A: Datasheet

Algorithm: yisheng_1

Developer: Zhuhai Yisheng Electronics Technology

Submission Date: 2018_06_19

Template size: 3704 bytes

Template time (2.5 percentile): 363 msec

Template time (median): 384 msec

Template time (97.5 percentile): 423 msec

Investigation:

Frontal mugshot ranking 178 (out of 265) -- FNIR(1600000, 0, 1) = 0.0265 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 156 (out of 227) -- FNIR(1600000, 0, 1) = 0.0601 vs. lowest 0.0062 from sensetime_005

Immigration visa-border ranking 97 (out of 148) -- FNIR(1600000, 0, 1) = 0.0583 vs. lowest 0.0013 from visionlabs_010

Immigration visa-kiosk ranking 97 (out of 145) -- FNIR(1600000, 0, 1) = 0.2874 vs. lowest 0.0568 from hr_000

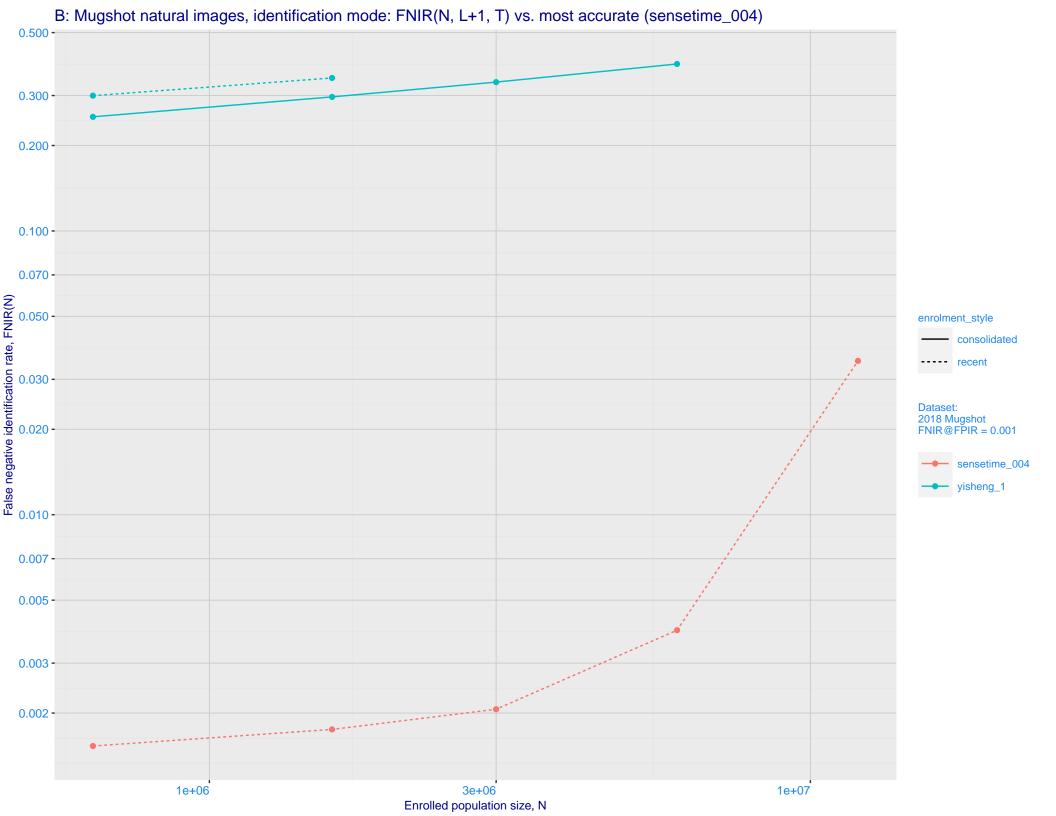
Identification:

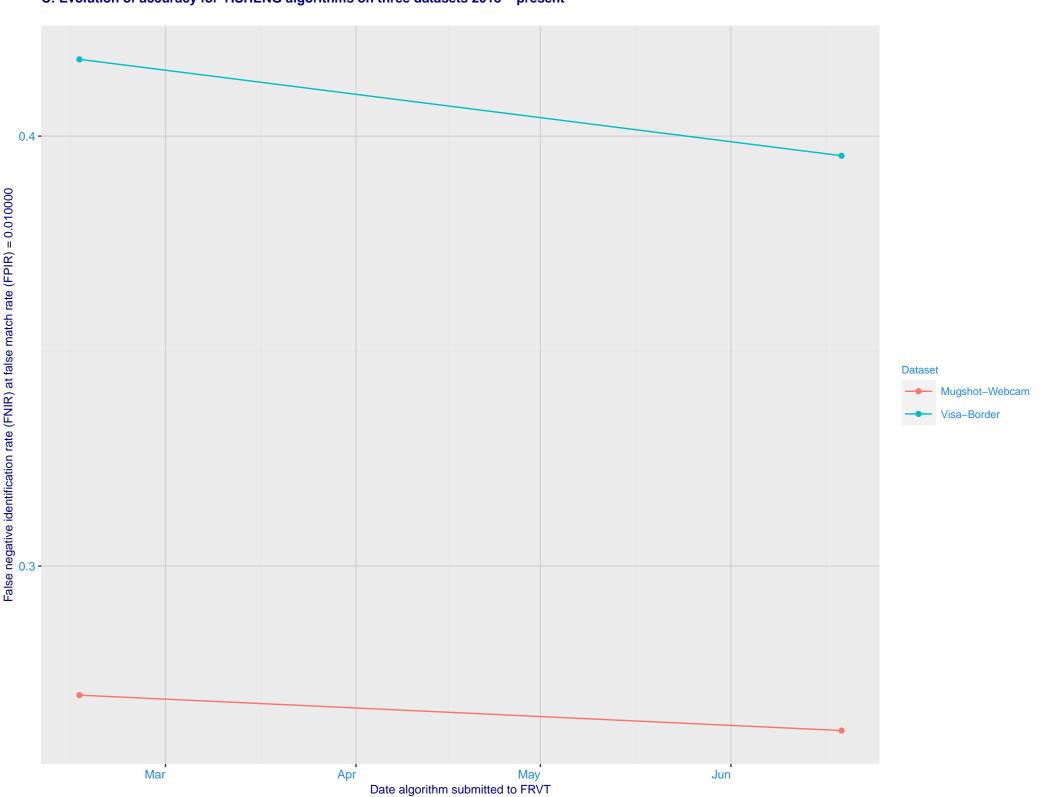
Frontal mugshot ranking 201 (out of 265) -- FNIR(1600000, T, L+1) = 0.3460, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot webcam ranking 201 (out of 225) -- FNIR(1600000, T, L+1) = 0.8078, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Immigration visa-border ranking 113 (out of 146) -- FNIR(1600000, T, L+1) = 0.6664, FPIR=0.001000 vs. lowest 0.0049 from hr_000

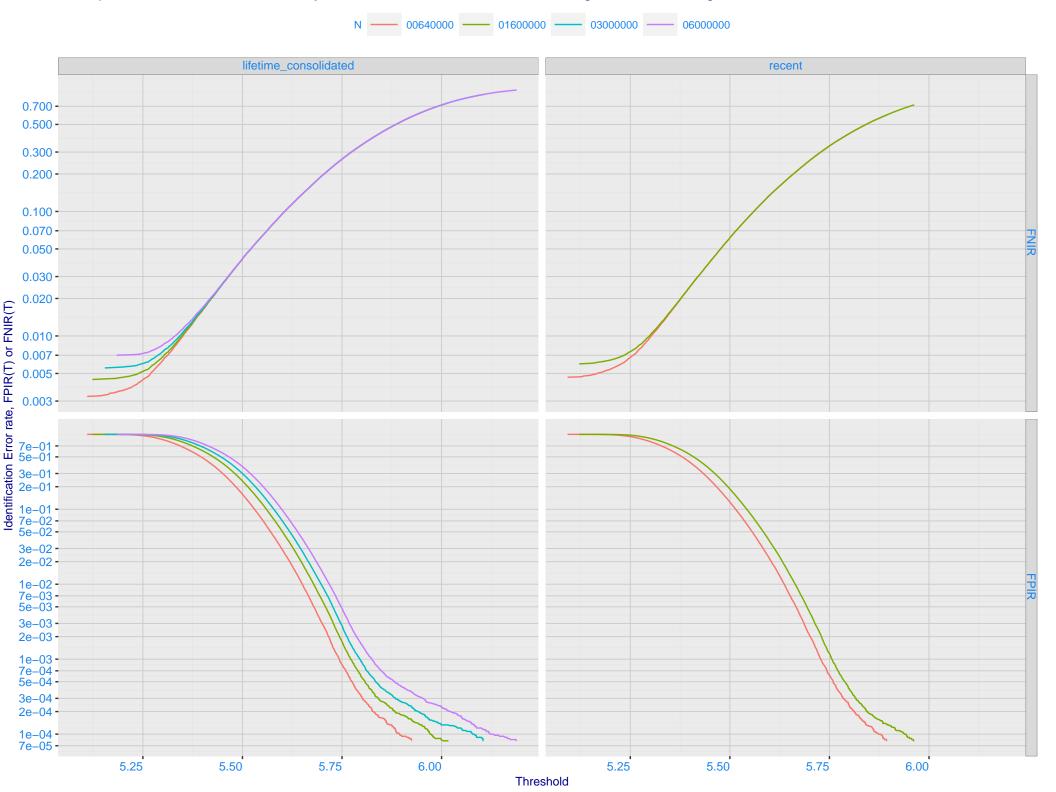
Immigration visa-kiosk ranking 106 (out of 141) -- FNIR(1600000, T, L+1) = 0.9236, FPIR=0.001000 vs. lowest 0.0996 from hr_000



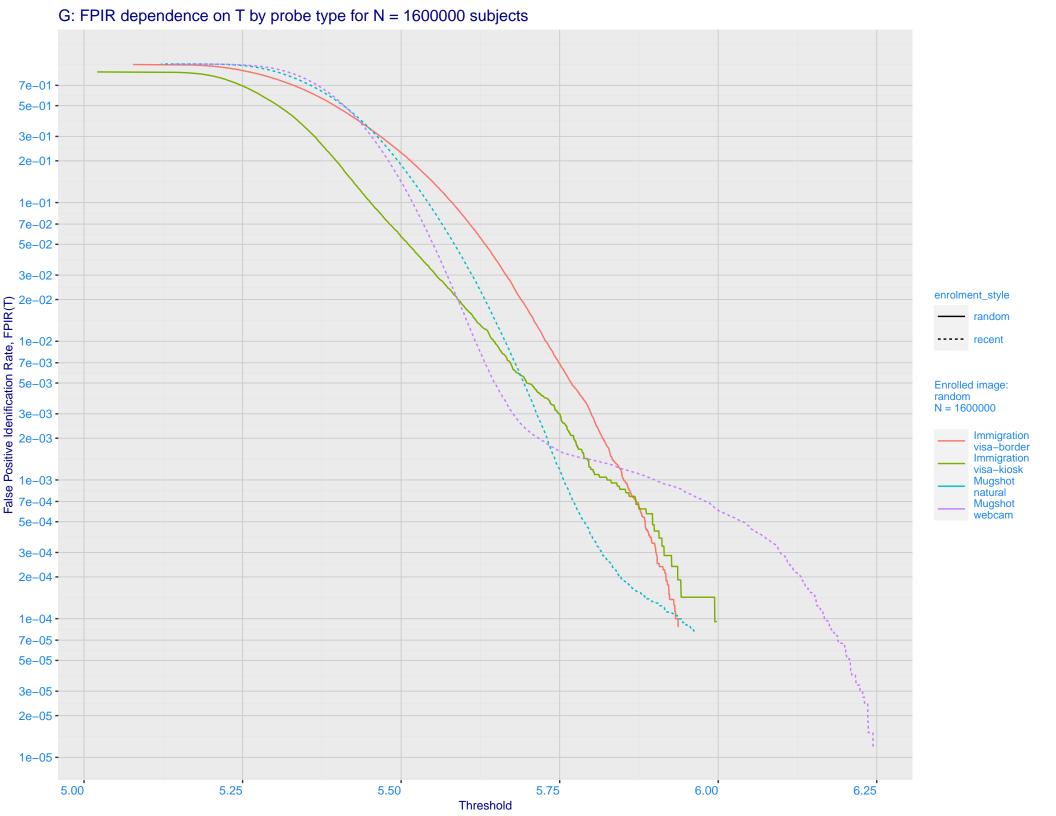


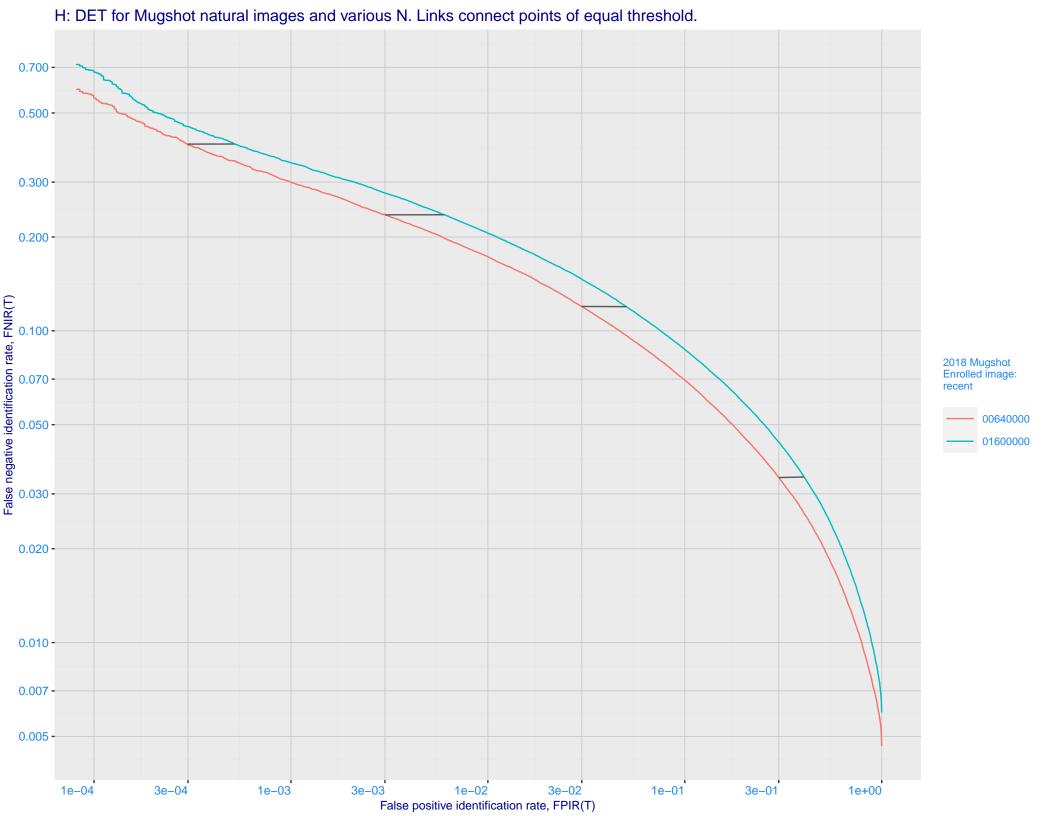
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals **Immigration** Immigration Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 - 0.005 - 0.005 - 0.002 - 0.001 - 0.001 - 0.700 - 0.500 - 0.200 enrolment_style 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 -

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)

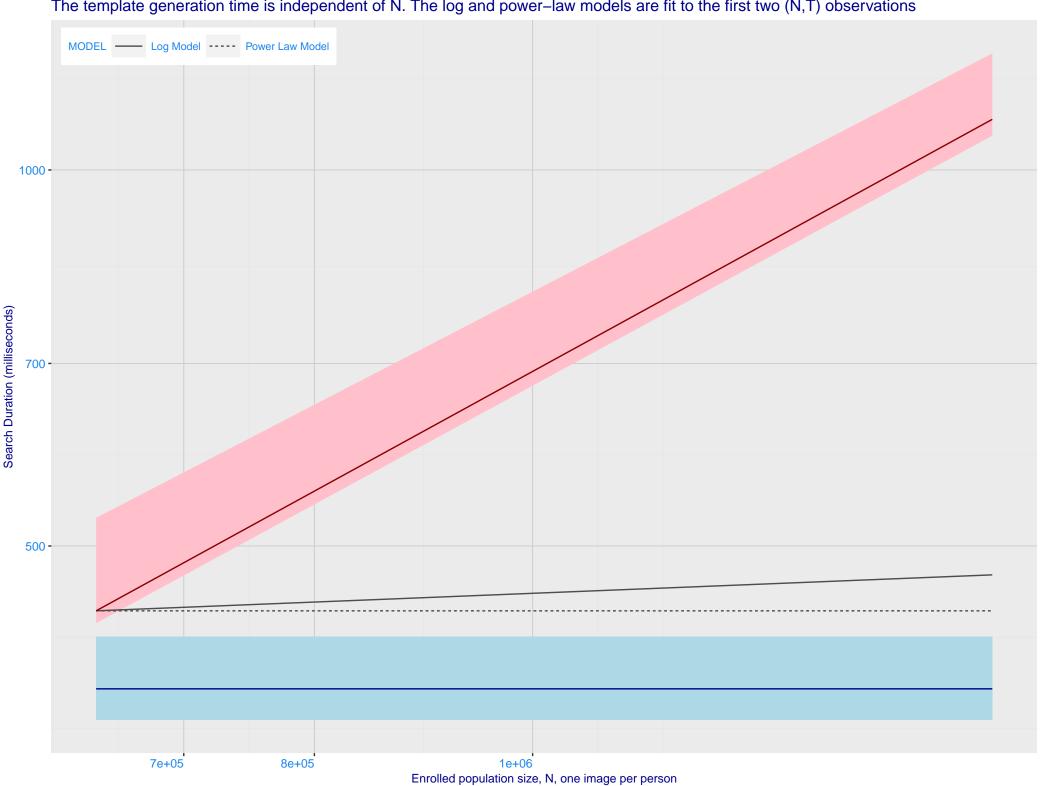




I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005) Immigration **Immigration** visa-border visa-kiosk 0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -Ealse negative identification rate, FNIR(N) 0.003 - 0.001 - 0.300 - 0.100 - 0.070 - 0. enrolment_style consolidated ---- random --- recent Mugshot webcam Mugshot natural FNIR@Rank = 1 sensetime_005 yisheng_1 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 sensetime_005 yisheng_1 0.300 -0.200 -0.100 -0.070 -0.050 enrolment_style False negative identification rate, FNIR(N) - 0.000 - lifetime_consolidated ---- random --- recent FNIR(R) N = 1600000 Immigration visa-border Immigration visa-kiosk Mugshot natural Mugshot webcam 0.005 -0.003 -0.002 -0.001 -3 10 30 3 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



