A: Datasheet

Algorithm: vocord_0

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): 558 msec

Investigation:

Frontal mugshot ranking 200 (out of 279) — FNIR(1600000, 0, 1) = 0.0378 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 175 (out of 241) -- FNIR(1600000, 0, 1) = 0.0681 vs. lowest 0.0062 from sensetime_005

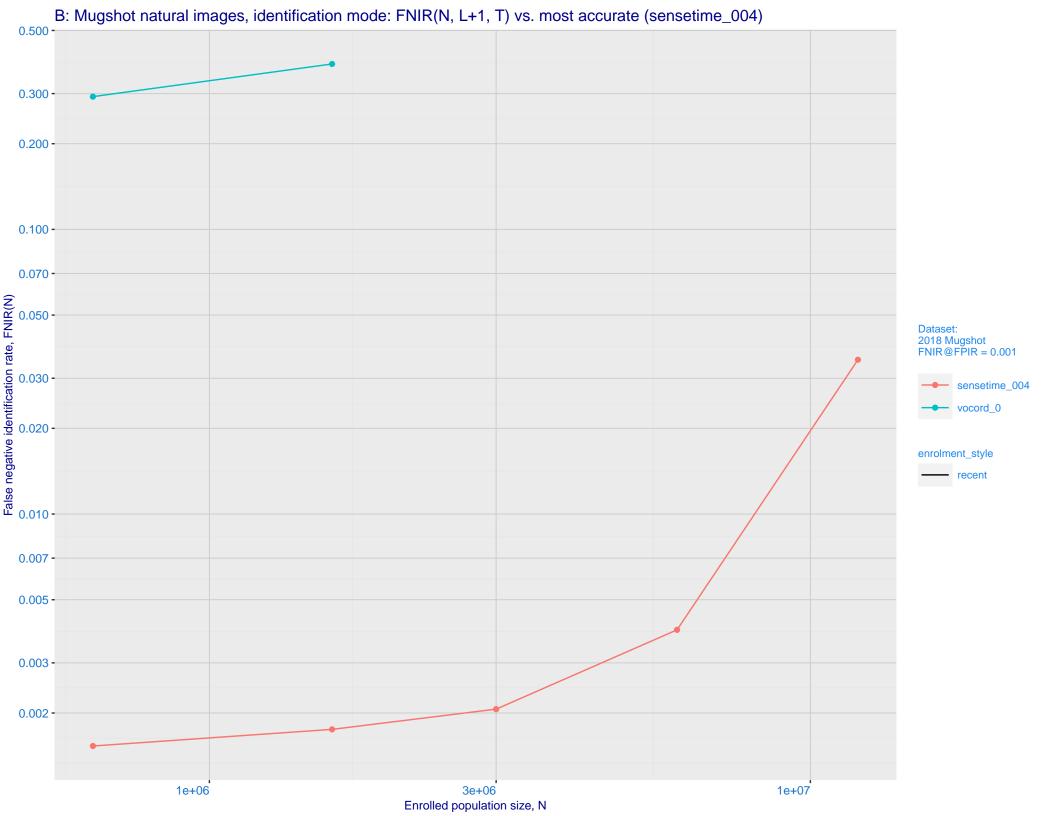
Mugshot profile ranking 148 (out of 210) -- FNIR(1600000, 0, 1) = 0.9371 vs. lowest 0.0587 from xforwardai_002

Identification:

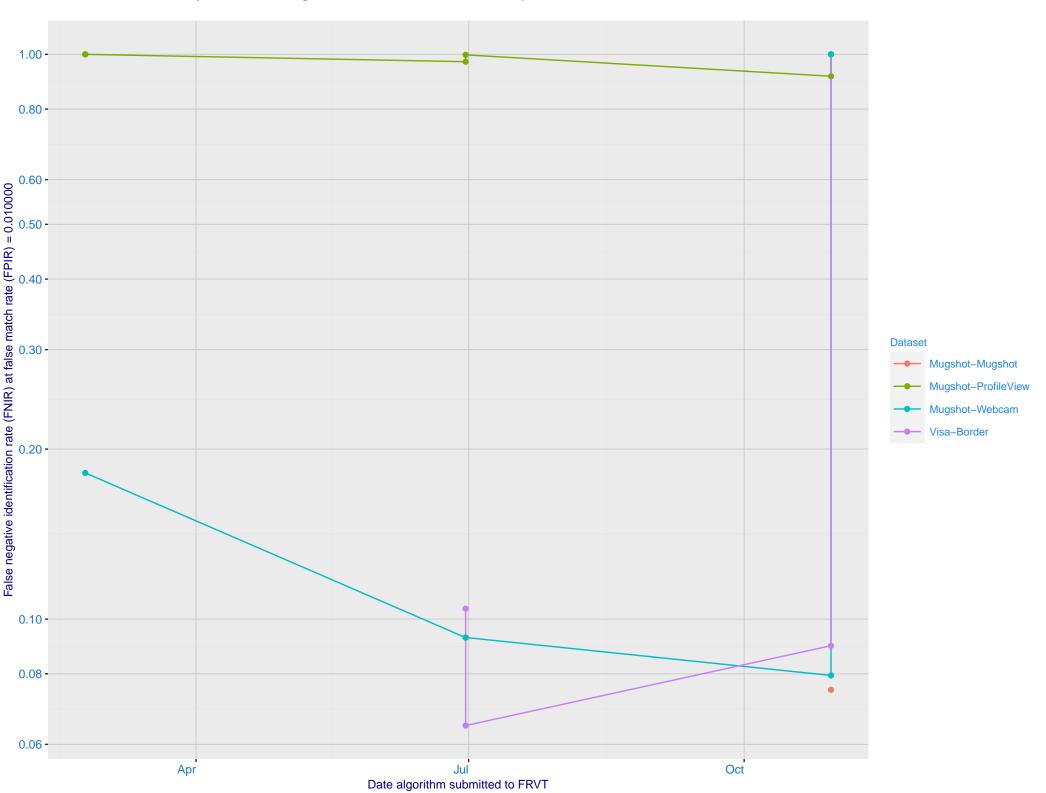
Frontal mugshot ranking 218 (out of 279) -- FNIR(1600000, T, L+1) = 0.3812, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot webcam ranking 164 (out of 236) -- FNIR(1600000, T, L+1) = 0.2846, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 187 (out of 209) -- FNIR(1600000, T, L+1) = 0.9999, FPIR=0.001000 vs. lowest 0.1331 from cloudwalk_hr_000



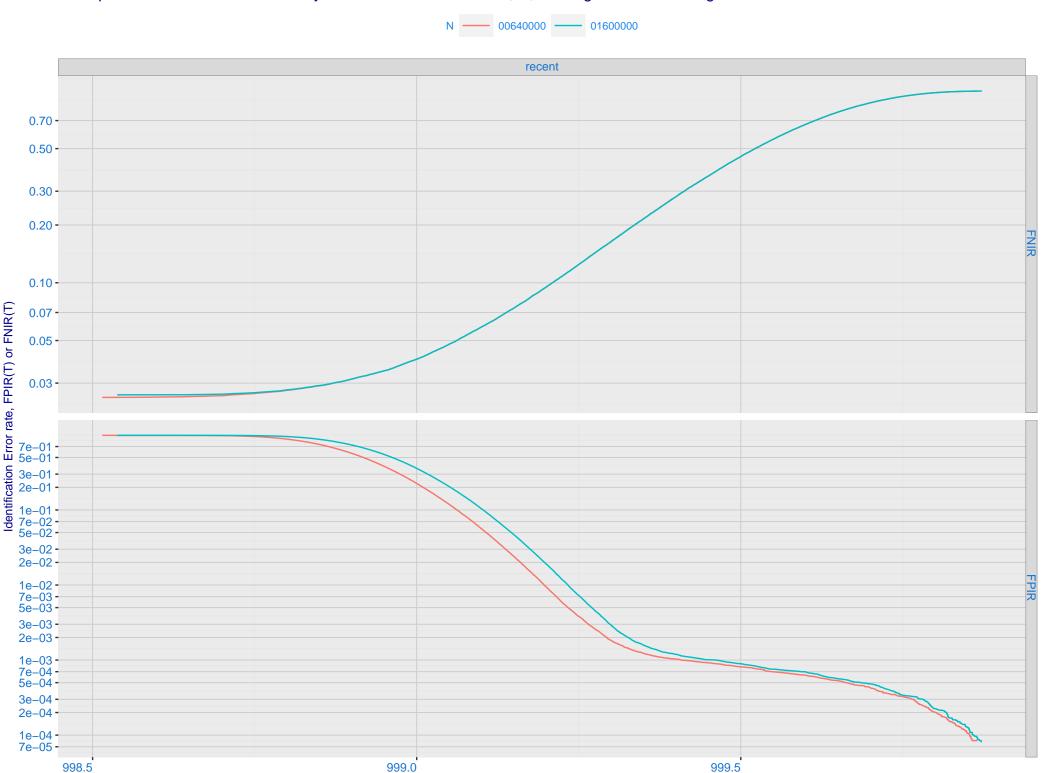
C: Evolution of accuracy for VOCORD algorithms on three datasets 2018 – present



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 sensetime_004 0.050 -0.030 -0.020 -0.010 -0.007 - 0.005 - 0.005 - 0.002 - 0.001 - 0.001 - 0.500 - 0.300 - 0.200 enrolment_style random-ONE-MATE recent-ONE-MATE 0.100 -0.070 -0.050 vocord 0 0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -0.002 -0.001 -

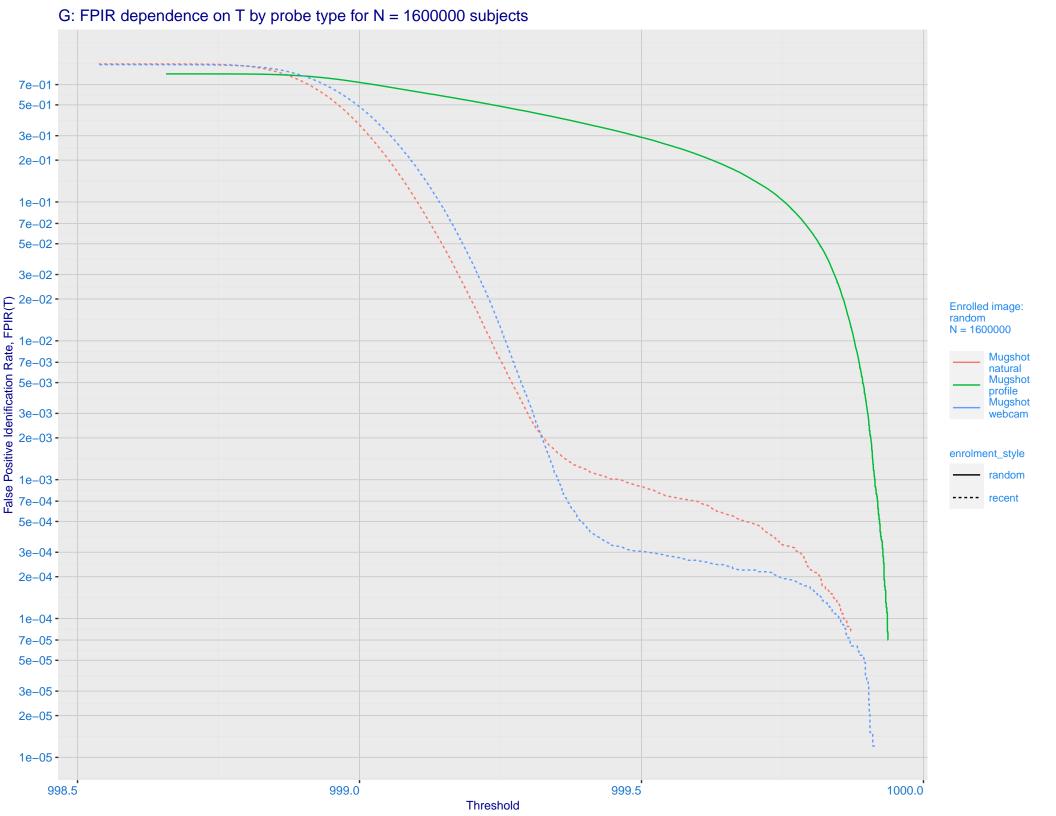
False positive identification rate, FPIR(T)

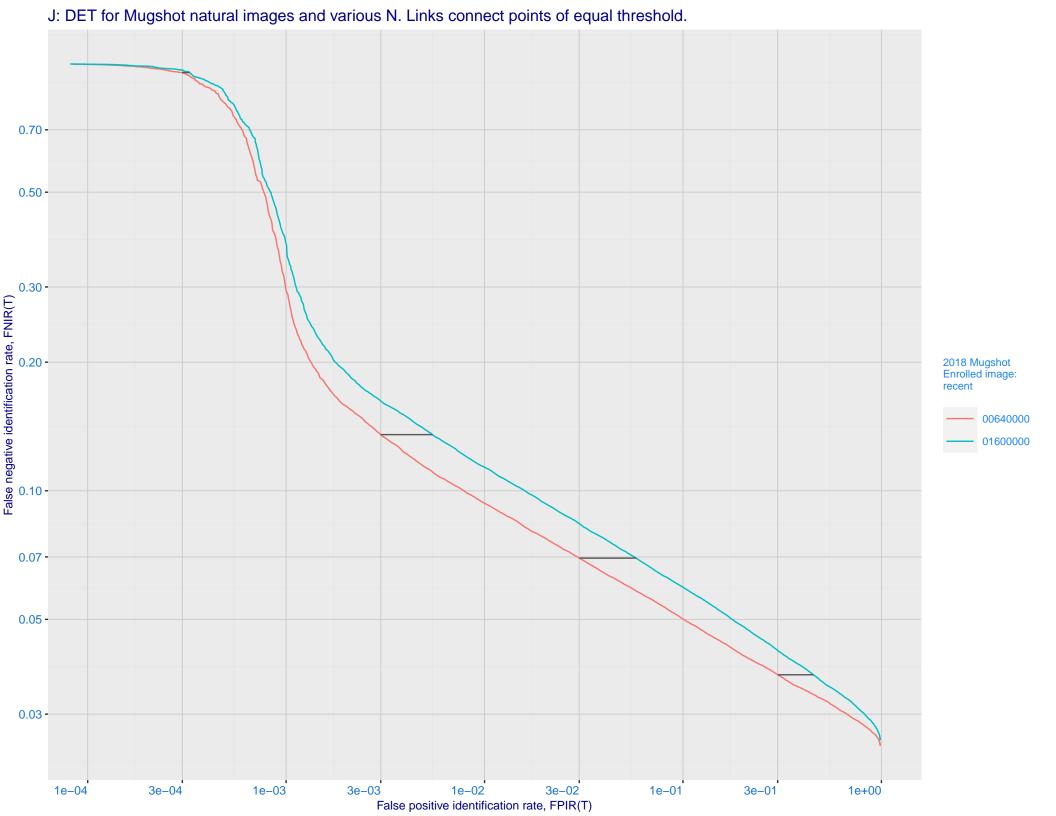
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images



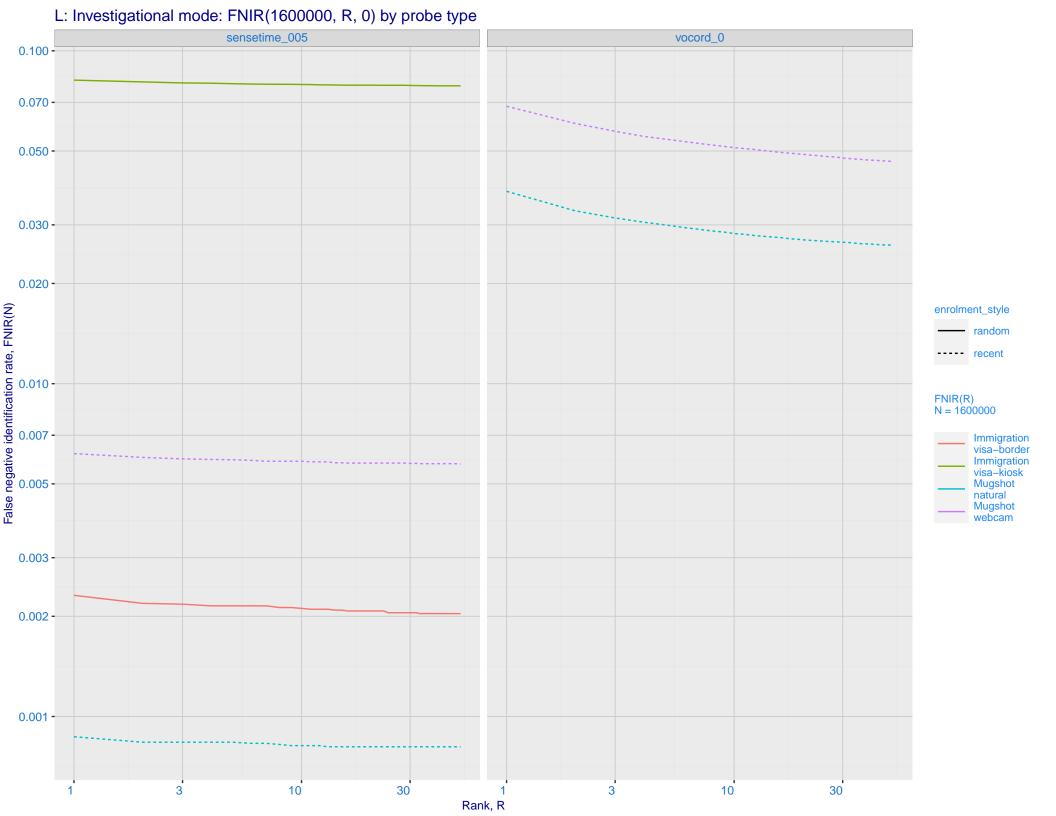
Threshold

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 -(E) 7e-02 - 7e **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)

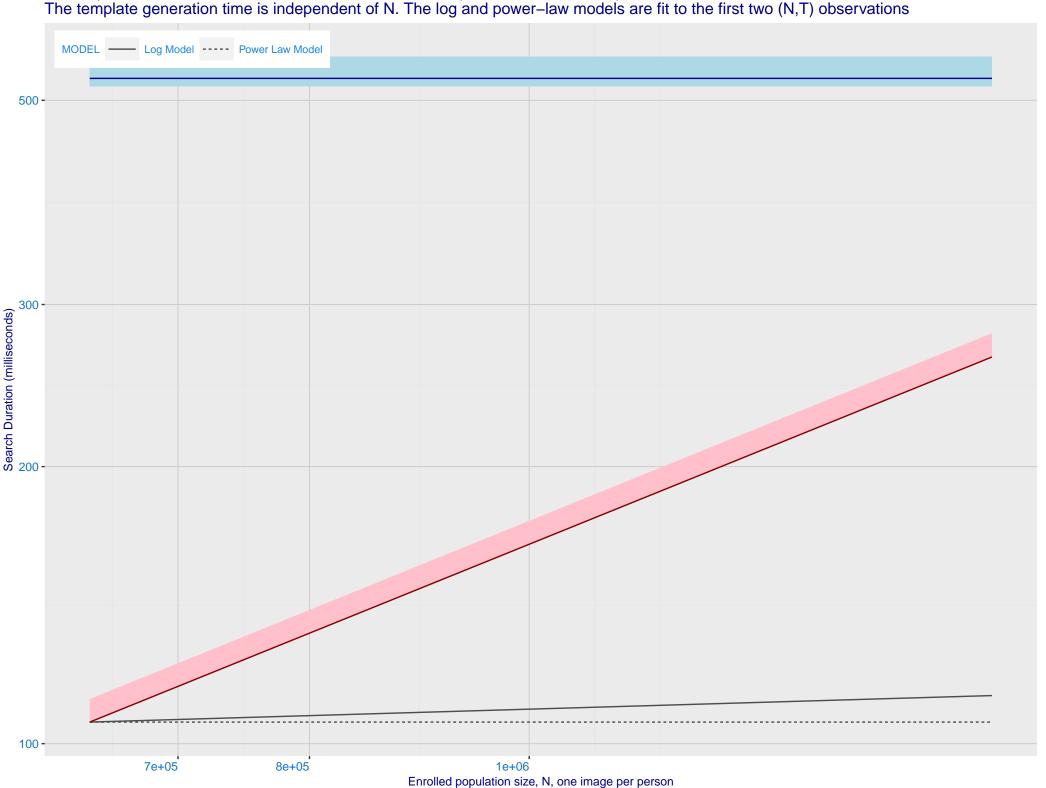




K: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005) Immigration **Immigration** visa-border visa-kiosk 0.100 0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -Ealse negative identification rate, FNIR(N) 0.002 - 0.001 - 0.000 - 0.050 - 0.030 - 0. enrolment_style - random ---- recent Mugshot Mugshot webcam natural FNIR@Rank = 1 sensetime_005 vocord_0 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



M: 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



Q: Identification FNIR(N, T, L+1) and Investigational FNIR(N, 0, R) under ageing



