A: Datasheet

Algorithm: vigilantsolutions_1

Developer: Vigilant Solutions

Submission Date: 2018_02_14

Template size: 2056 bytes

Template time (2.5 percentile): 726 msec

Template time (median): 735 msec

Template time (97.5 percentile): 783 msec

Investigation:

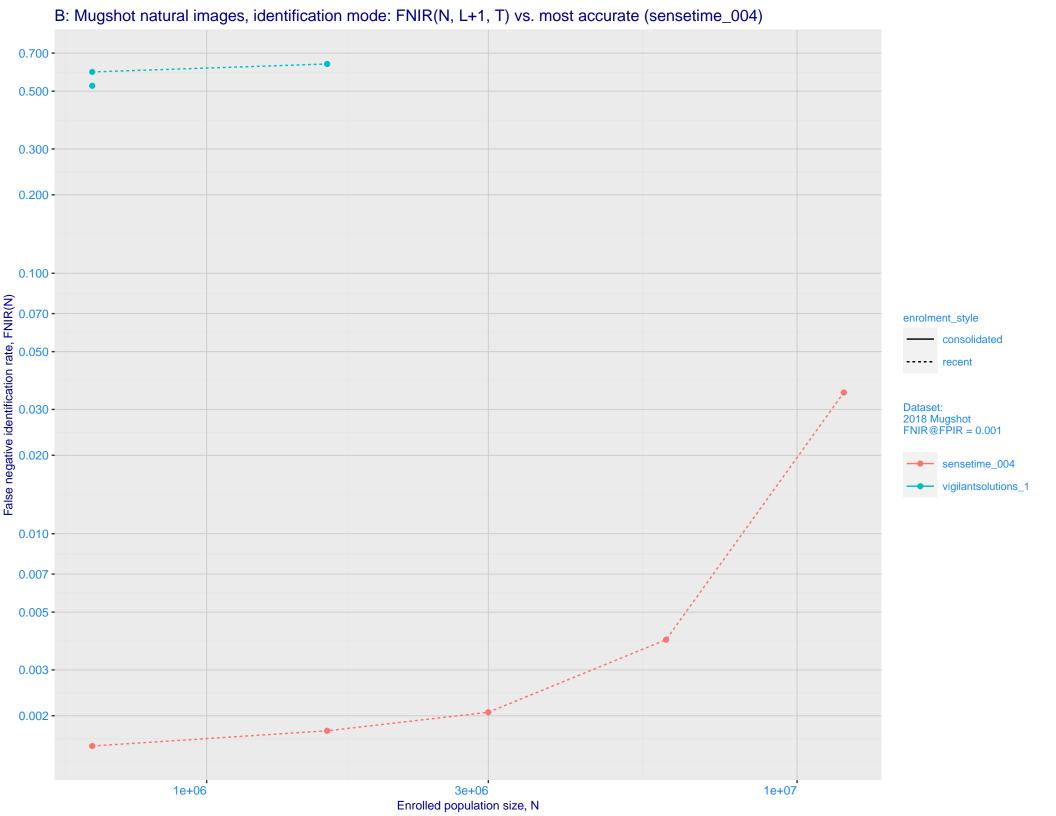
Frontal mugshot ranking 239 (out of 265) -- FNIR(1600000, 0, 1) = 0.2017 vs. lowest 0.0009 from sensetime_005

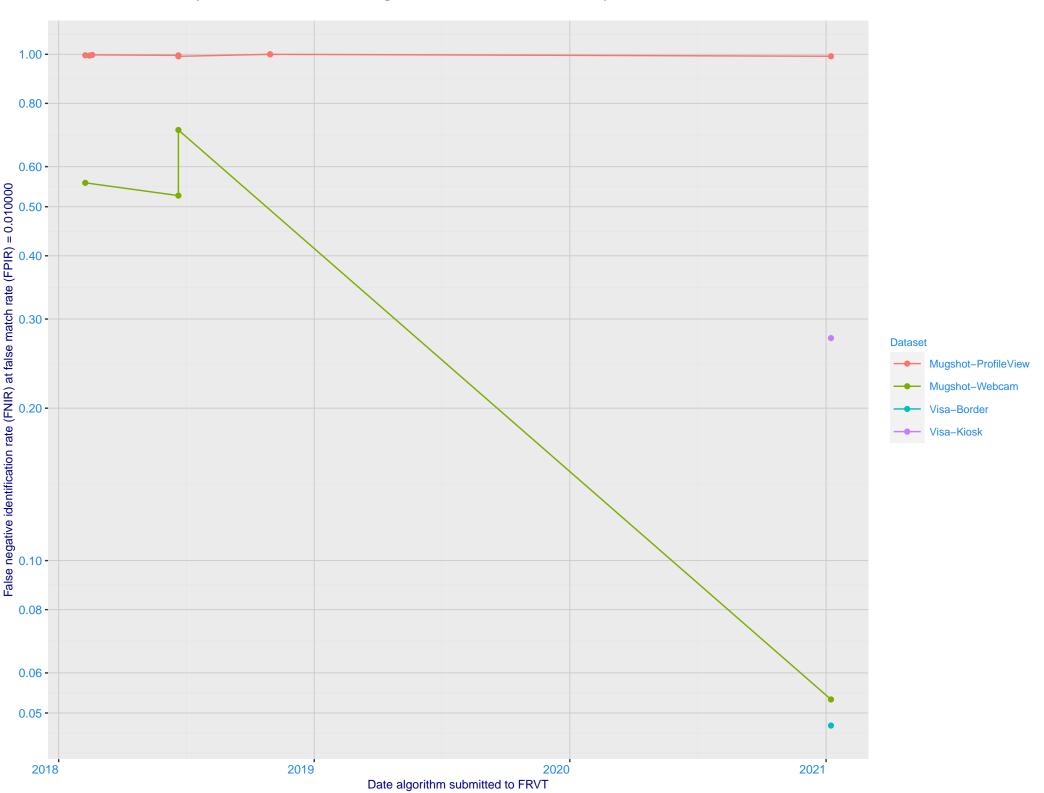
Mugshot profile ranking 175 (out of 196) -- FNIR(1600000, 0, 1) = 0.9748 vs. lowest 0.0591 from sensetime_005

Identification:

Frontal mugshot ranking 233 (out of 265) -- FNIR(1600000, T, L+1) = 0.6359, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

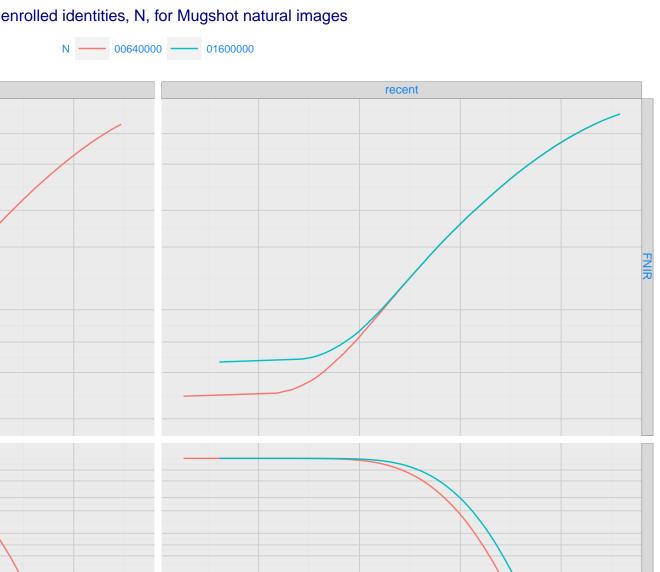
Mugshot profile ranking 154 (out of 195) -- FNIR(1600000, T, L+1) = 0.9997, FPIR=0.001000 vs. lowest 0.1331 from hr_000

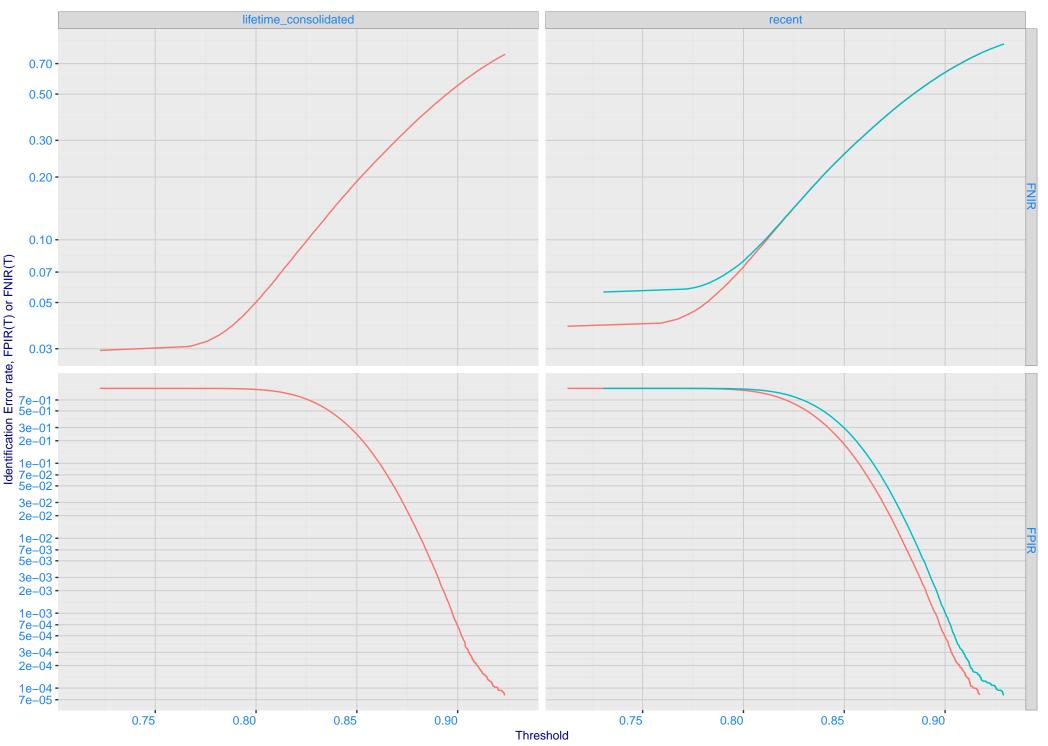




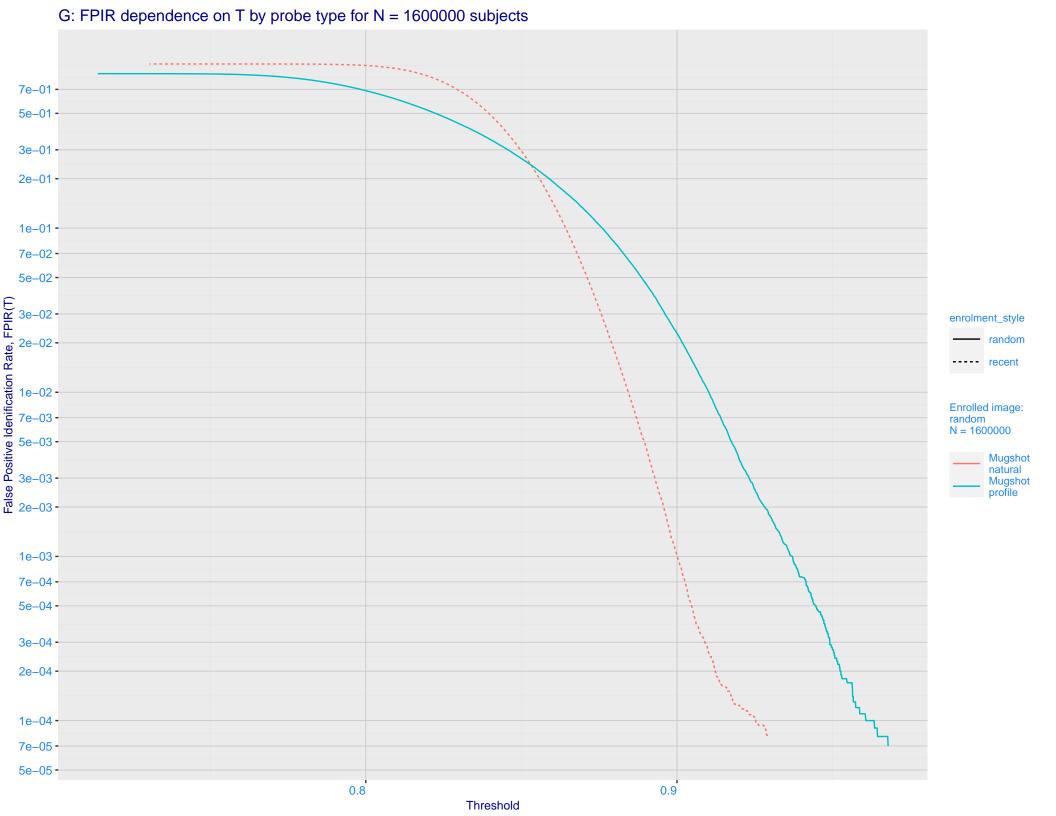
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Immigration Immigration Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -Ealse negative identification rate, FNIR(T) 0.003 - 0.000 - 0.000 - 0.500 - 0.200 -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

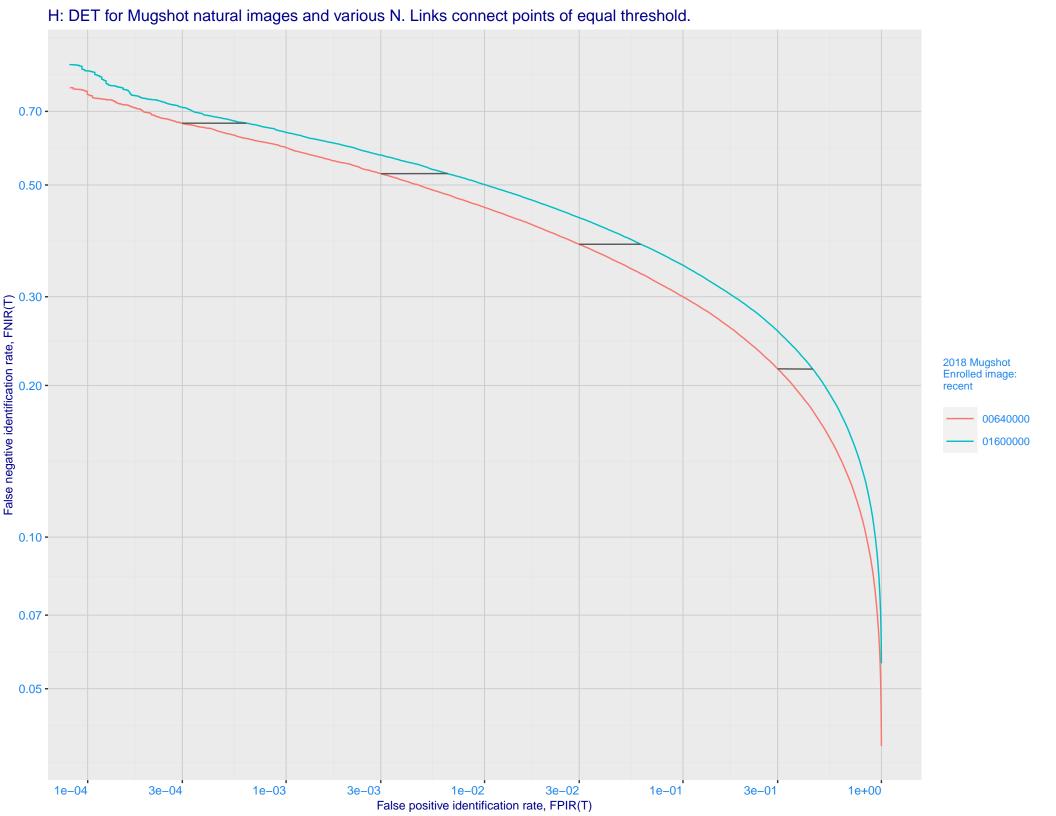
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images



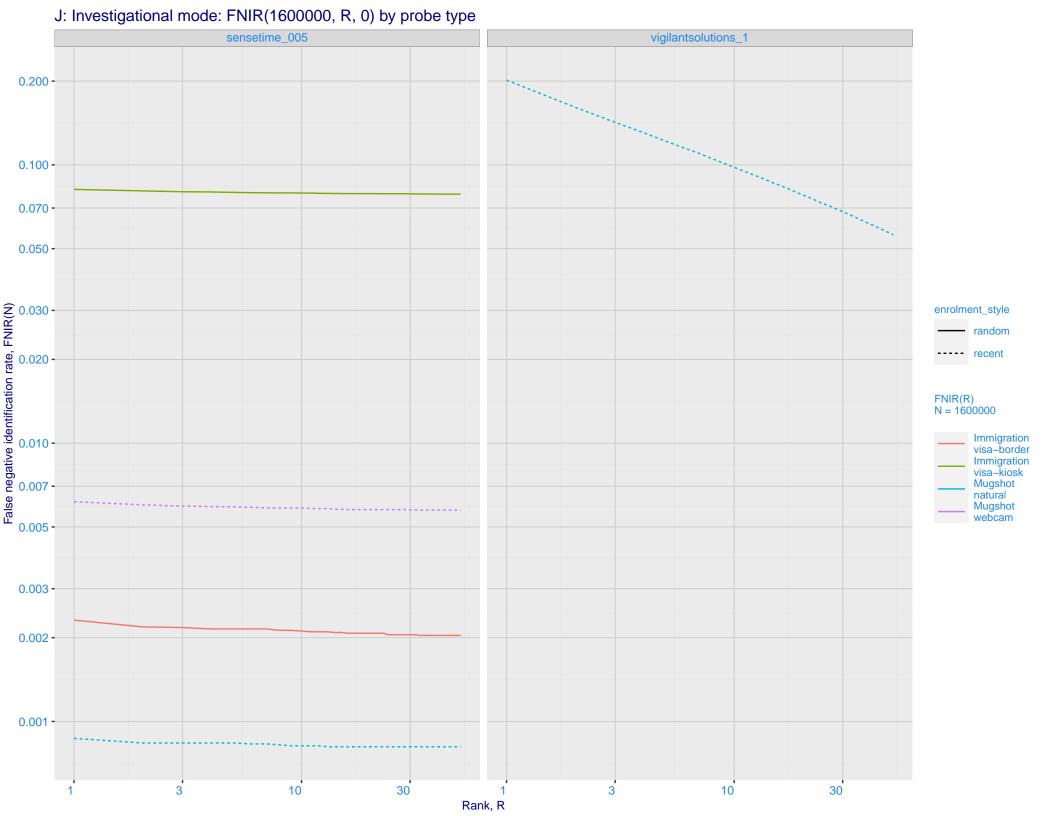


F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 -5e+01 -3e+01 -2e+01 -1e+01 -7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -7e-01 - (L) 5e-01 - 5e-01 - 2e-01 - 2e Enrolled images: recent N = 1600000 natural 1e-01 -7e-02 -5e-02 -3e-02 -2e-02 -1e-02 -7e-03 -5e-03 -3e-03 -2e-03 -1e-04 3e-04 1e-03 3e-03 1e-02 3e-02 1e-01 3e-01 False Positive Idenification Rate, FPIR(T)

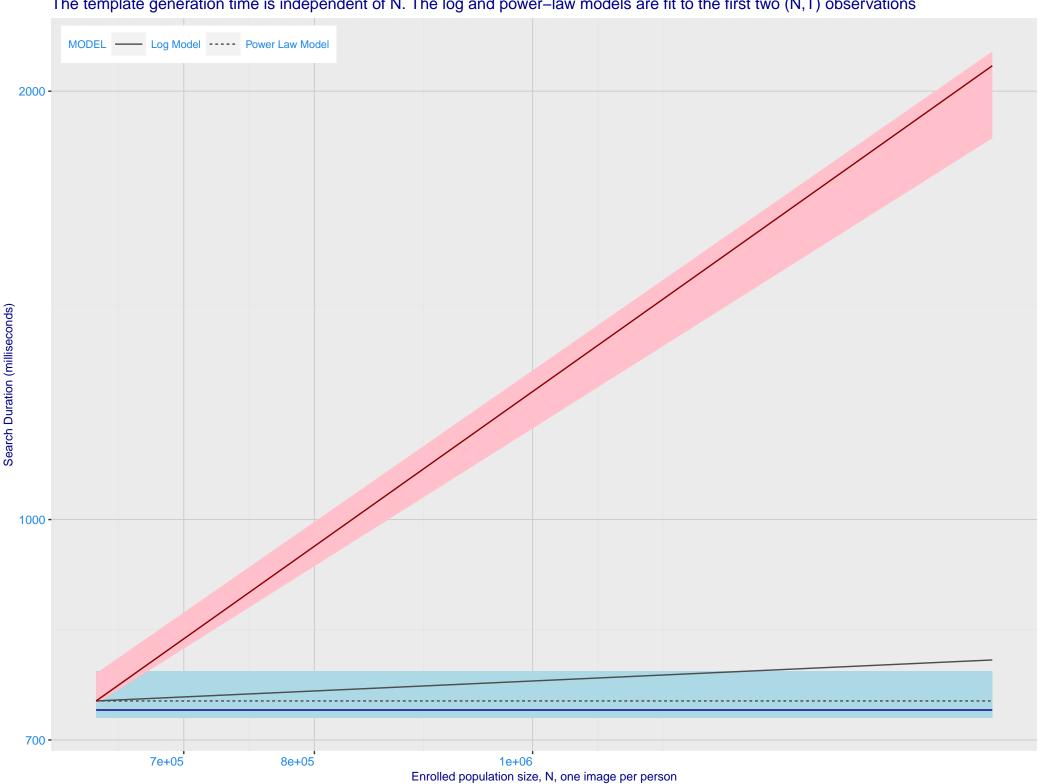




I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005) Immigration **Immigration** visa-border visa-kiosk 0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -Ealse negative identification rate, FNIR(N) 0.003 - 0.001 - 0.200 - 0.100 - 0.070 - 0.000 - 0. enrolment_style consolidated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



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



