A: Datasheet

Algorithm: vd_003

Developer: Visidon

Submission Date: 2021_10_12

Template size: 2052 bytes

Template time (2.5 percentile): 684 msec

Template time (median): 692 msec

Template time (97.5 percentile): 709 msec

Investigation:

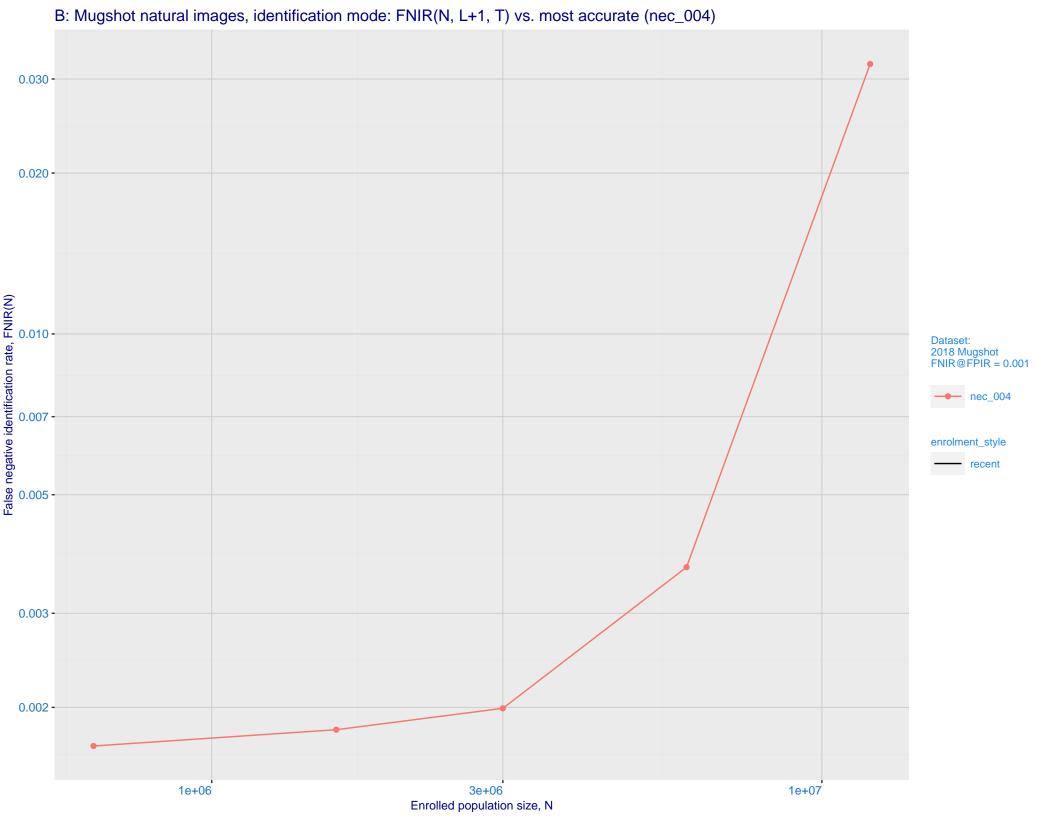
Mugshot webcam ranking 116 (out of 269) -- FNIR(1600000, 0, 1) = 0.0218 vs. lowest 0.0057 from sensetime_006

Mugshot profile ranking 126 (out of 237) -- FNIR(1600000, 0, 1) = 0.7730 vs. lowest 0.0550 from sensetime_006

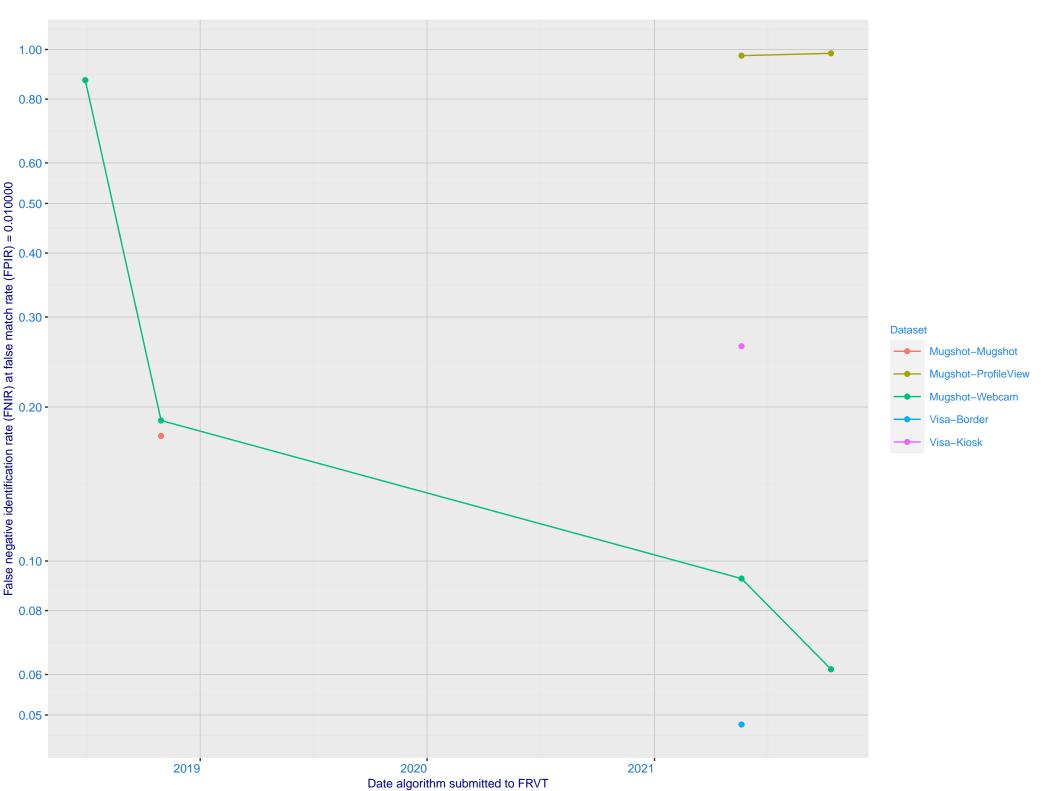
Identification:

Mugshot webcam ranking 98 (out of 267) -- FNIR(1600000, T, L+1) = 0.1001, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 158 (out of 236) -- FNIR(1600000, T, L+1) = 0.9989, FPIR=0.001000 vs. lowest 0.1331 from cloudwalk_hr_000



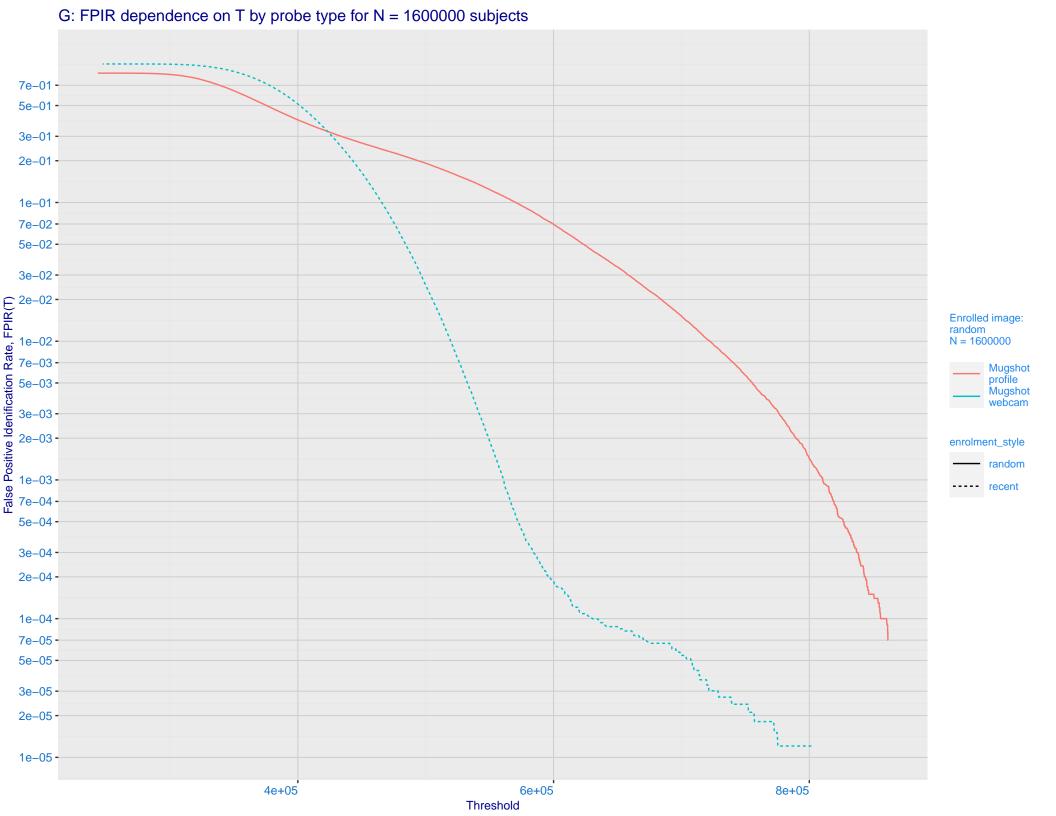
C: Evolution of accuracy for VD algorithms on three datasets 2018 – present



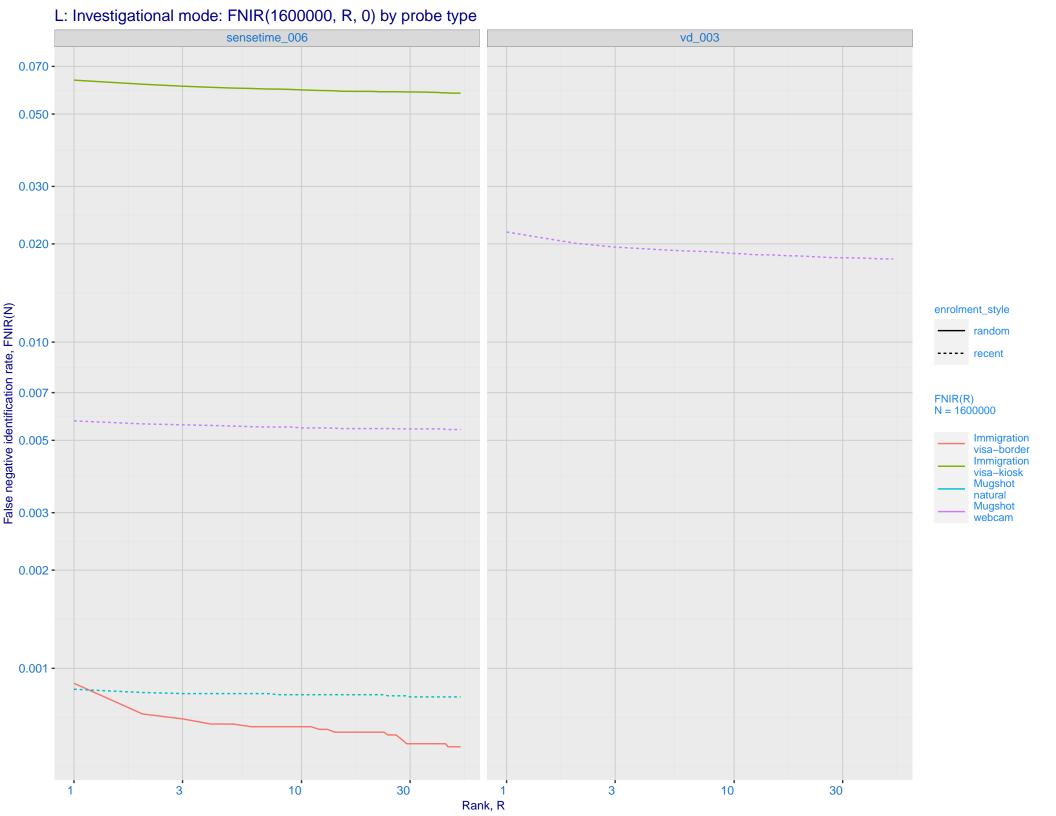
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Immigration Immigration Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -False negative identification rate, FNIR(T) enrolment_style random-ONE-MATE recent-ONE-MATE 0.010 -0.007 -0.005 -0.003 -0.002 - $0.001 - \frac{1}{10^{2}} - \frac{1}{10^{2}$

False positive identification rate, FPIR(T)

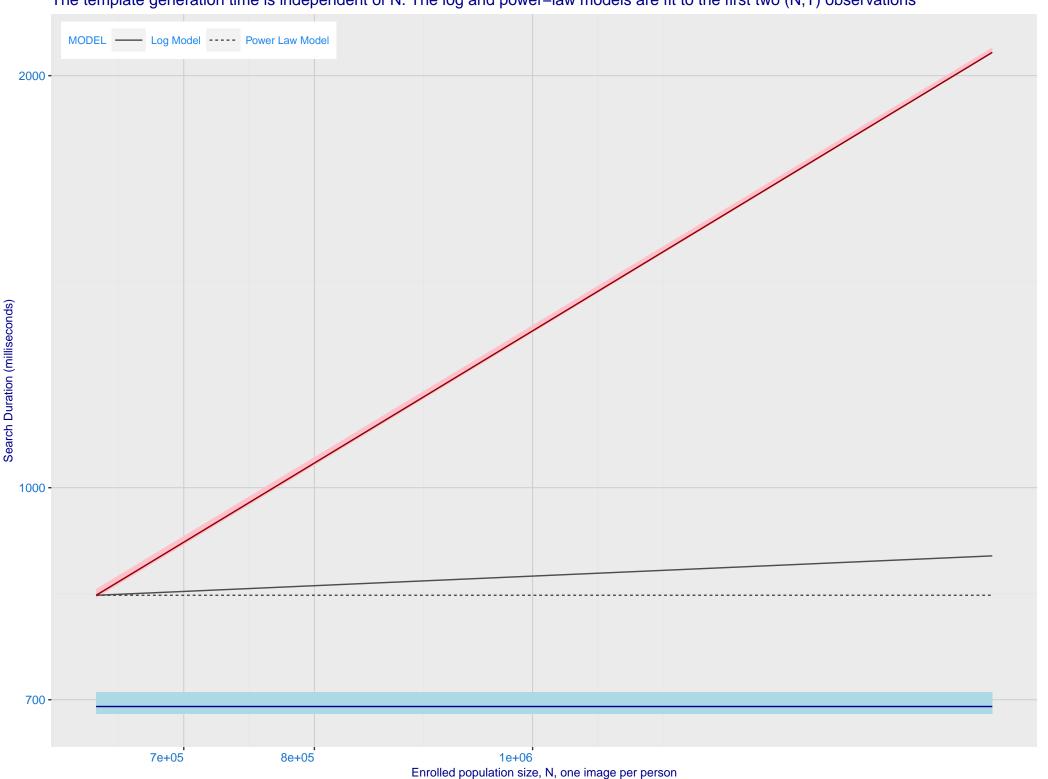
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 -5e+01 · 3e+01 -2e+01 -1e+01 -7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -5e-01 -3e-01 -2e-01 -Selectivity, SEL(T) 7e-02 - 7e-02 - 3e-02 - 3 Enrolled images: recent N = 1600000 Mugshot webcam 2e-02 -1e-02 -7e-03 -5e-03 -3e-03 -2e-03 -1e-03 -7e-04 -5e-04 -3e-04 -2e-04 -1e-04 -7e-05 -5e-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_006) Immigration **Immigration** visa-border visa-kiosk 0.070 -• 0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -Ealse negative identification rate, FNIR(N) - 0.000 enrolment_style random ---- recent Mugshot natural Mugshot webcam FNIR@Rank = 1 sensetime_006 - vd_003 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



