A: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Mugshot natural 0.70 -0.50 -0.30 -False negative identification rate, FNIR(T) enrolment_style consolidated-ONE-MATE recent-ONE-MATE 0.05 -

1e-01

False positive identification rate, FPIR(T)

3e-01

1e+00

0.03 -

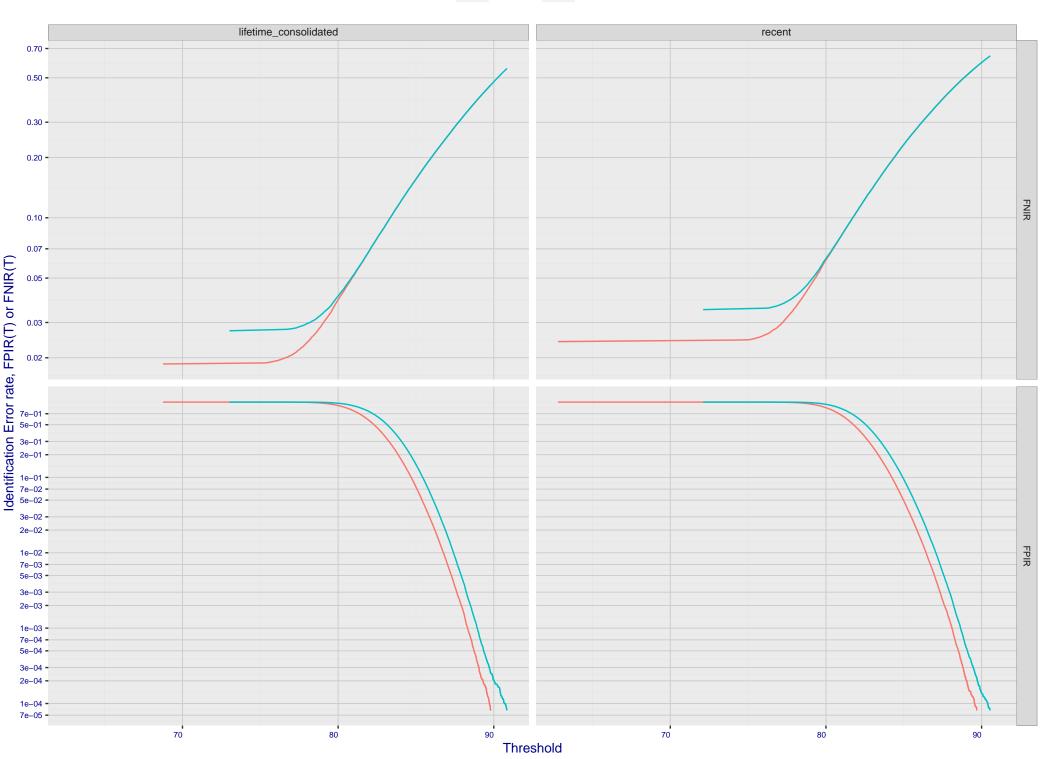
1e-04

3e-04

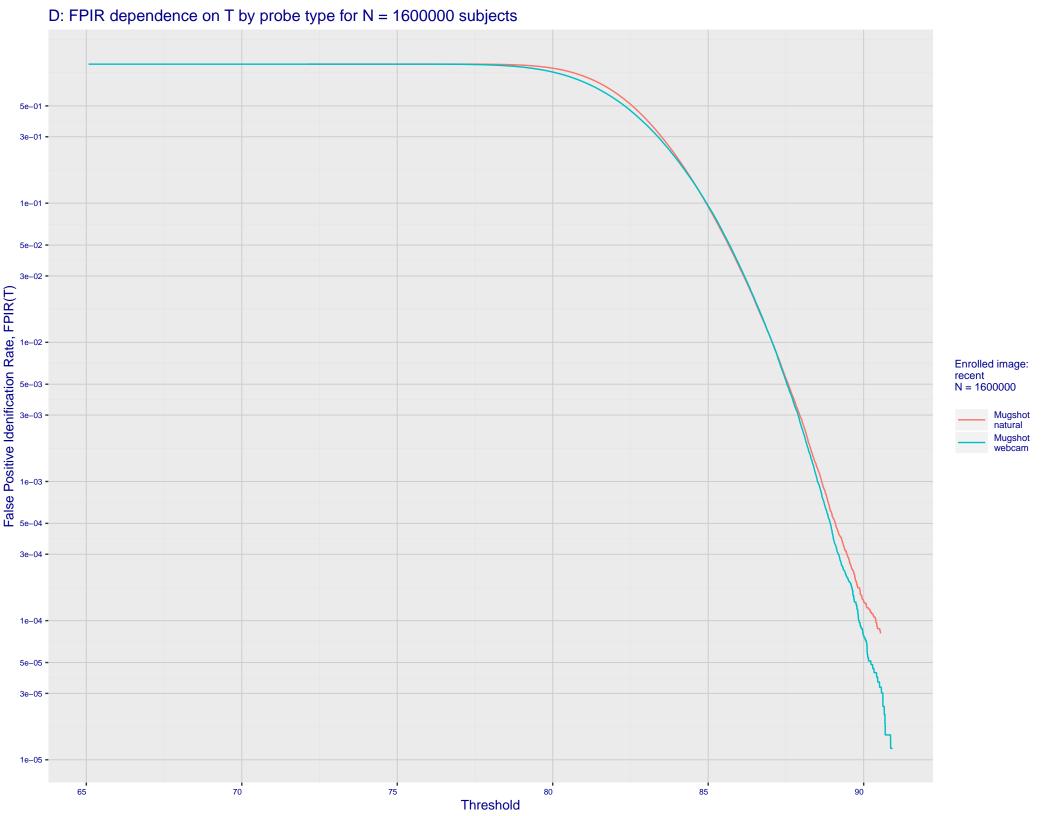
1e-03

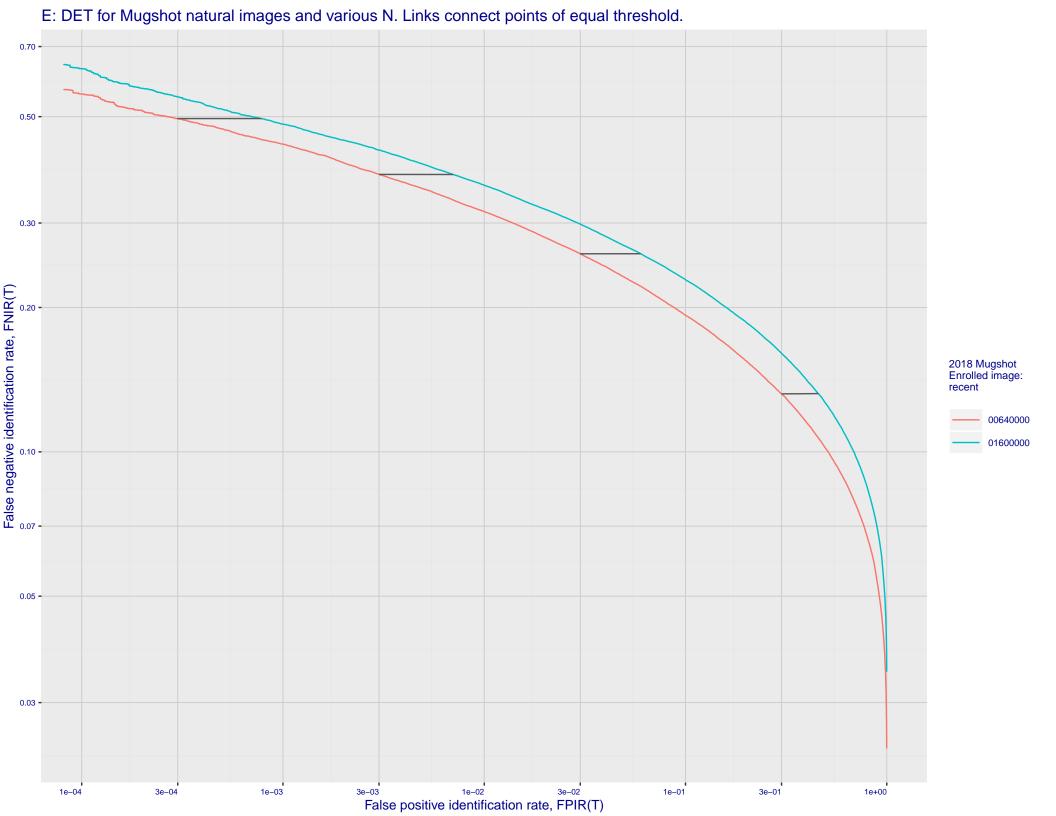
B: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images

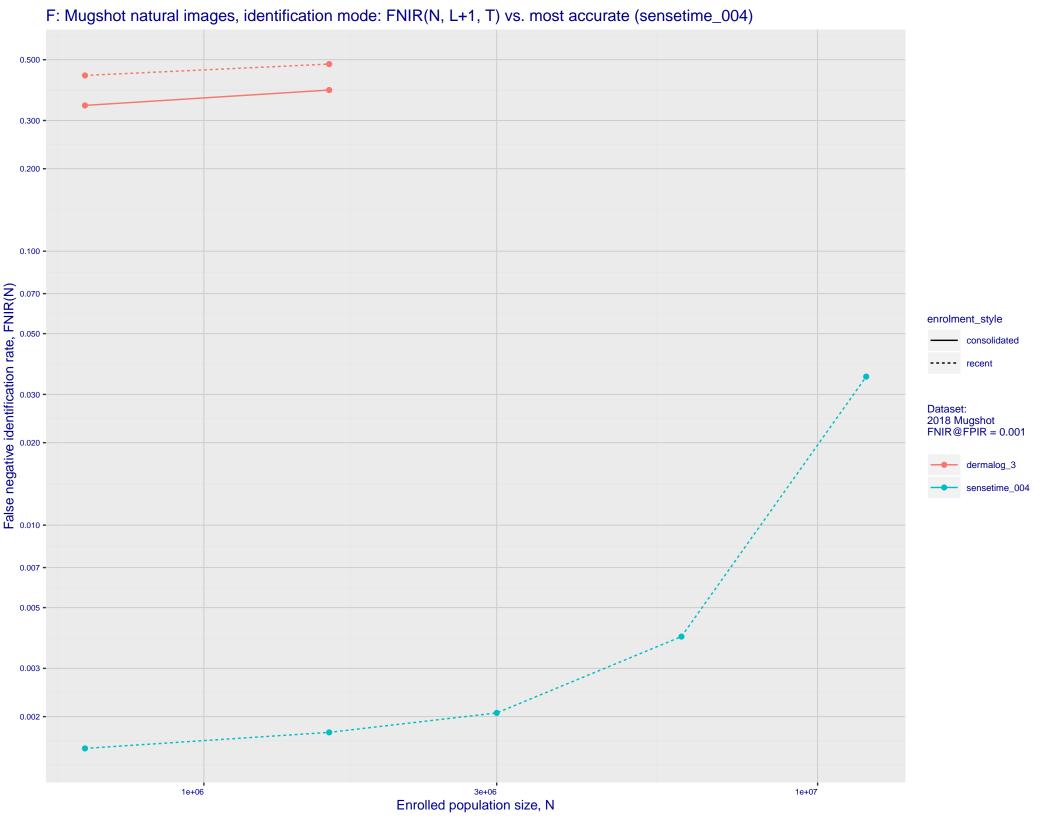




C: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 -5e+01 -3e+01 2e+01 -1e+01 -7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -5e-01 -3e-01 -2e-01 -1e-01 -7e-02 - 7e-02 - 7e-03 Enrolled images: recent N = 1600000Mugshot natural Mugshot webcam 7e-03 5e-03 -3e-03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







G: Datasheet

Algorithm: dermalog_3

Developer: Dermalog

Submission Date: 2018_06_21

Template size: 128 bytes

Template time (2.5 percentile): 193 msec

Template time (median): 208 msec

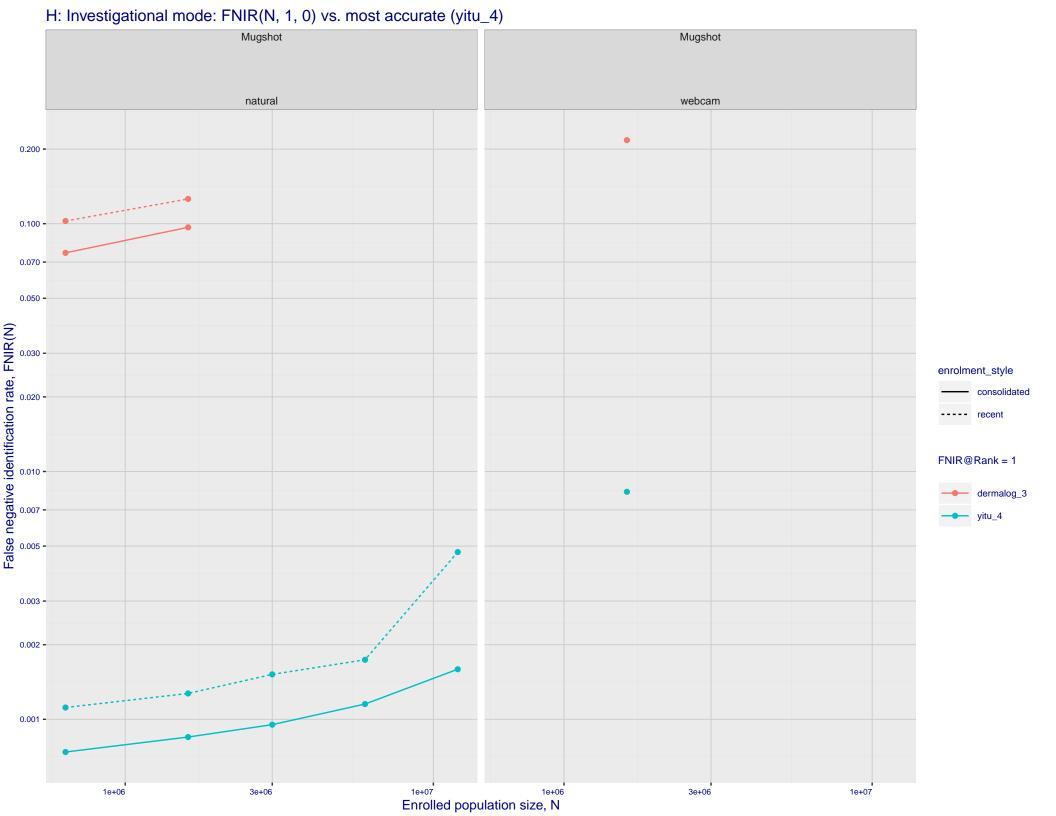
Template time (97.5 percentile): 249 msec

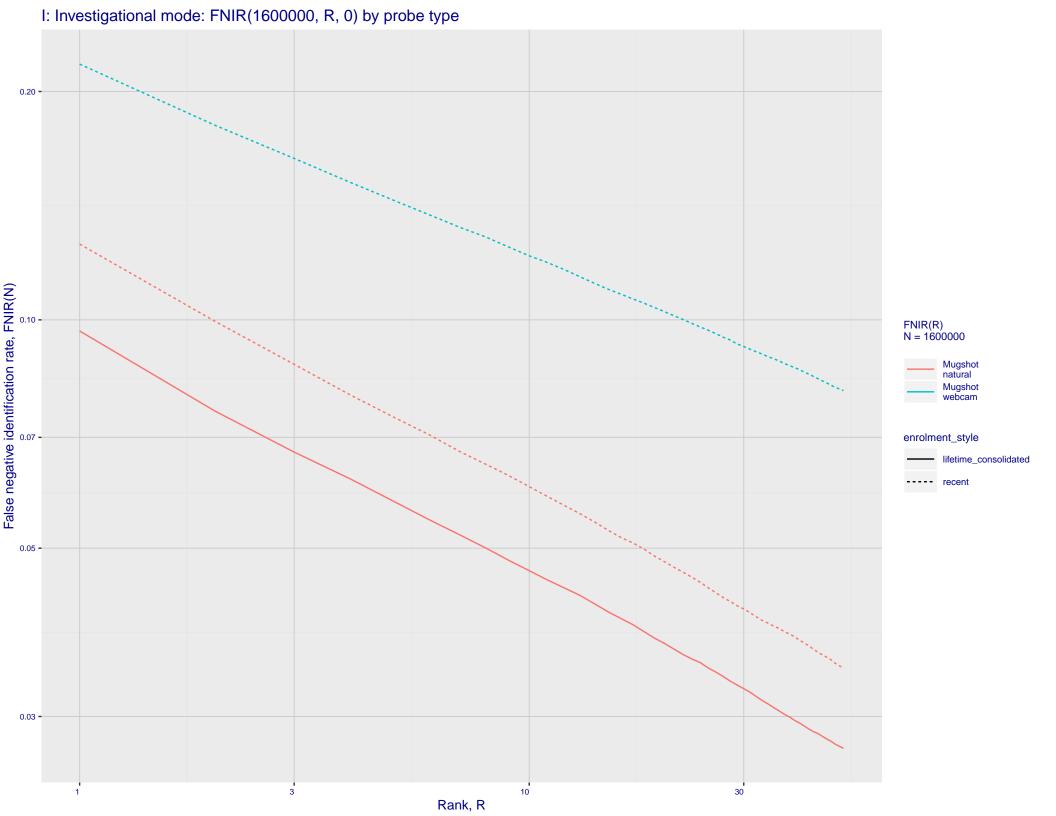
Frontal mugshot investigation rank 209 — FNIR(1600000, 0, 1) = 0.1259 vs. lowest 0.0010 from sensetime_004

natural investigation rank 181 -- FNIR(1600000, 0, 1) = 0.2174 vs. lowest 0.0067 from sensetime_003

Frontal mugshot identification rank 204 -- FNIR(1600000, T, L+1) = 0.4819 vs. lowest 0.0018 from sensetime_004

natural identification rank 180 -- FNIR(1600000, T, L+1) = 0.6547 vs. lowest 0.0122 from sensetime_003





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 MODEL — Log Model ---- Power Law Model 200 -Search Duration (milliseconds) 7e+05 8e+05

Enrolled population size, N, one image per person