## A: Datasheet

Algorithm: 3divi\_6

Developer: 3Divi

Submission Date: 2018\_10\_26

Template size: 528 bytes

Template time (2.5 percentile): 507 msec

Template time (median): 640 msec

Template time (97.5 percentile): 869 msec

Investigation:

Frontal mugshot ranking 167 (out of 259) -- FNIR(1600000, 0, 1) = 0.0240 vs. lowest 0.0009 from sensetime\_005

Mugshot webcam ranking 162 (out of 221) -- FNIR(1600000, 0, 1) = 0.0741 vs. lowest 0.0062 from sensetime\_005

Immigration visa-border ranking 86 (out of 142) -- FNIR(1600000, 0, 1) = 0.0465 vs. lowest 0.0014 from visionlabs\_009

Immigration visa-kiosk ranking 97 (out of 139) -- FNIR(1600000, 0, 1) = 0.3122 vs. lowest 0.0694 from cib\_000

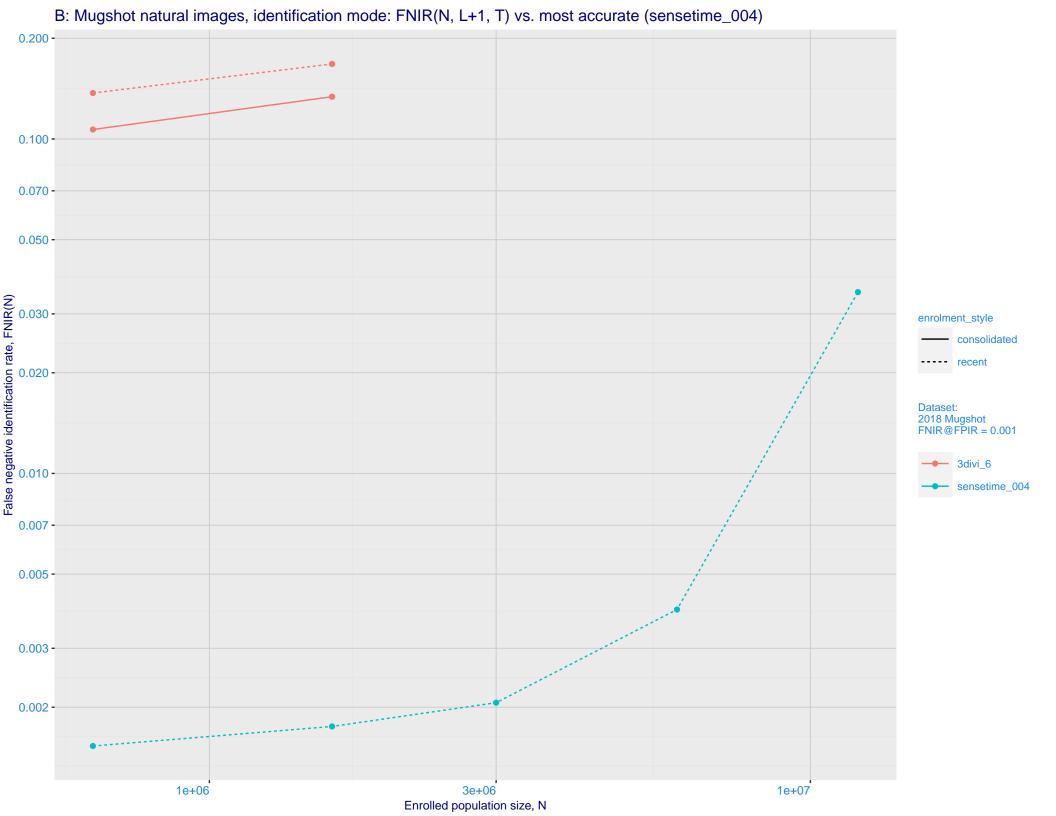
Identification:

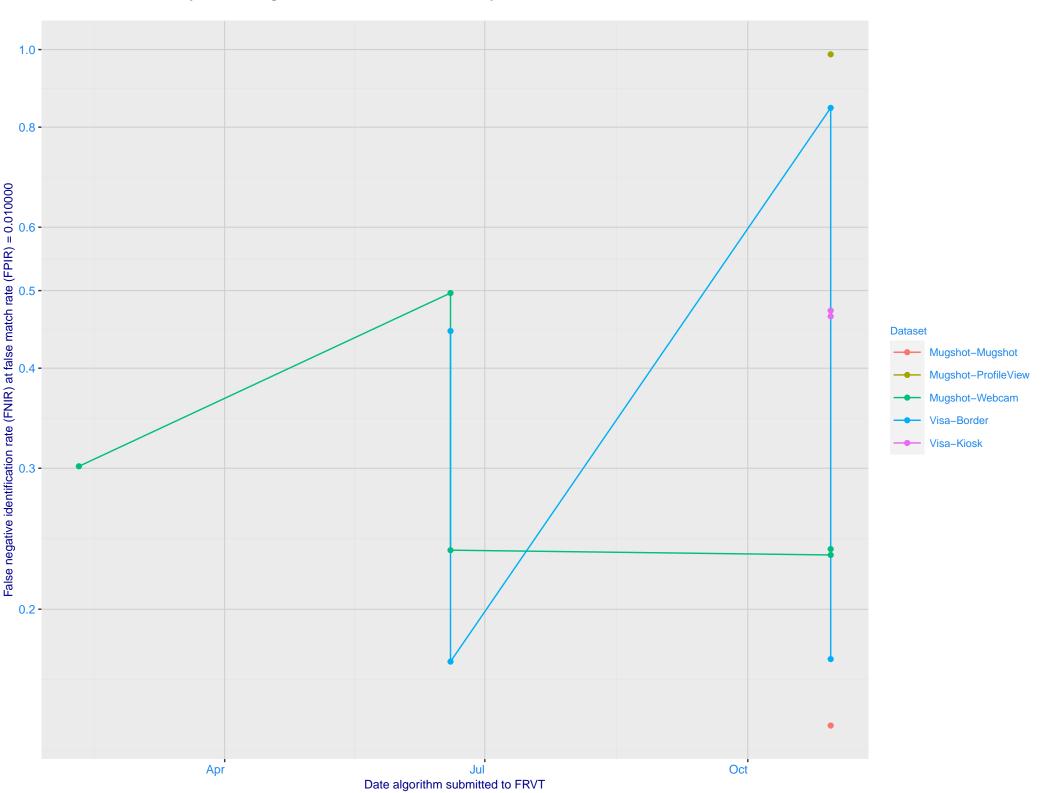
Frontal mugshot ranking 161 (out of 259) -- FNIR(1600000, T, L+1) = 0.1676, FPIR=0.001000 vs. lowest 0.0018 from sensetime\_004

Mugshot webcam ranking 160 (out of 219) -- FNIR(1600000, T, L+1) = 0.3418, FPIR=0.001000 vs. lowest 0.0122 from sensetime\_003

Immigration visa-border ranking 86 (out of 139) -- FNIR(1600000, T, L+1) = 0.2827, FPIR=0.001000 vs. lowest 0.0059 from sensetime\_004

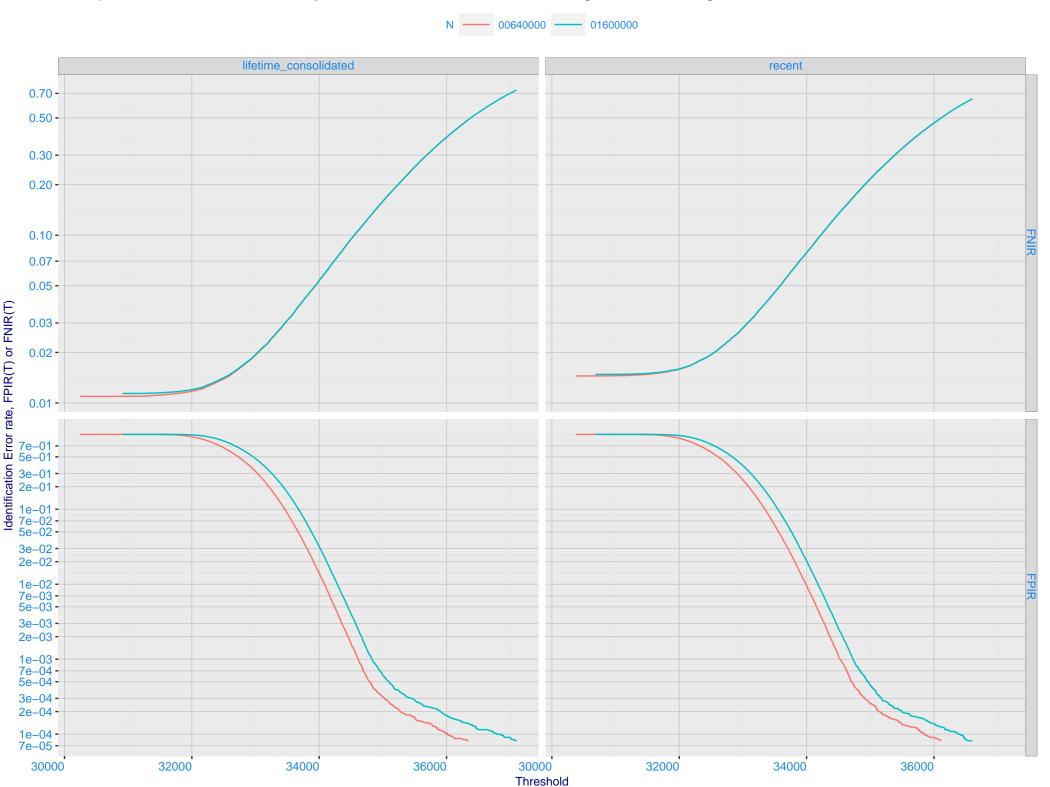
Immigration visa-kiosk ranking 67 (out of 134) -- FNIR(1600000, T, L+1) = 0.6172, FPIR=0.001000 vs. lowest 0.1048 from sensetime\_005



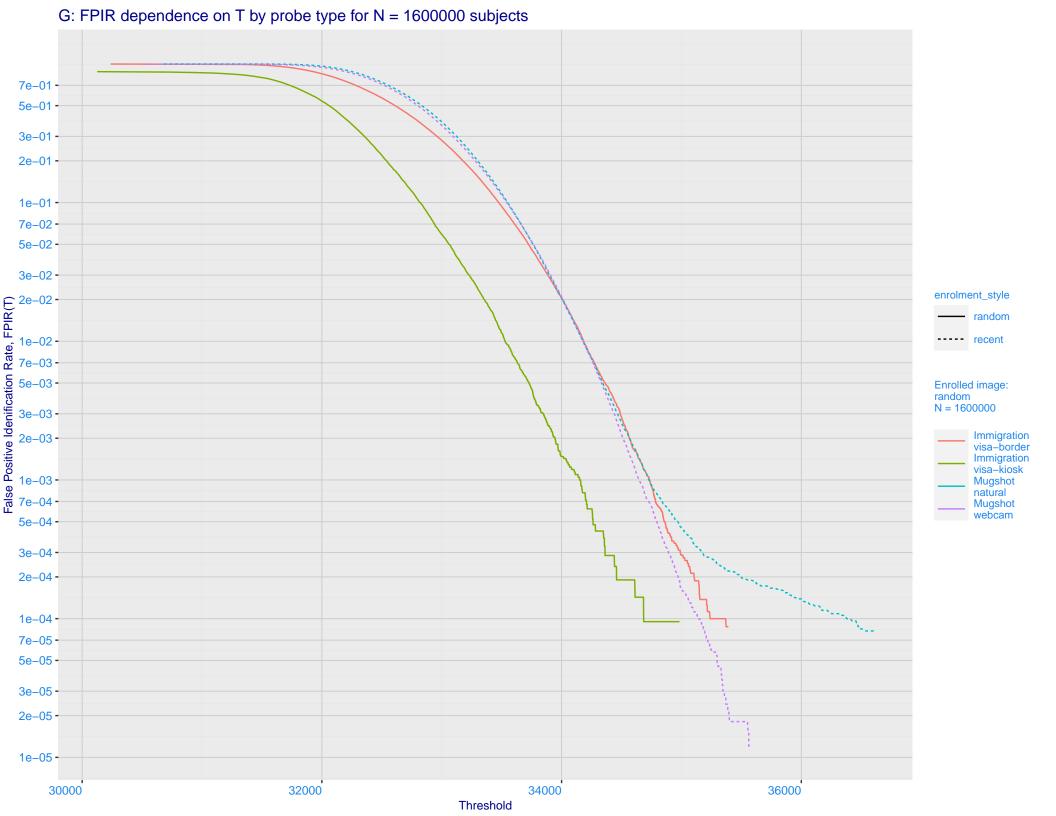


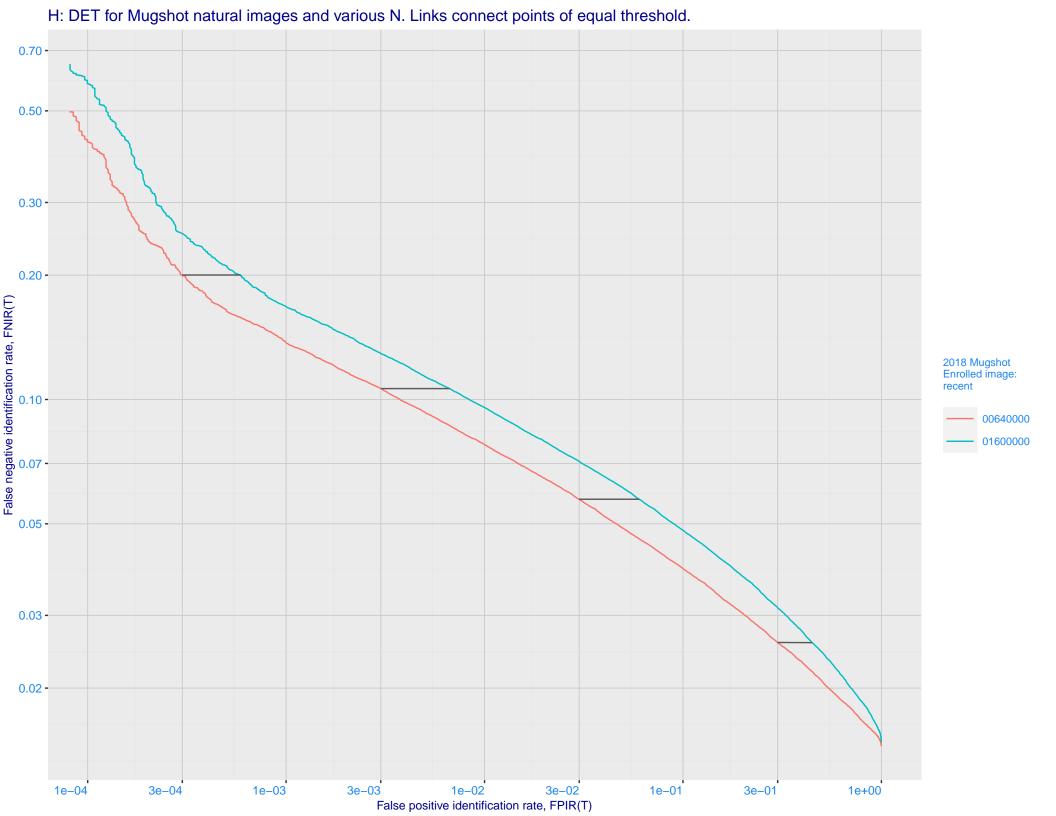
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals **Immigration Immigration** Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -Ealse negative identification rate, FNIR(T) 0.003 - 0.002 - 0.001 - 0.500 - 0.500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

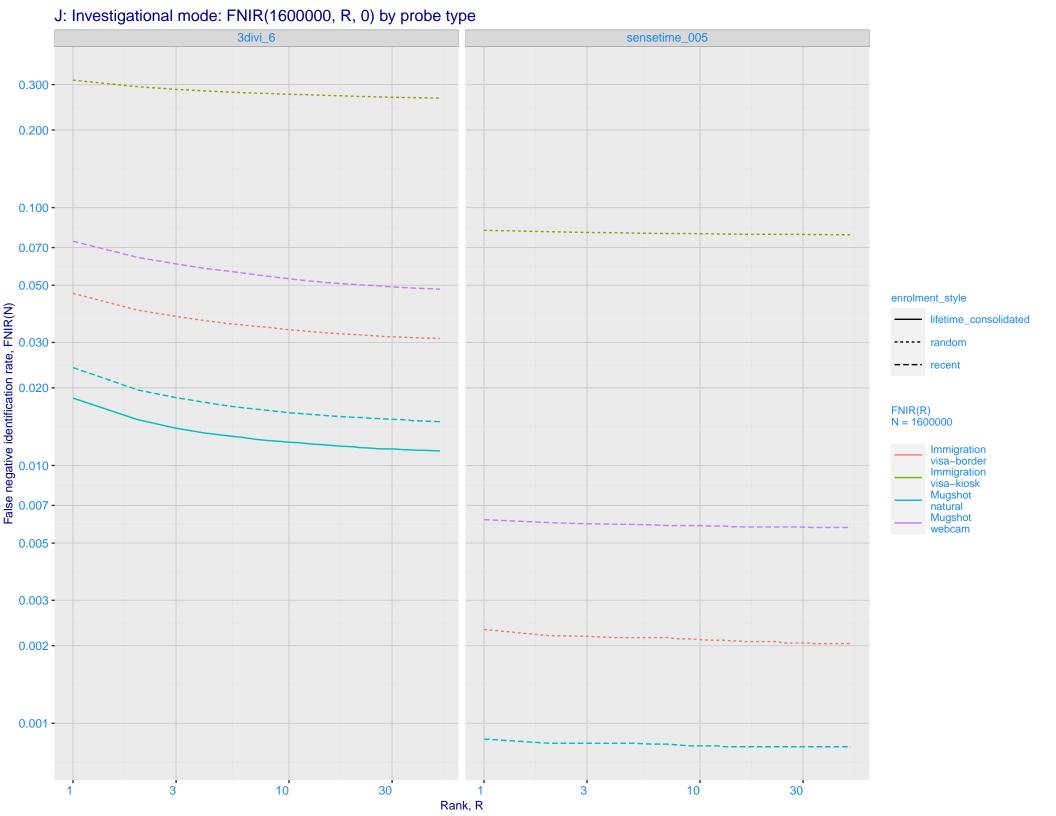


F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 -5e+01 -3e+01 -2e+01 -1e+01 -7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -5e-01 -3e-01 -2e-01 -1e-01 -7e-02 -5e-02 -3e-02 -3e-02 -1e-02 -**Enrolled images:** recent N = 1600000 Mugshot natural Mugshot webcam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

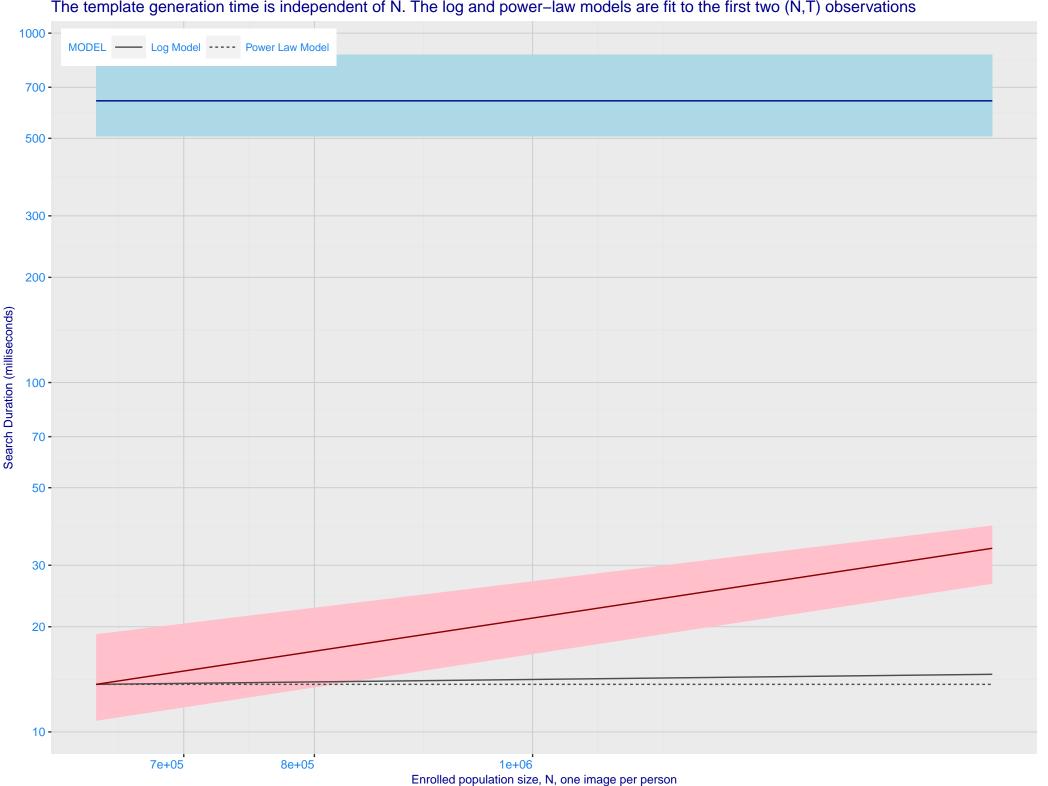




I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime\_005) Immigration **Immigration** visa-border visa-kiosk 0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -Ealse negative identification rate, FNIR(N) 0.003 - 0.001 - 0.300 - 0.100 - 0.700 - 0. enrolment\_style consolidated ---- random --- recent Mugshot Mugshot webcam natural FNIR@Rank = 1 --- 3divi\_6 sensetime\_005 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



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



