## A: Datasheet

Algorithm: glory\_0

Developer: Glory Ltd

Submission Date: 2018\_06\_30

Template size: 418 bytes

Template time (2.5 percentile): 153 msec

Template time (median): 159 msec

Template time (97.5 percentile): 174 msec

Investigation:

Frontal mugshot ranking 227 (out of 259) -- FNIR(1600000, 0, 1) = 0.1781 vs. lowest 0.0009 from sensetime\_005

Mugshot webcam ranking 197 (out of 221) -- FNIR(1600000, 0, 1) = 0.3201 vs. lowest 0.0062 from sensetime\_005

Mugshot profile ranking 186 (out of 190) — FNIR(1600000, 0, 1) = 0.9936 vs. lowest 0.0591 from sensetime\_005

Immigration visa-border ranking 112 (out of 142) -- FNIR(1600000, 0, 1) = 0.2275 vs. lowest 0.0014 from visionlabs\_009

Immigration visa-kiosk ranking 123 (out of 139) -- FNIR(1600000, 0, 1) = 0.6777 vs. lowest 0.0694 from cib\_000

Identification:

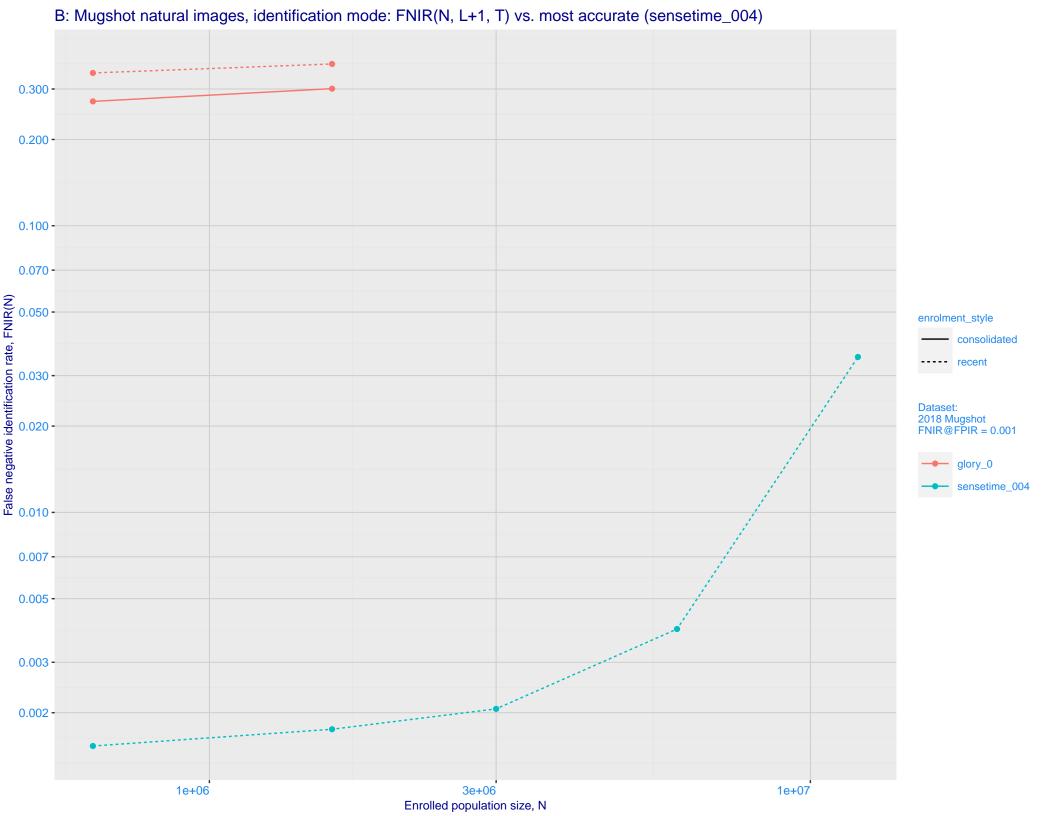
Frontal mugshot ranking 198 (out of 259) -- FNIR(1600000, T, L+1) = 0.3668, FPIR=0.001000 vs. lowest 0.0018 from sensetime\_004

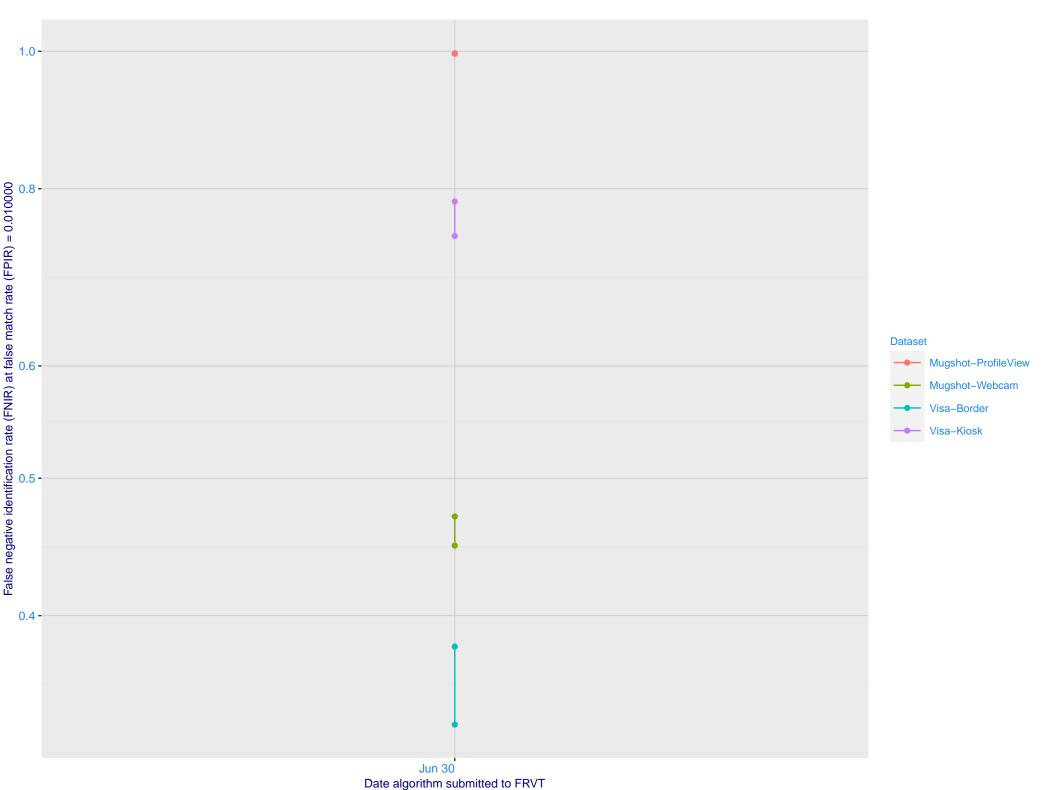
Mugshot webcam ranking 180 (out of 219) -- FNIR(1600000, T, L+1) = 0.5475, FPIR=0.001000 vs. lowest 0.0122 from sensetime\_003

Mugshot profile ranking 93 (out of 189) -- FNIR(1600000, T, L+1) = 0.9946, FPIR=0.001000 vs. lowest 0.1733 from sensetime\_005

Immigration visa-border ranking 97 (out of 139) -- FNIR(1600000, T, L+1) = 0.4530, FPIR=0.001000 vs. lowest 0.0059 from sensetime\_004

Immigration visa-kiosk ranking 87 (out of 134) -- FNIR(1600000, T, L+1) = 0.8389, FPIR=0.001000 vs. lowest 0.1048 from sensetime\_005

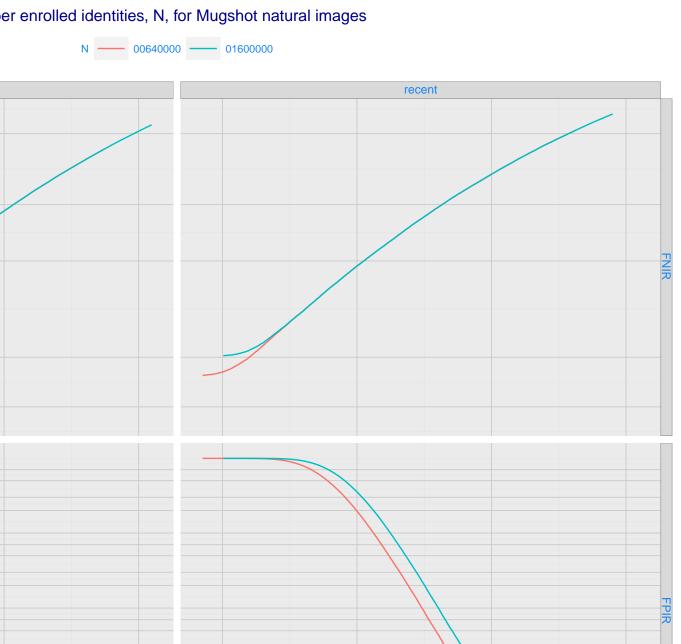


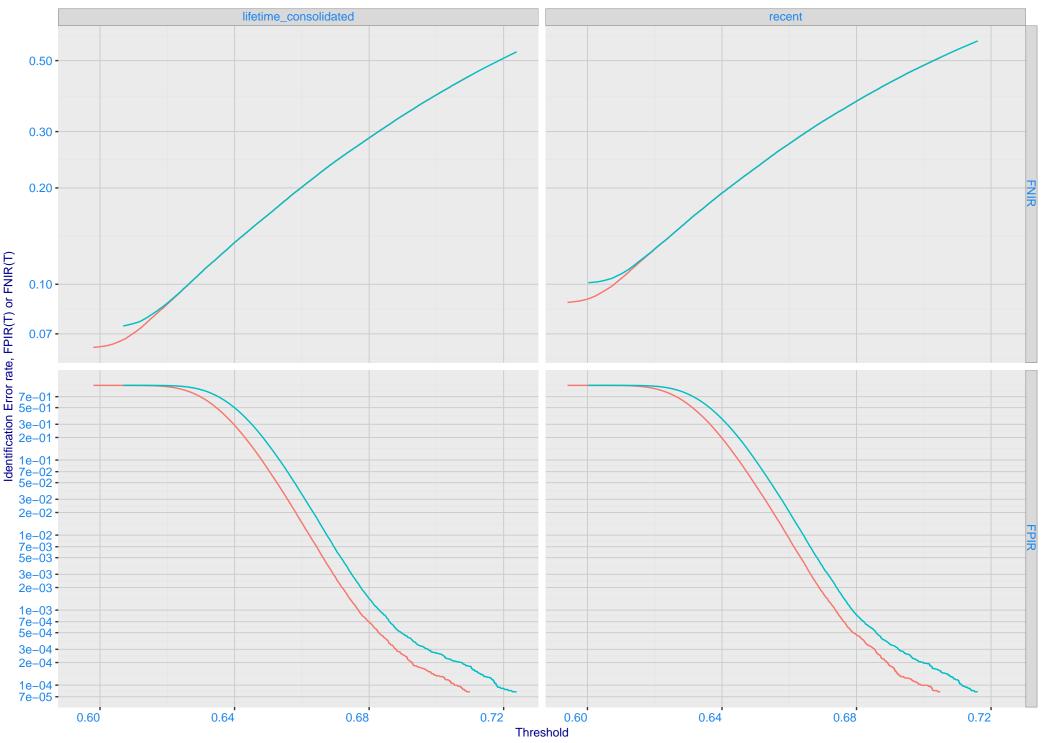


D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals **Immigration** Immigration Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -Ealse negative identification rate, FNIR(T) 0.003 - 0.000 - 0.000 - 0.500 - 0.200 - 0. 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 -

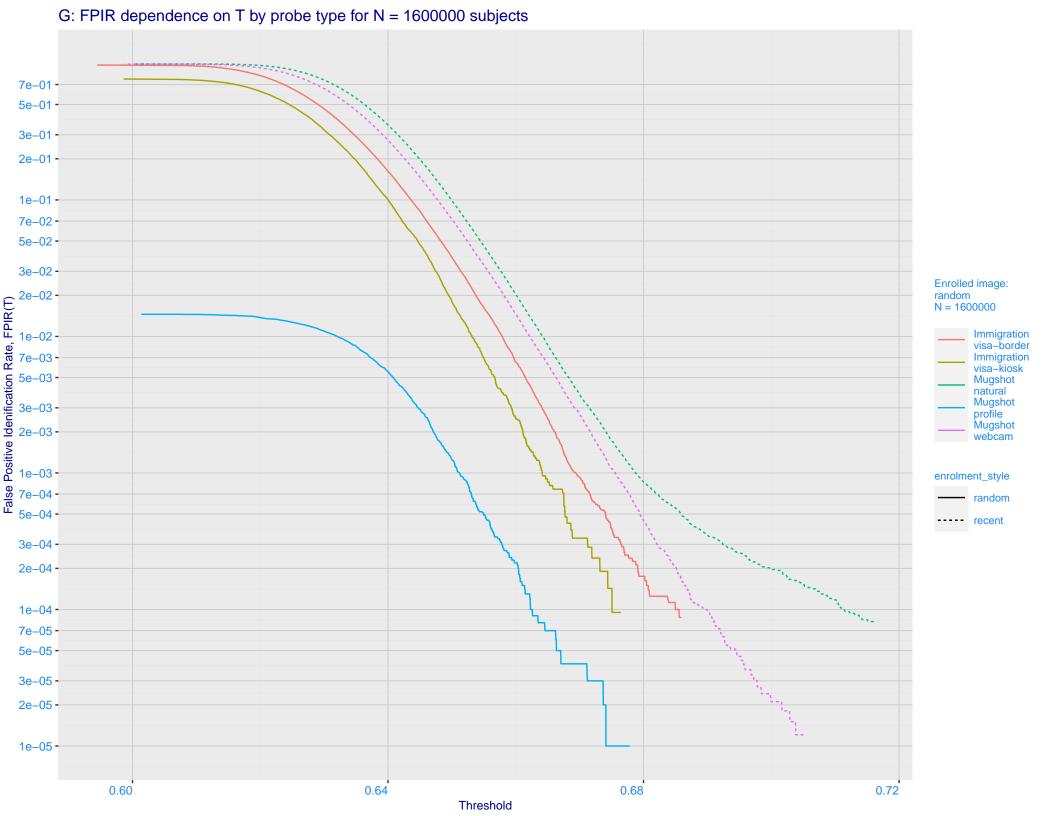
False positive identification rate, FPIR(T)

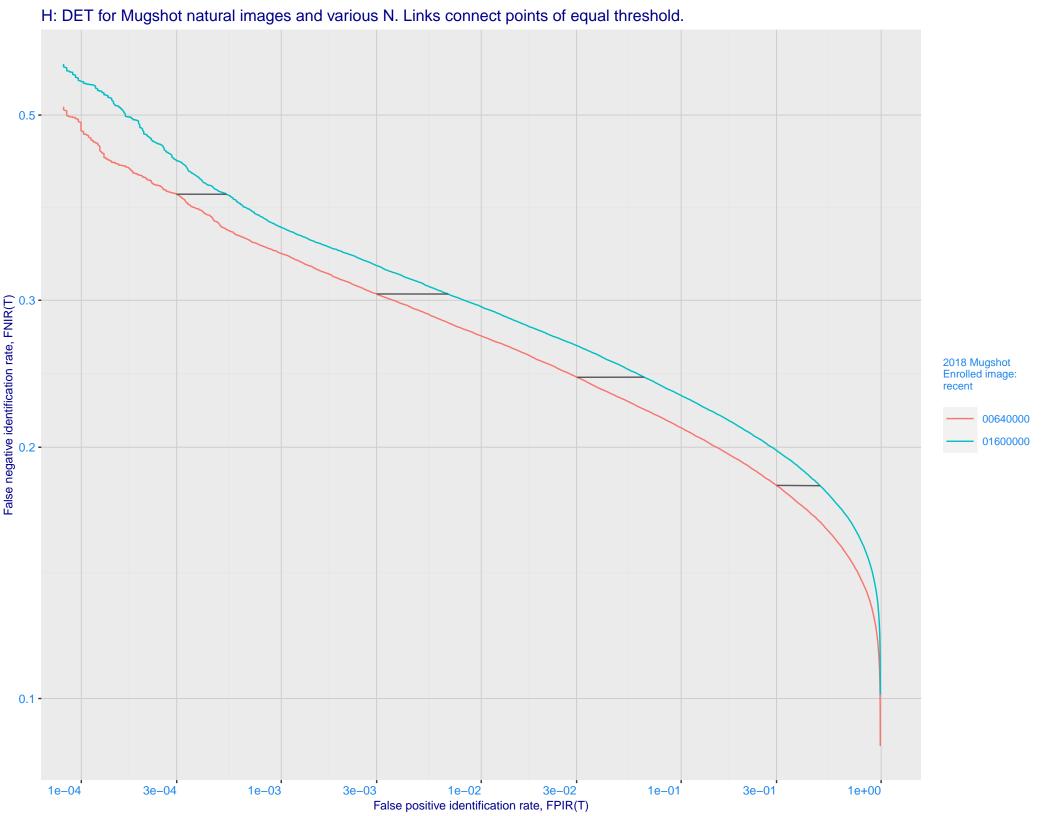
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images





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)

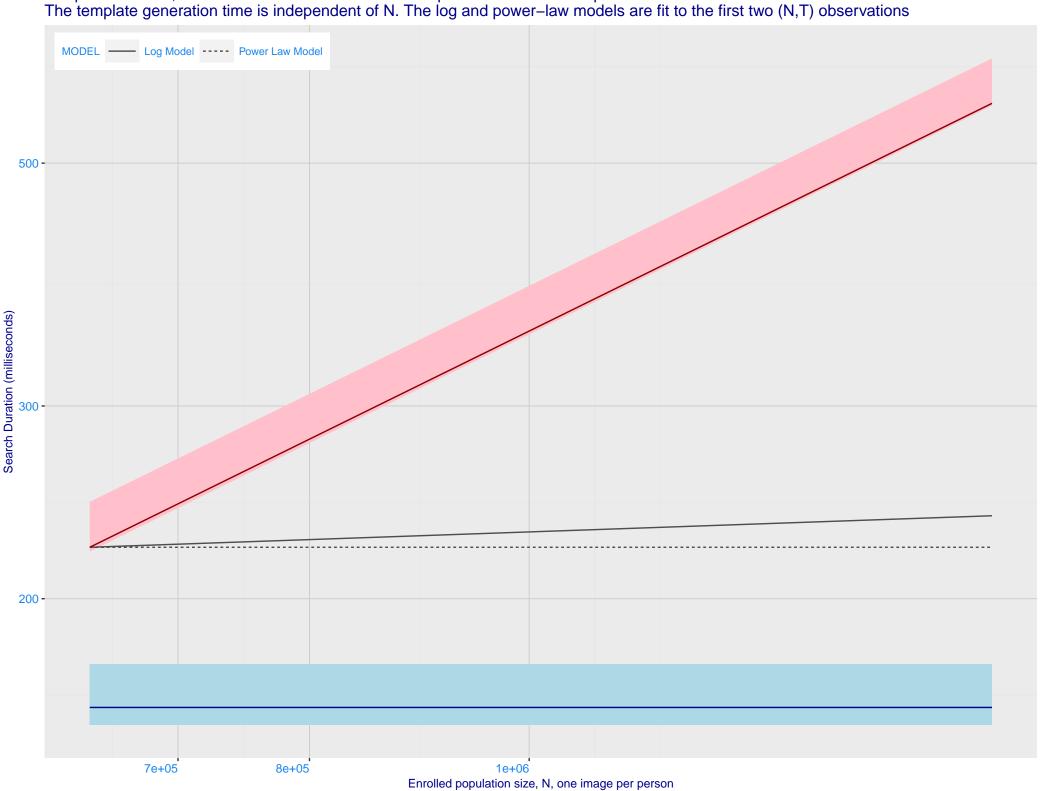




I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime\_005) Immigration **Immigration** visa-border visa-kiosk 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -Ealse negative identification rate, FNIR(N) 0.003 - 0.001 - 0.001 - 0.500 - 0.500 - 0.200 - 0. enrolment\_style consolidated ---- random --- recent Mugshot Mugshot webcam natural FNIR@Rank = 1 glory\_0 - 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

J: Investigational mode: FNIR(1600000, R, 0) by probe type glory\_0 sensetime\_005 0.700 -0.500 -0.300 -0.200 -0.100 enrolment\_style Ealse negative identification rate, FNIR(N) 0.000 - 0.000 - 0.000 - 0.010 - 0. 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

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



