A: Datasheet

Algorithm: vocord_1

Developer: Vocord

Submission Date: 2018_02_16

Template size: 608 bytes

Template time (2.5 percentile): 518 msec

Template time (median): 528 msec

Template time (97.5 percentile): 557 msec

Investigation:

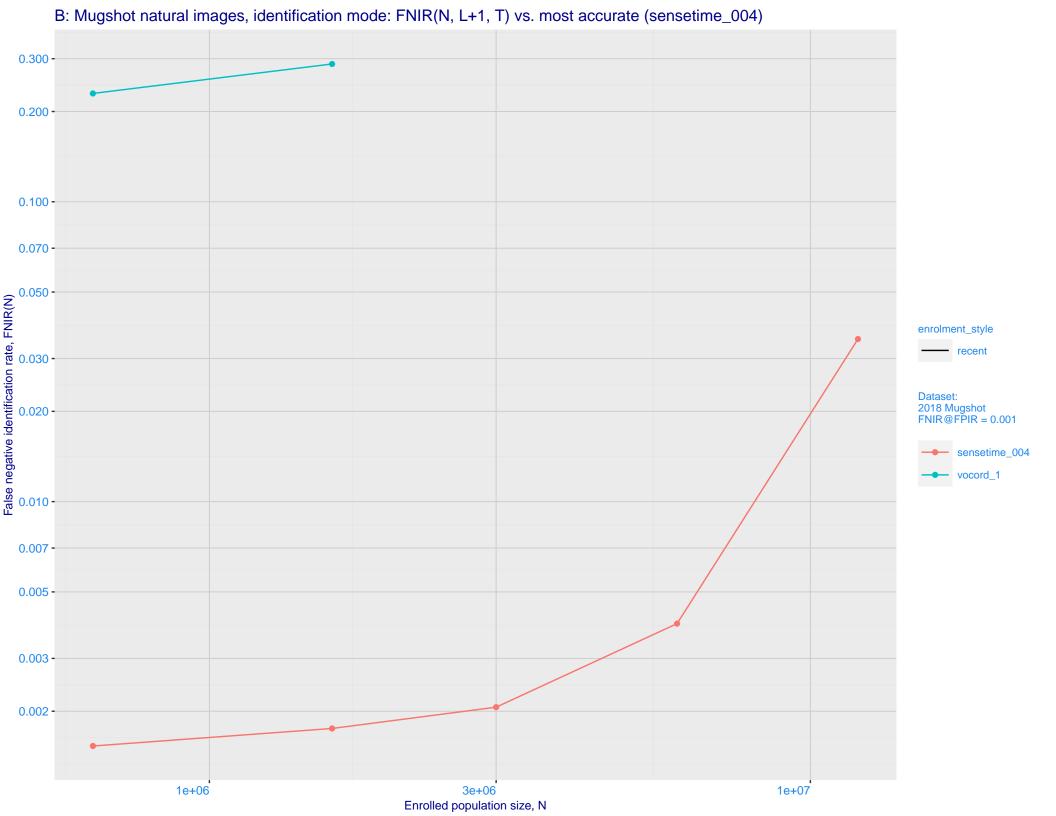
Frontal mugshot ranking 180 (out of 259) -- FNIR(1600000, 0, 1) = 0.0377 vs. lowest 0.0009 from sensetime_005

Mugshot profile ranking 128 (out of 190) -- FNIR(1600000, 0, 1) = 0.9371 vs. lowest 0.0591 from sensetime_005

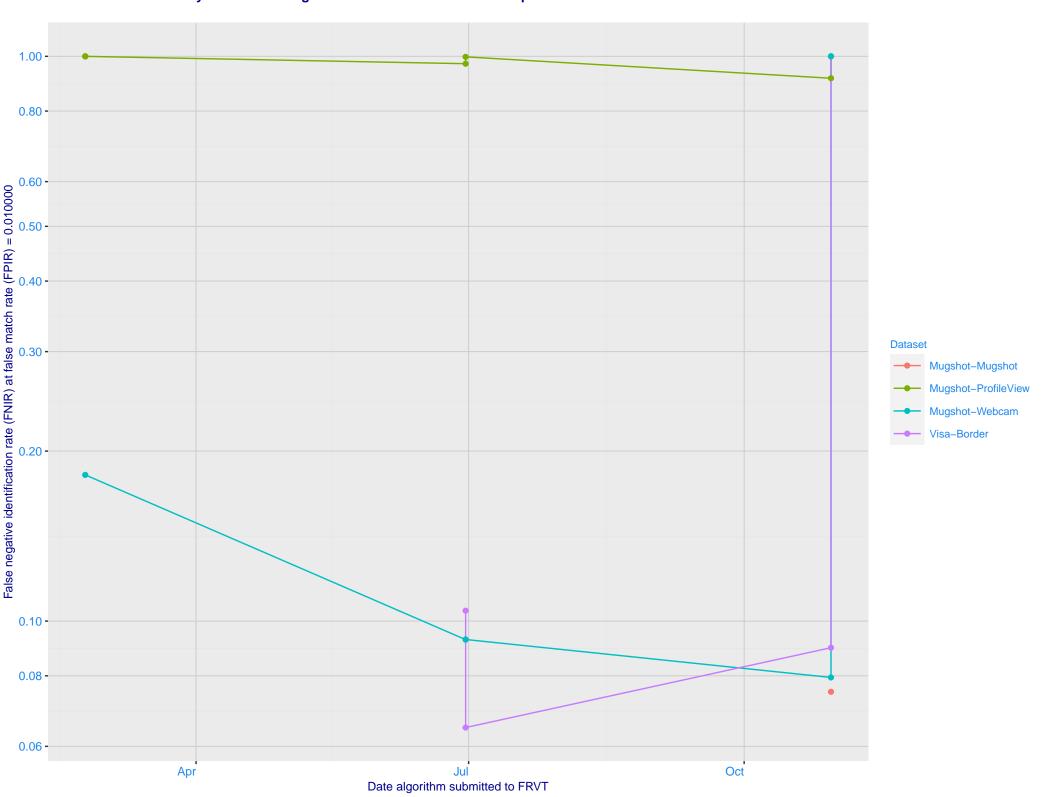
Identification:

Frontal mugshot ranking 186 (out of 259) -- FNIR(1600000, T, L+1) = 0.2881, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot profile ranking 170 (out of 189) -- FNIR(1600000, T, L+1) = 0.9999, FPIR=0.001000 vs. lowest 0.1733 from sensetime_005



C: Evolution of accuracy for VOCORD algorithms on three datasets 2018 – present



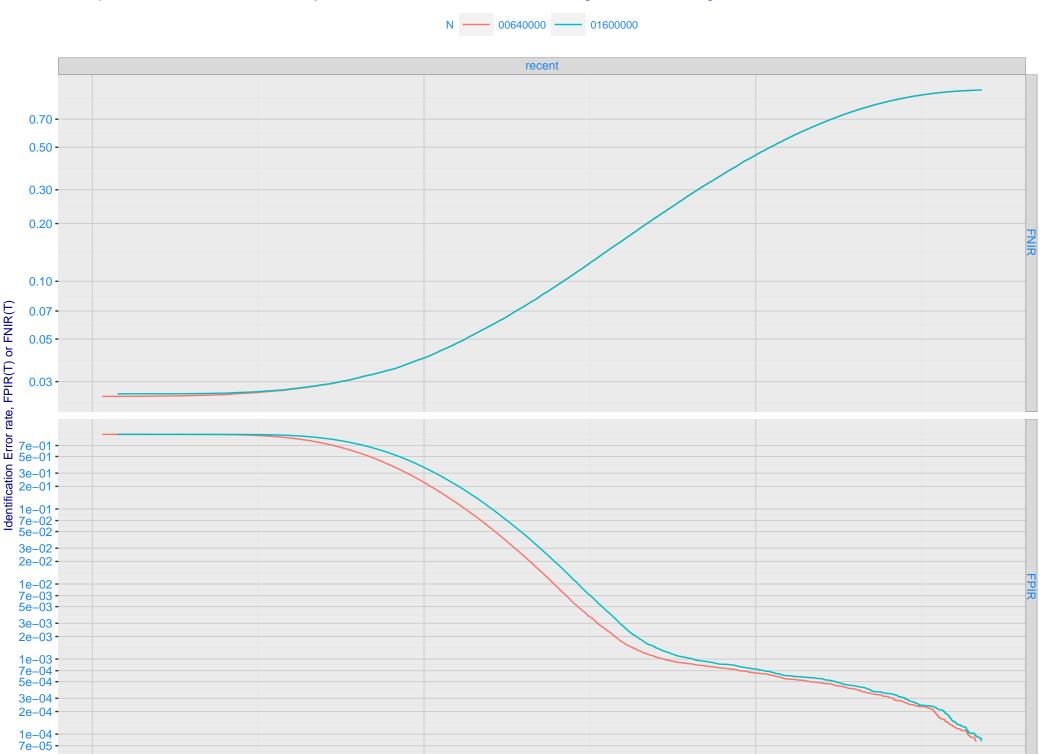
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Immigration Immigration Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 - 0.005 - 0.005 - 0.002 - 0.001 - 0.001 - 0.500 - 0.200 enrolment_style random-ONE-MATE 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 - $1e^{-0.4}e^{-0.3}e^{-0.4}e^{-0.3}e^{-0.3}e^{-0.3}e^{-0.3}e^{-0.3}e^{-0.3}e^{-0.1}e^{-0.3}e^{-0.1}e^{-0.3}e^{-0.4}e^{-0.3}e^{$

False positive identification rate, FPIR(T)

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

999.0

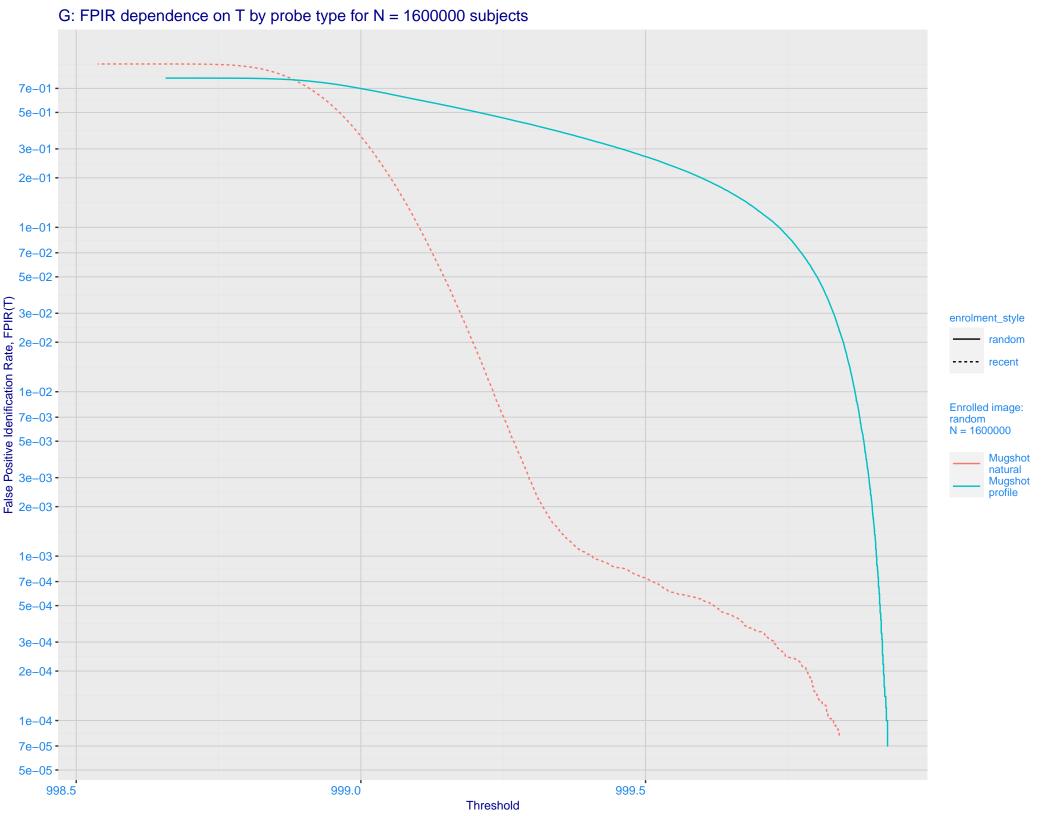
998.5

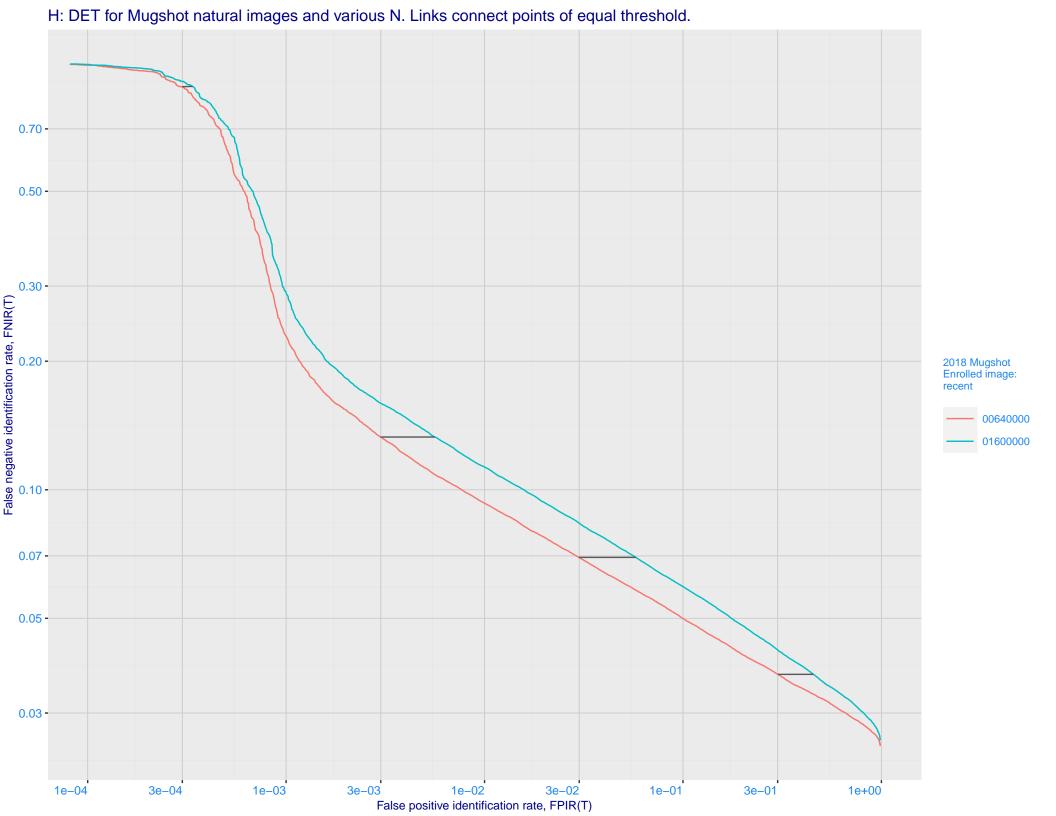


Threshold

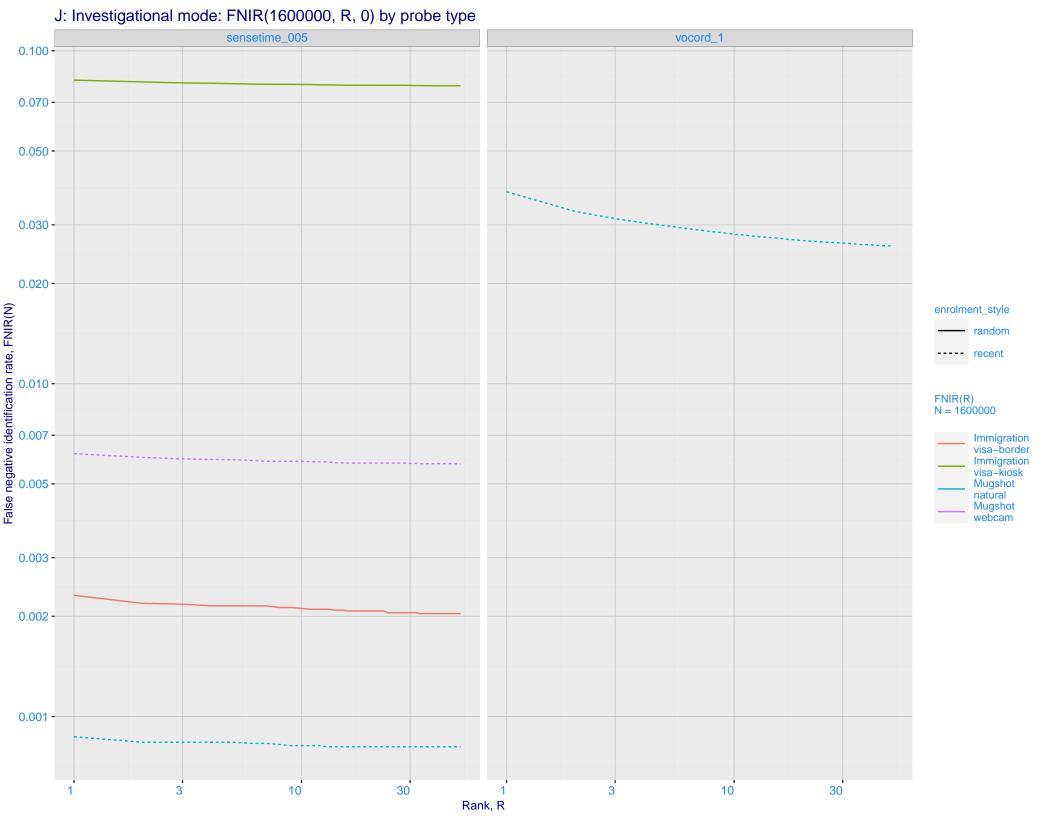
999.5

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 -Selectivity, SEL(T) 3e-01 - 2e-01 - 1e-01 - 2e-01 - 2e Enrolled images: recent N = 1600000 Mugshot natural 7e-02 -5e-02 -3e-02 -2e-02 -1e-02 -7e-03 -5e-03 -3e-03 -2e-03 -1e-03 -7e-04 -1e-04 3e-04 1e-03 3e-03 1e-02 3e-02 1e-01 3e-01 False Positive Idenification Rate, FPIR(T)

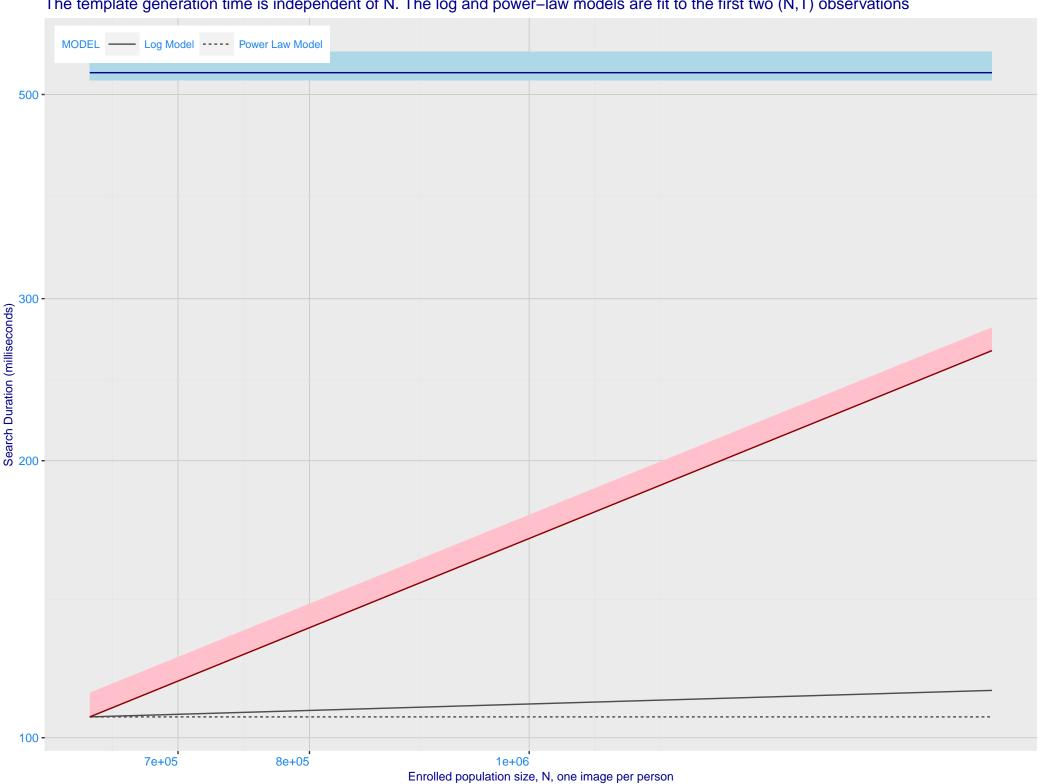




I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005) Immigration **Immigration** visa-border visa-kiosk 0.100 0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -Ealse negative identification rate, FNIR(N) 0.002 - 0.001 - 0.000 - 0.050 - 0.030 - 0. enrolment_style random ---- recent Mugshot Mugshot webcam natural FNIR@Rank = 1 sensetime_005 vocord_1 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



