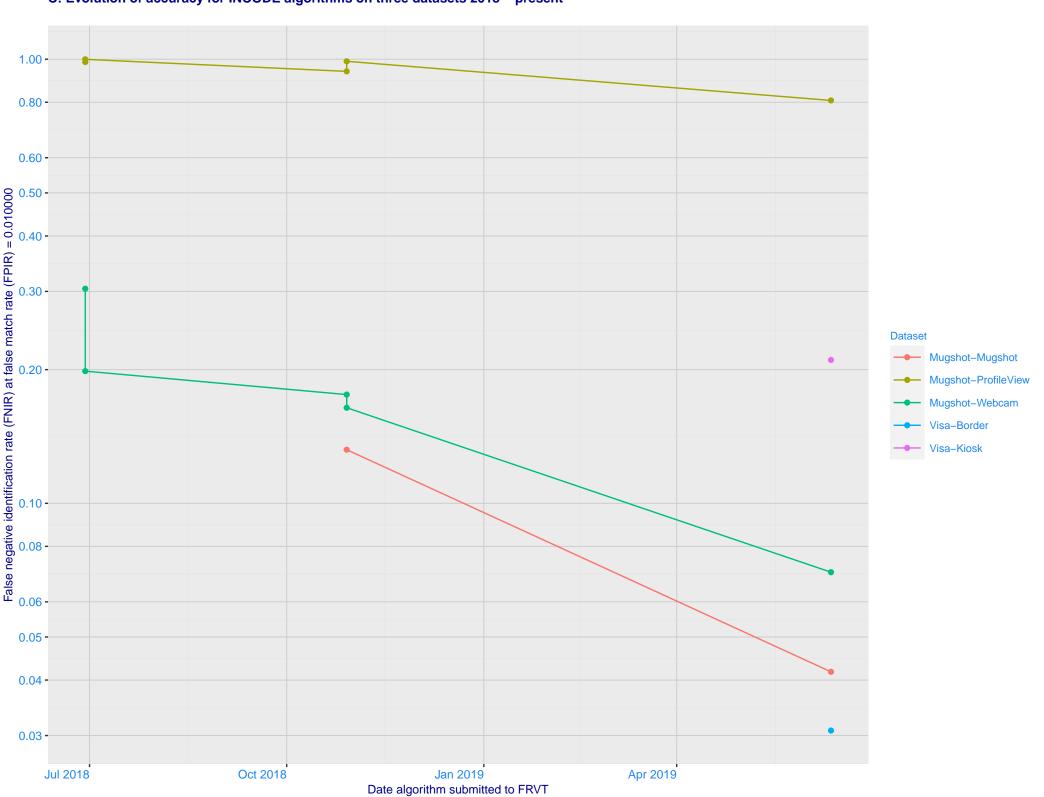
Identification:

Frontal mugshot ranking 170 (out of 265) -- FNIR(1600000, T, L+1) = 0.1838, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot webcam ranking 152 (out of 225) -- FNIR(1600000, T, L+1) = 0.2690, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 88 (out of 195) -- FNIR(1600000, T, L+1) = 0.9935, FPIR=0.001000 vs. lowest 0.1331 from hr_000



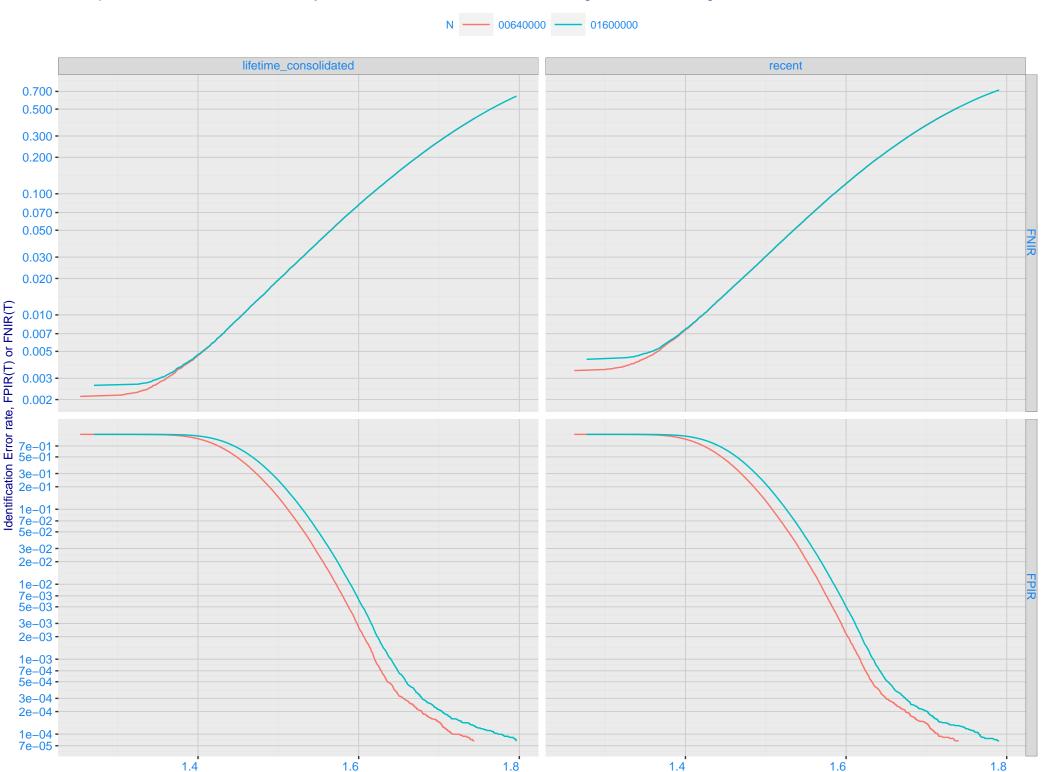


D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals **Immigration** Mugshot **Immigration** visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -Ealse negative identification rate, FNIR(T) 0.003 - 0.002 - 0.001 - 0.500 -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

1.4

1.6



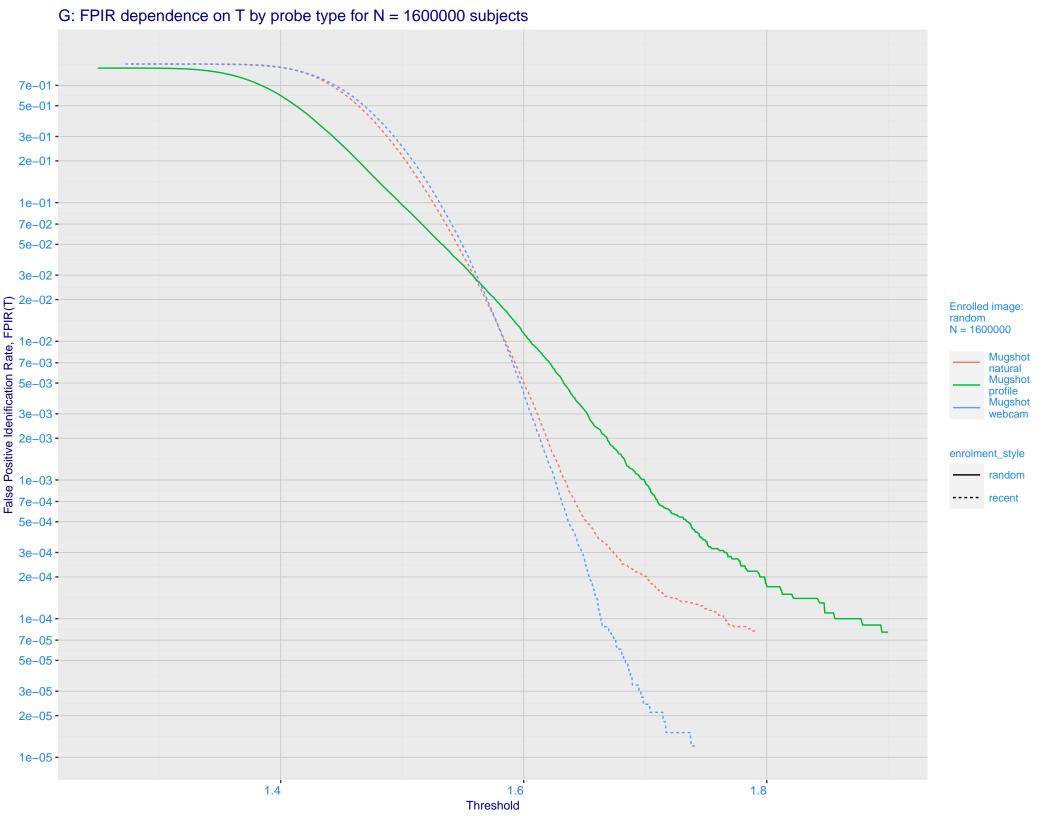
1.8

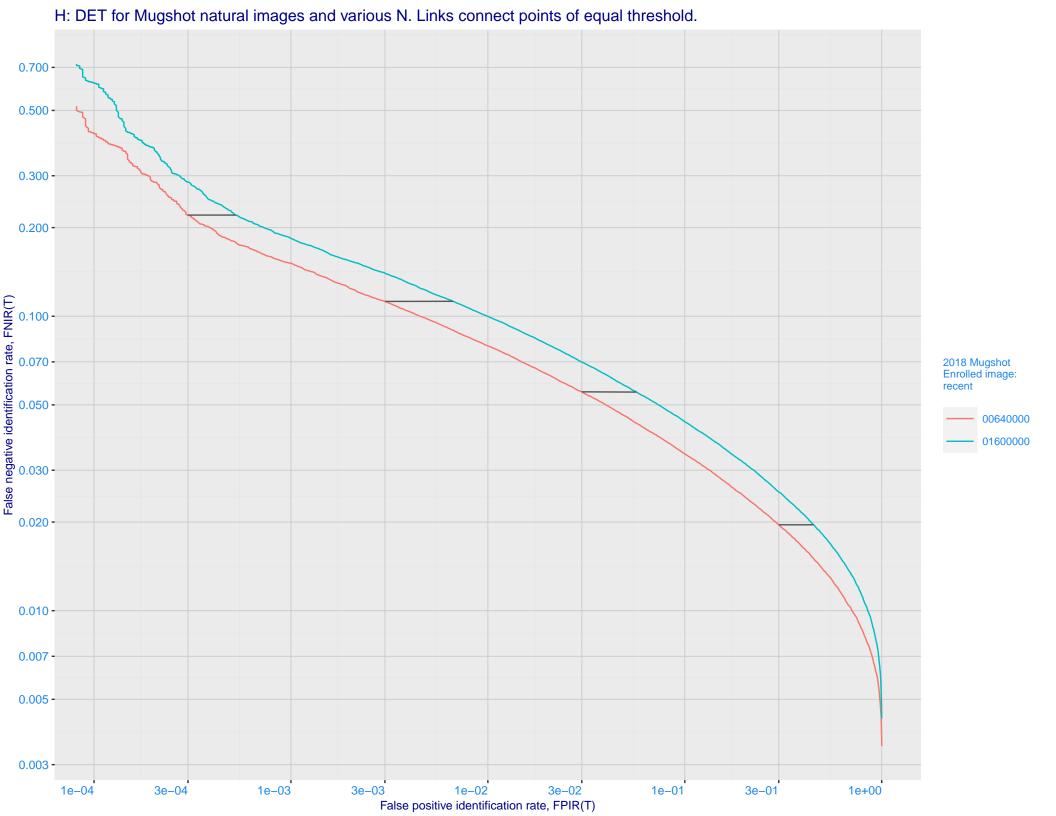
Threshold

1.4

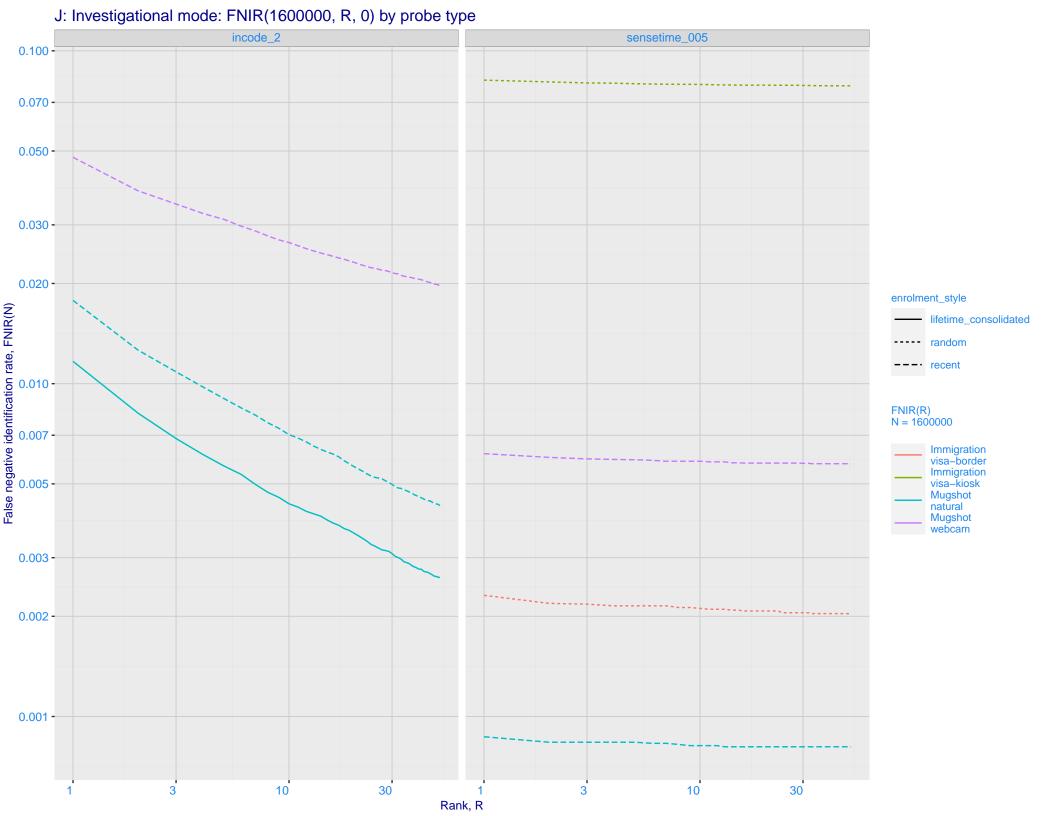
1.8

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)

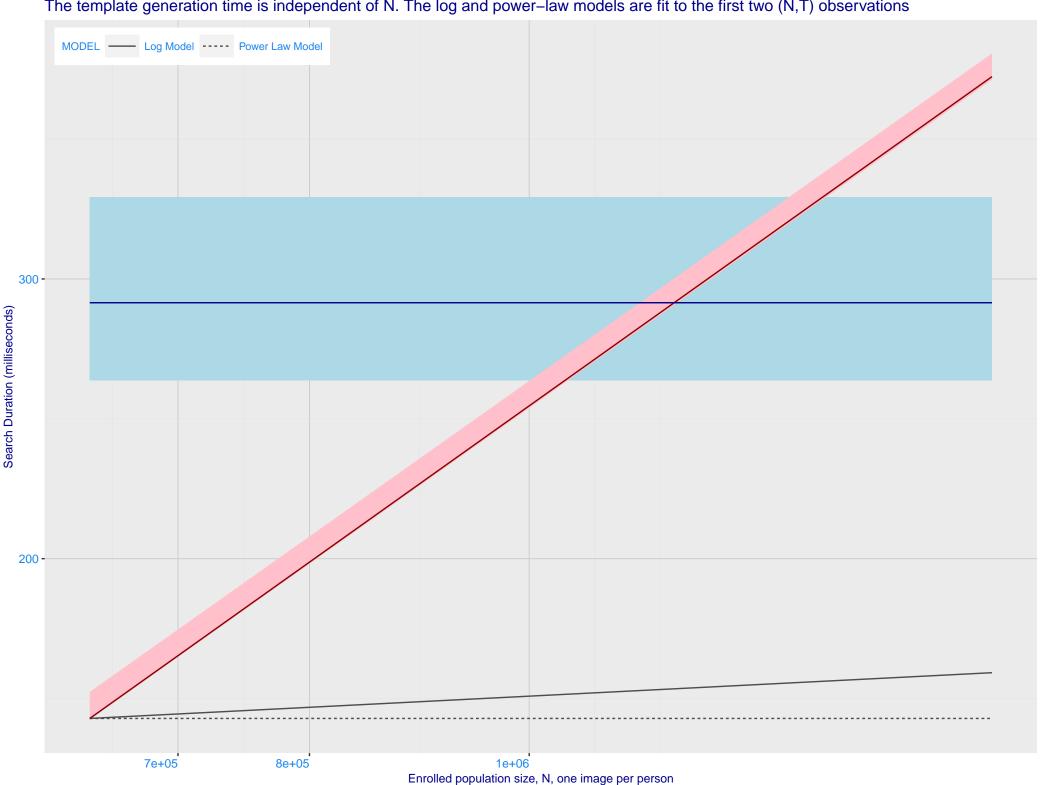




I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005) Immigration **Immigration** visa-border visa-kiosk 0.100 0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -Ealse negative identification rate, FNIR(N) 0.002 - 0.001 - 0.000 - 0.050 - 0.030 - 0. enrolment_style consolidated ---- random --- recent Mugshot Mugshot webcam natural FNIR@Rank = 1 incode_2 sensetime_005 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



