A: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Mugshot natural 0.70 -0.50 -False negative identification rate, FNIR(T) enrolment_style recent-ONE-MATE 0.10 -0.07 -

1e-01

3e-01

1e+00

1e-02

False positive identification rate, FPIR(T)

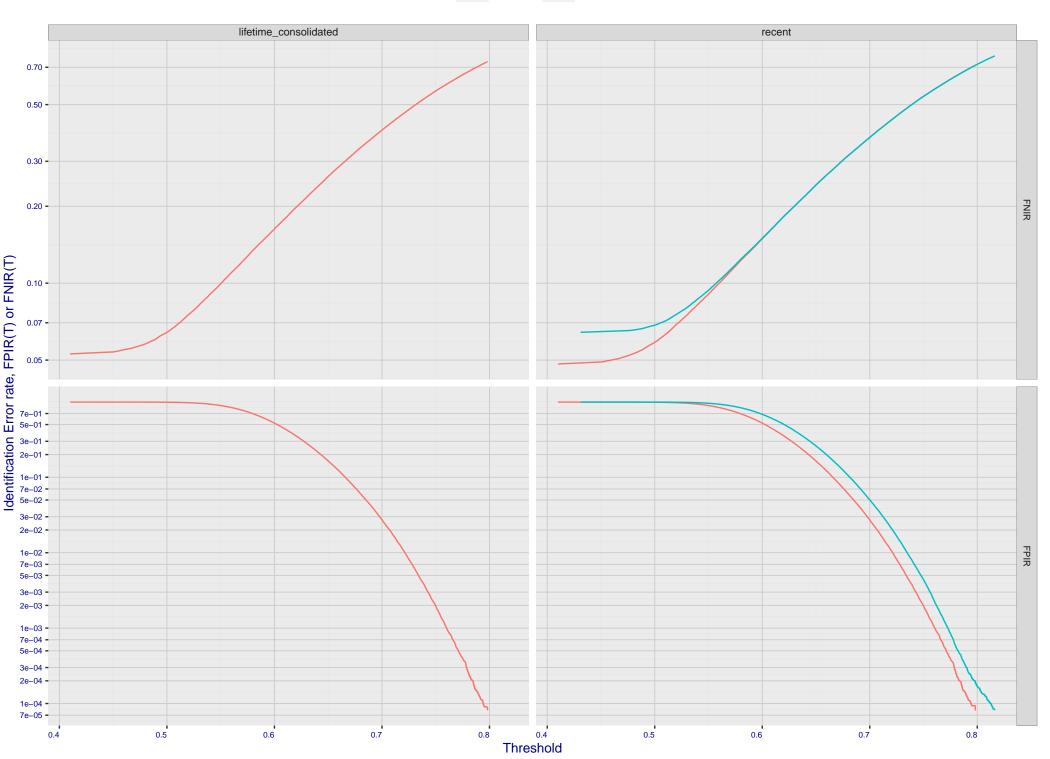
1e-04

3e-04

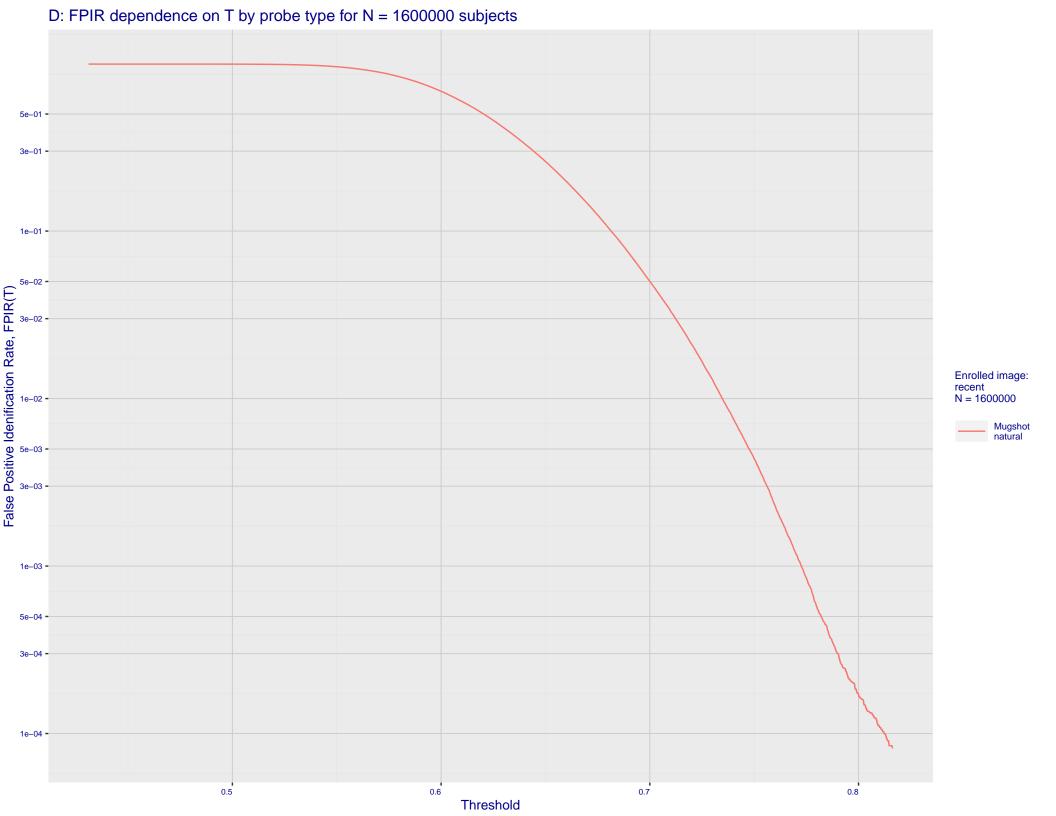
1e-03

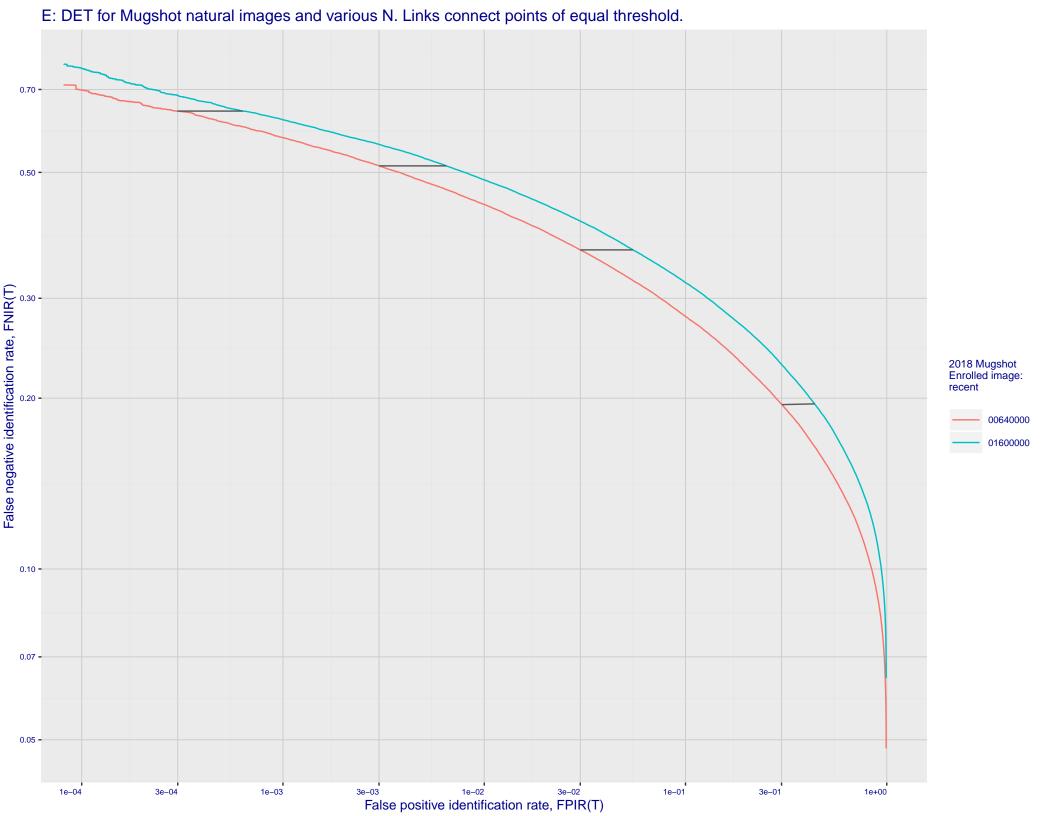
B: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images

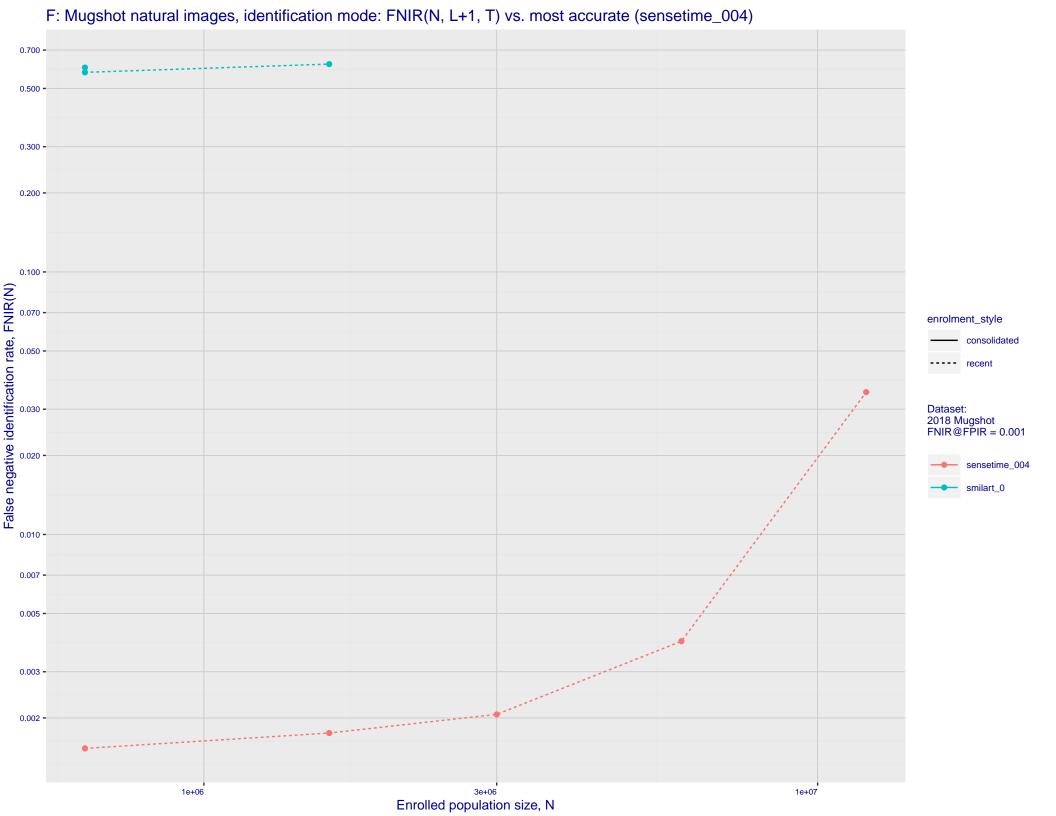




C: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 5e+01 3e+01 2e+01 1e+01 -7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -5e-01 -3e-01 -E 2e-01 Enrolled images: recent N = 1600000 7 1e-01 - 7 7e-02 - 5e-02 - 5e-02 - 7 7e-02 - Mugshot natural 3e-02 2e-02 -1e-02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







G: Datasheet

Algorithm: smilart_0

Developer: Smilart

Submission Date: 2018_02_15

Template size: 1024 bytes

Template time (2.5 percentile): 154 msec

Template time (median): 169 msec

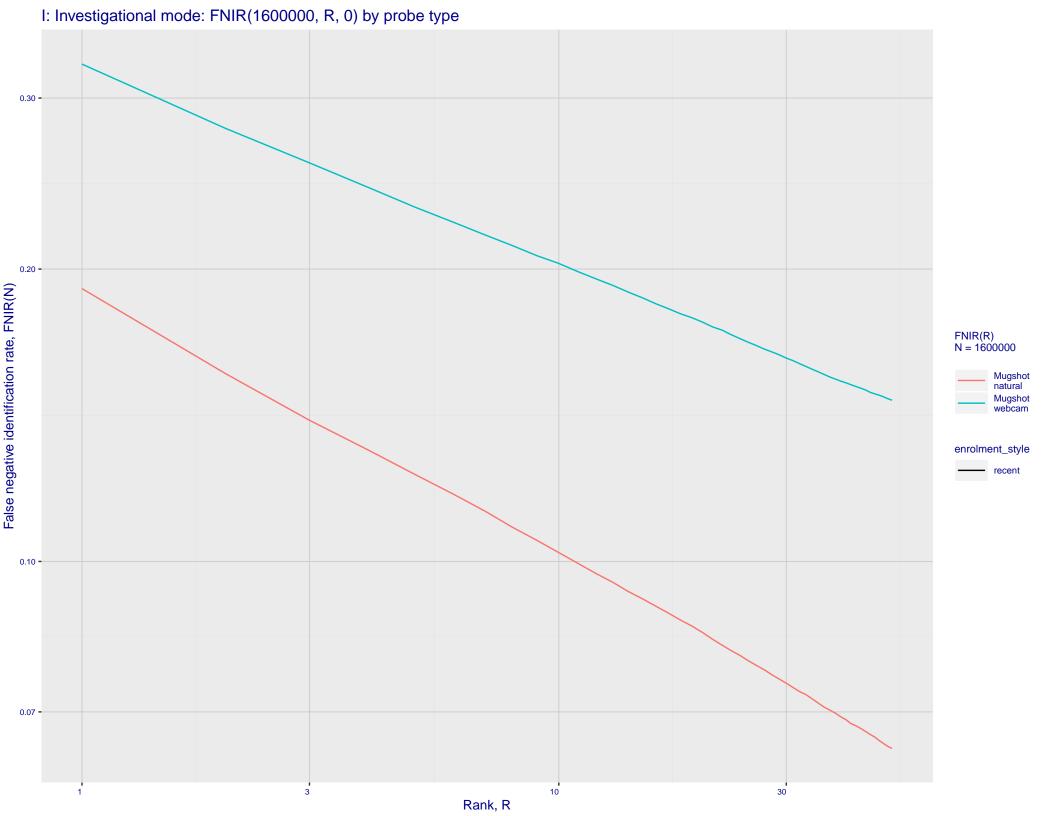
Template time (97.5 percentile): 183 msec

Frontal mugshot investigation rank 222 — FNIR(1600000, 0, 1) = 0.1910 vs. lowest 0.0010 from sensetime_004

natural investigation rank 190 -- FNIR(1600000, 0, 1) = 0.3252 vs. lowest 0.0067 from sensetime_003

Frontal mugshot identification rank 216 -- FNIR(1600000, T, L+1) = 0.6192 vs. lowest 0.0018 from sensetime_004

H: Investigational mode: FNIR(N, 1, 0) vs. most accurate (yitu_4) Mugshot Mugshot natural webcam 0.300 -0.200 -0.100 -0.070 -False negative identification rate, FNIR(N) enrolment_style consolidated ---- recent FNIR@Rank = 1 smilart_0 yitu_4 0.003 -0.002 -0.001 -3e+06 3e+06 1e+06 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 Log Model ---- Power Law Model 1000 -700 -300 -200 -1e+06 7e+05 8e+05 Enrolled population size, N, one image per person

Search Duration (milliseconds)