A: Datasheet

Algorithm: innovatrics_2

Developer: Innovatrics

Submission Date: 2018_06_21

Template size: 530 bytes

Template time (2.5 percentile): 250 msec

Template time (median): 251 msec

Template time (97.5 percentile): 273 msec

Investigation:

Frontal mugshot ranking 213 (out of 279) -- FNIR(1600000, 0, 1) = 0.0451 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 179 (out of 241) -- FNIR(1600000, 0, 1) = 0.0738 vs. lowest 0.0062 from sensetime_005

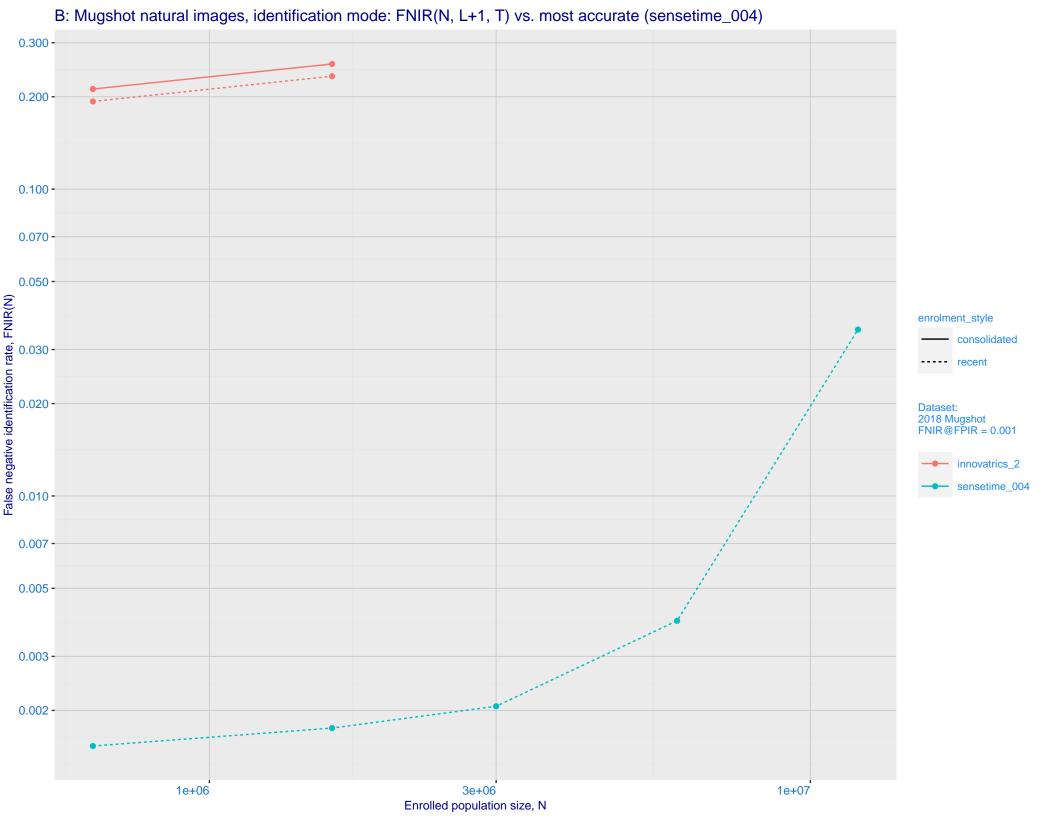
Mugshot profile ranking 119 (out of 210) -- FNIR(1600000, 0, 1) = 0.8529 vs. lowest 0.0587 from xforwardai_002

Identification:

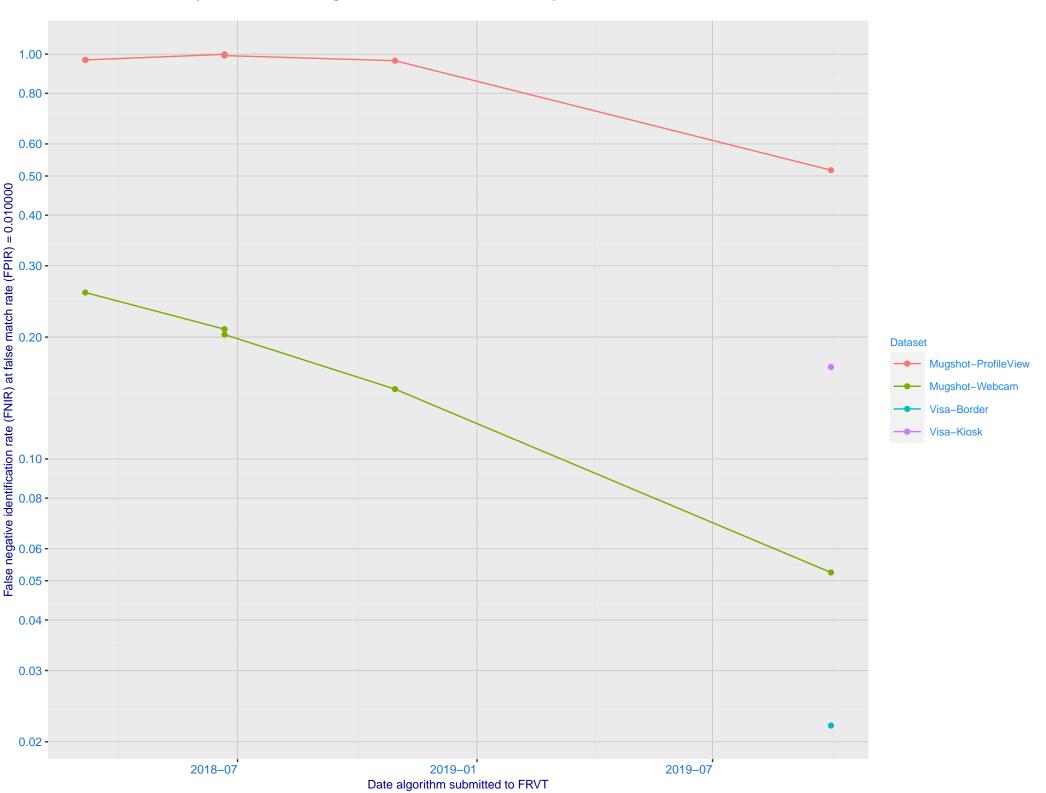
Frontal mugshot ranking 195 (out of 279) -- FNIR(1600000, T, L+1) = 0.2333, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot webcam ranking 170 (out of 236) -- FNIR(1600000, T, L+1) = 0.3100, 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



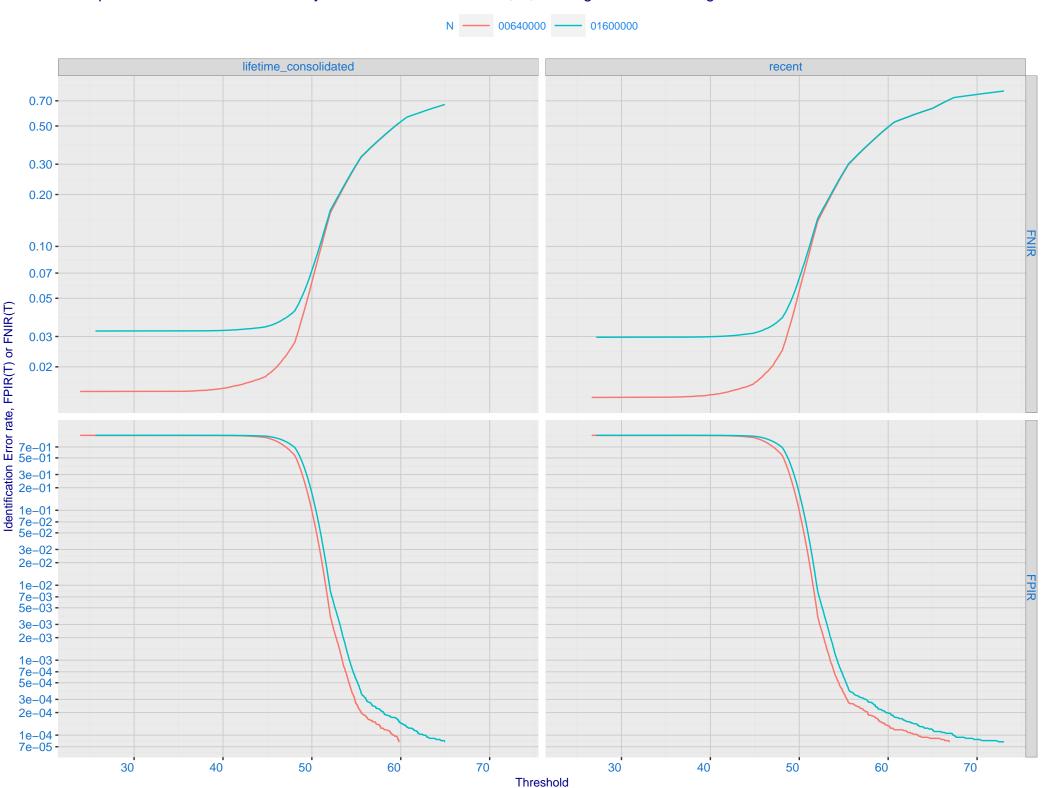
C: Evolution of accuracy for INNOVATRICS algorithms on three datasets 2018 – present



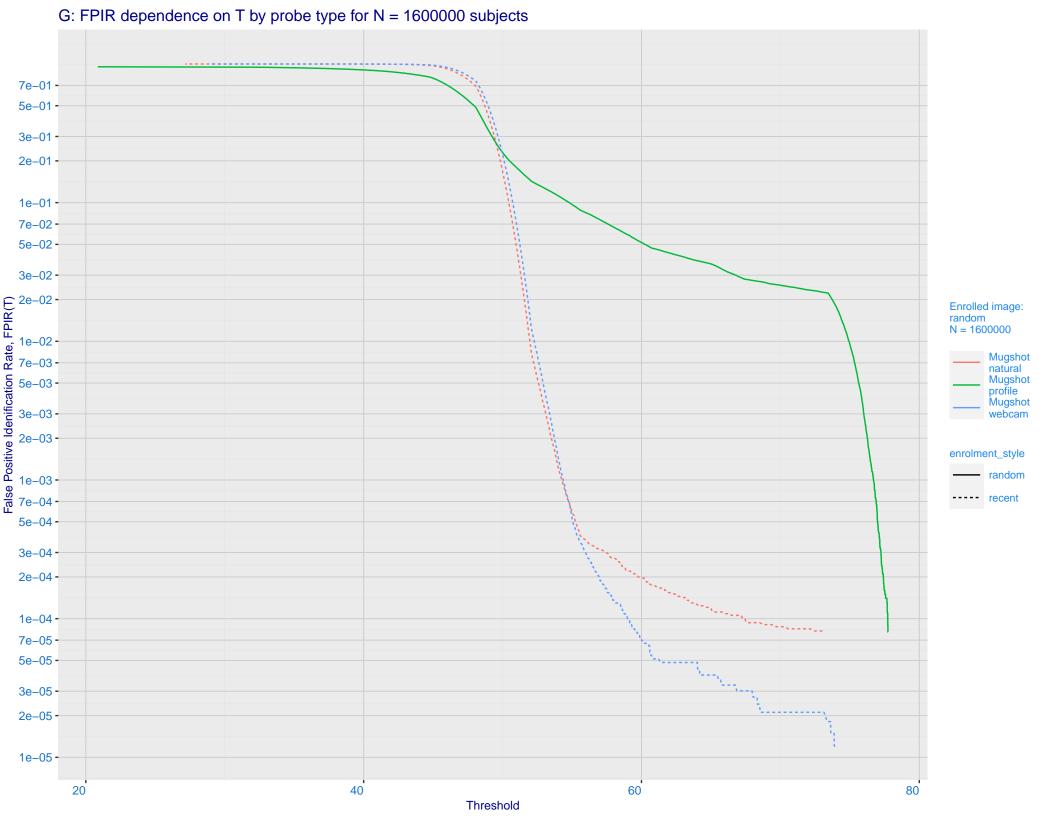
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Immigration Immigration Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -Ealse negative identification rate, FNIR(T) 0.003 - 0.000 - 0.000 - 0.500 - 0.200 -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

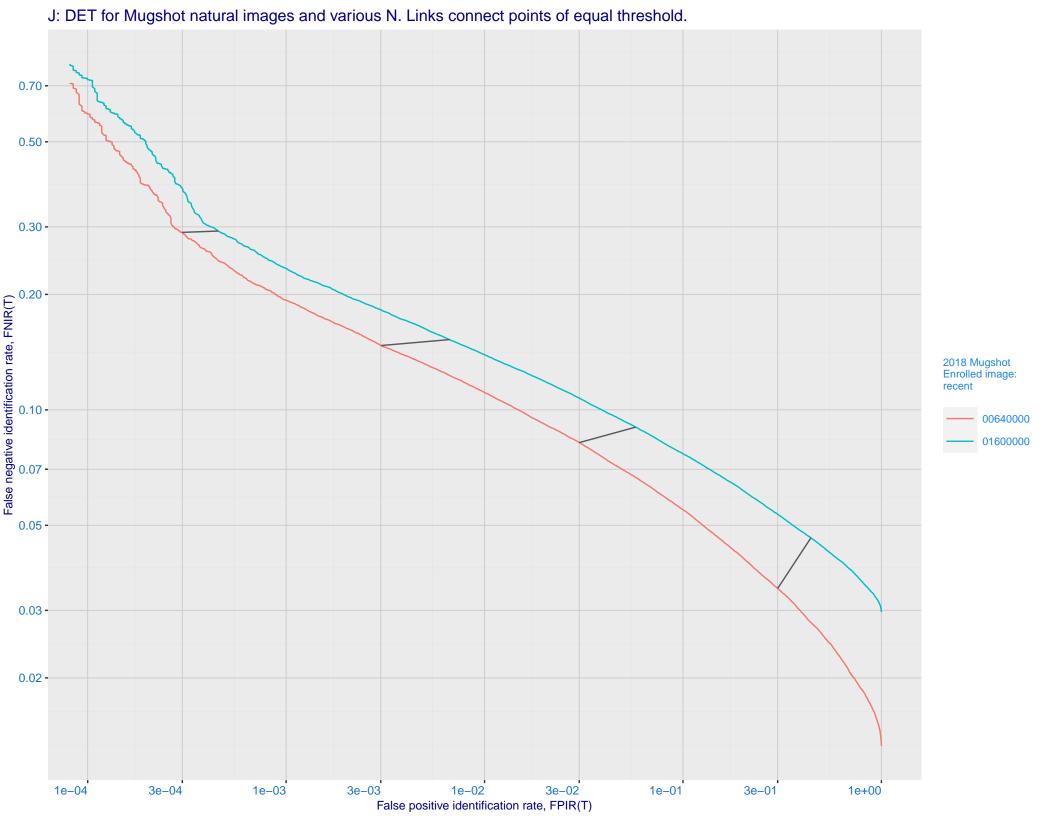
False positive identification rate, FPIR(T)

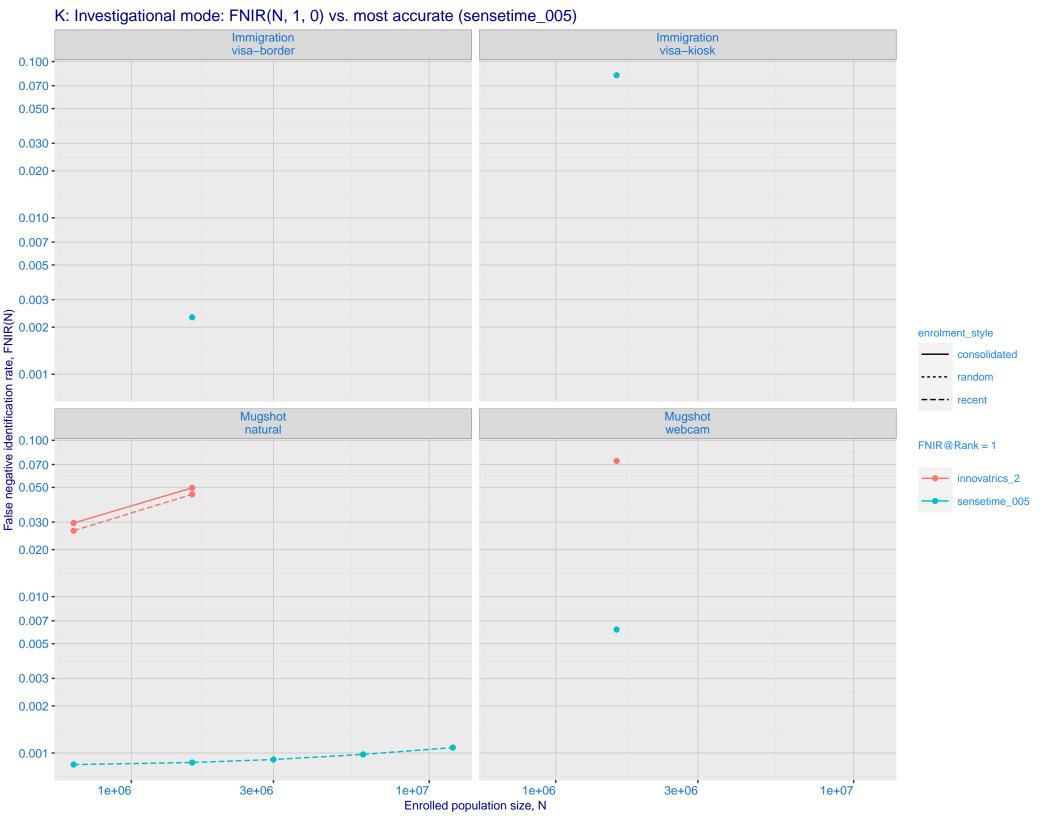
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images

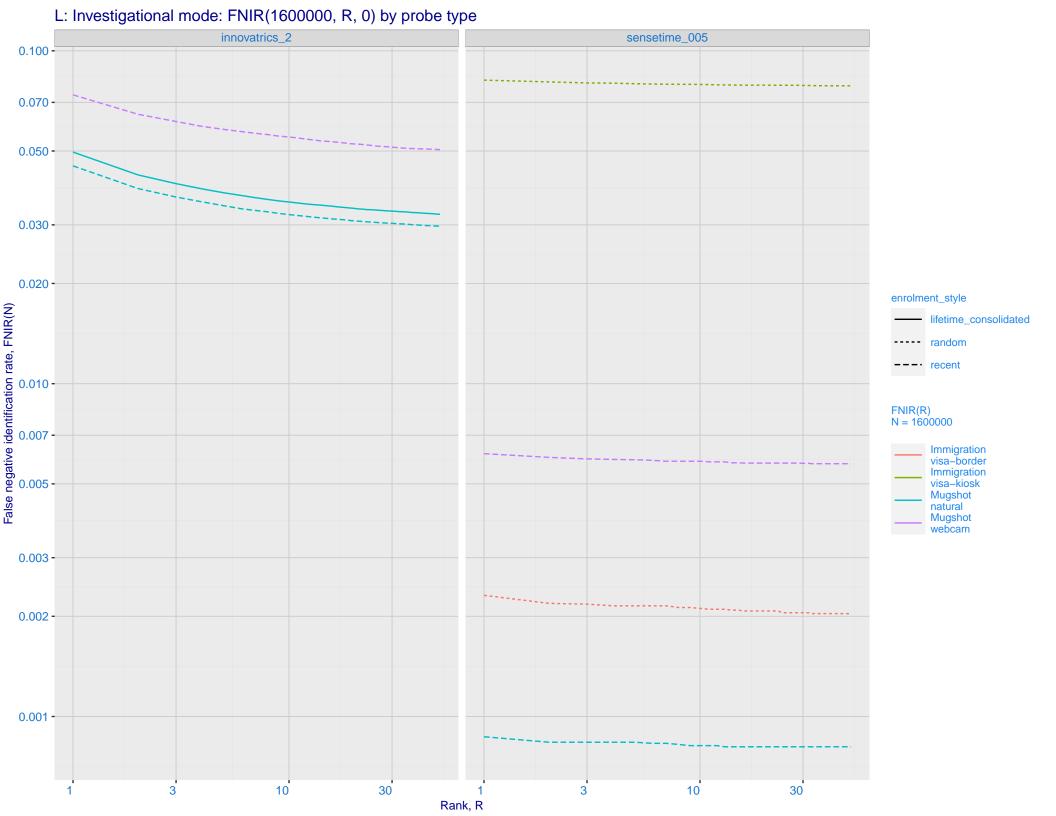


F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 -5e+01 -3e+01 -2e+01 -1e+01 -7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -5e-01 -3e-01 -2e-01 -Selectivity. 3e-02 - 3e-02 - 2e-02 - 2e-02 - 3e-02 - 3 **Enrolled images:** recent N = 1600000 Mugshot natural Mugshot webcam 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 -3e-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)









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 300 -MODEL — Log Model ---- Power Law Model 200 -100 -70 -50 -30 -20 -10 -

Search Duration (milliseconds)

7e+05

8e+05

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



