A: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Mugshot natural 0.700 0.500 0.300 0.200 False negative identification rate, FNIR(T) enrolment_style consolidated-ONE-MATE recent-ONE-MATE 0.010 -0.007 -0.005 -0.003 -0.002 -

False positive identification rate, FPIR(T)

1e-01

3e-01

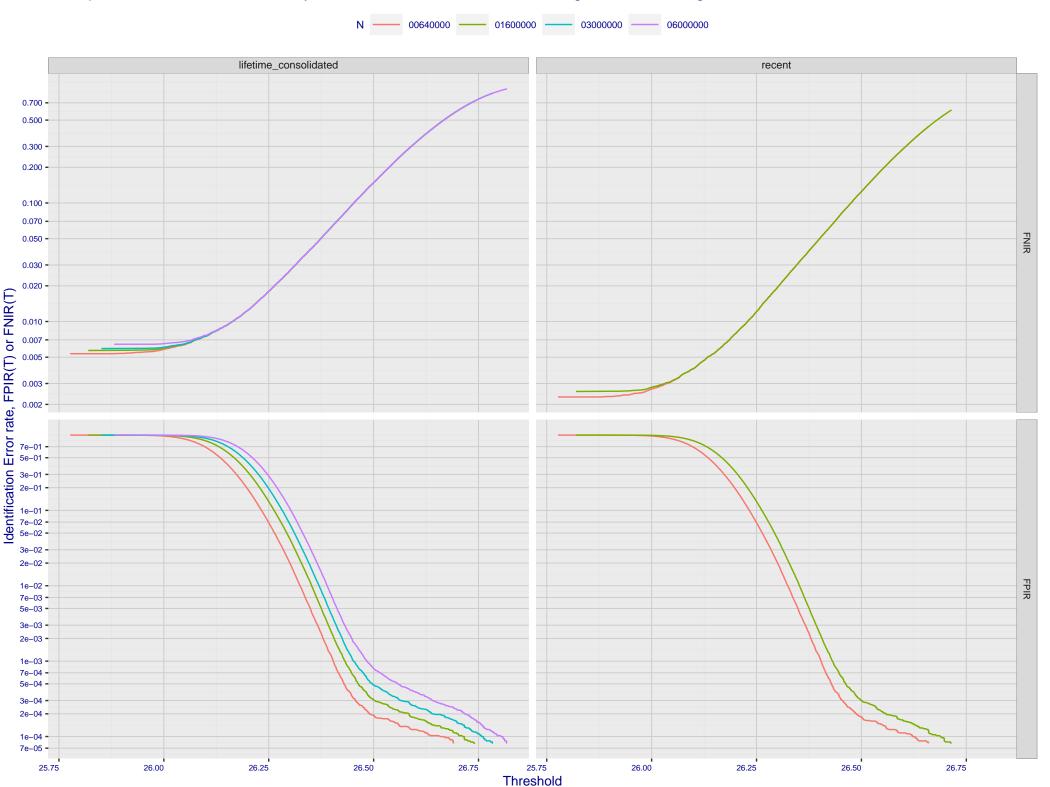
1e+00

3e-04

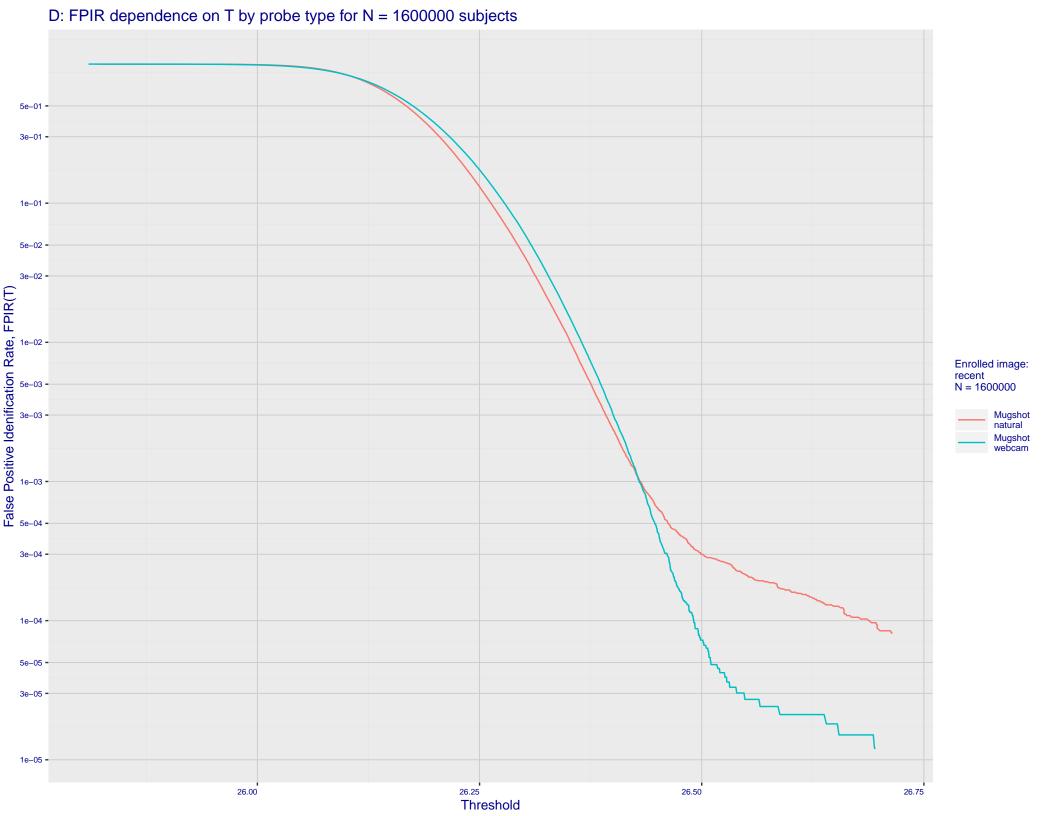
1e-04

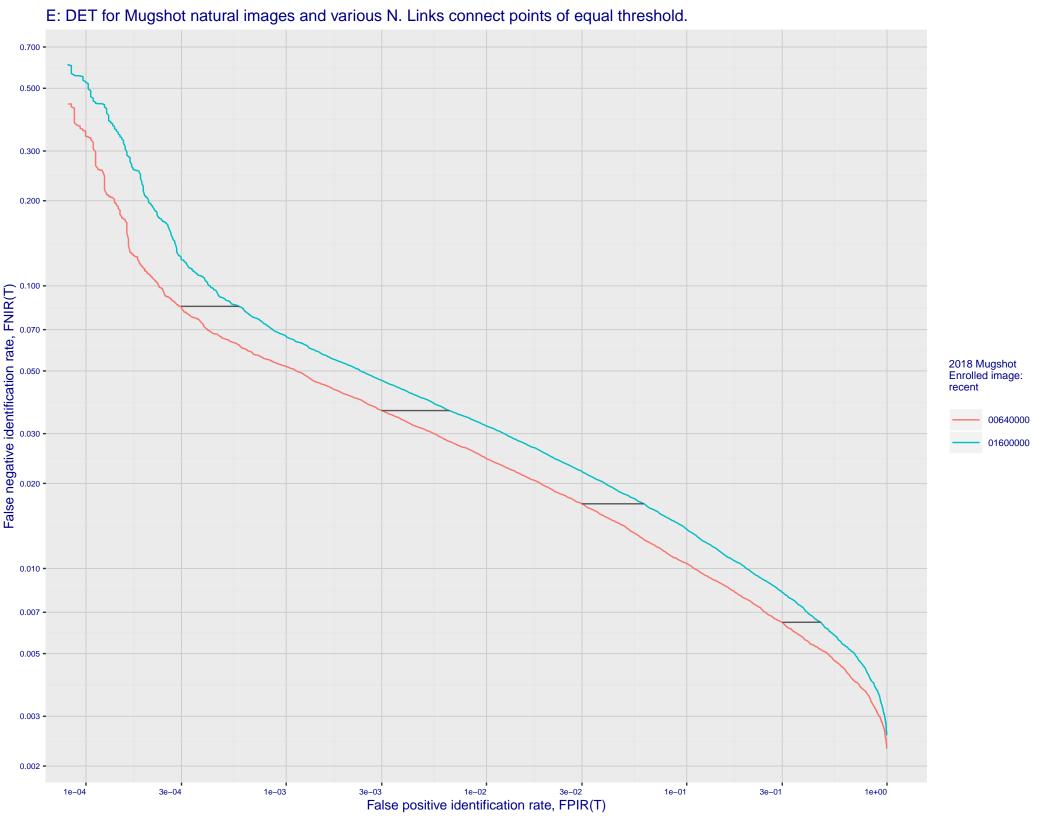
1e-03

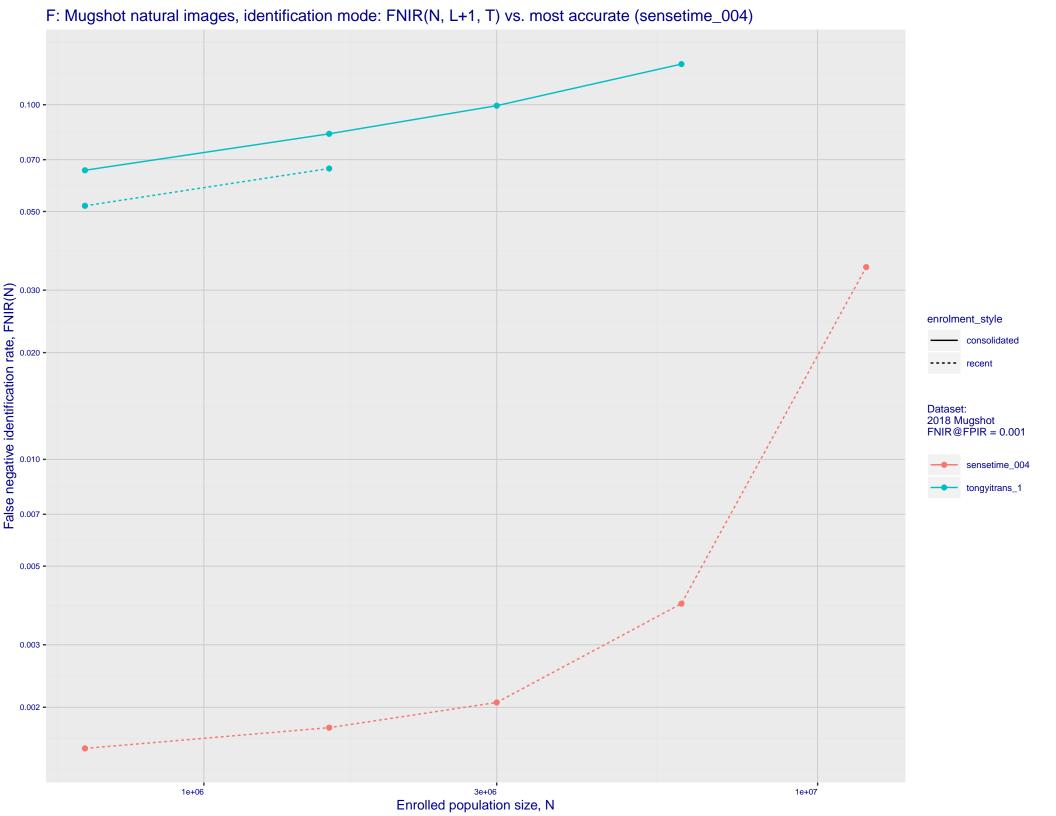
B: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images



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 - 3e-02 - 2e-02 - 9 Enrolled images: recent N = 1600000Mugshot 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 2e-05 -3e-04 1e-03 3e-02 1e-05 3e-05 1e-04 1e-01 3e-01 False Positive Idenification Rate, FPIR(T)







G: Datasheet

Algorithm: tongyitrans_1

Developer: TongYi Transportation Technology

Submission Date: 2018_06_29

Template size: 2070 bytes

Template time (2.5 percentile): 176 msec

Template time (median): 180 msec

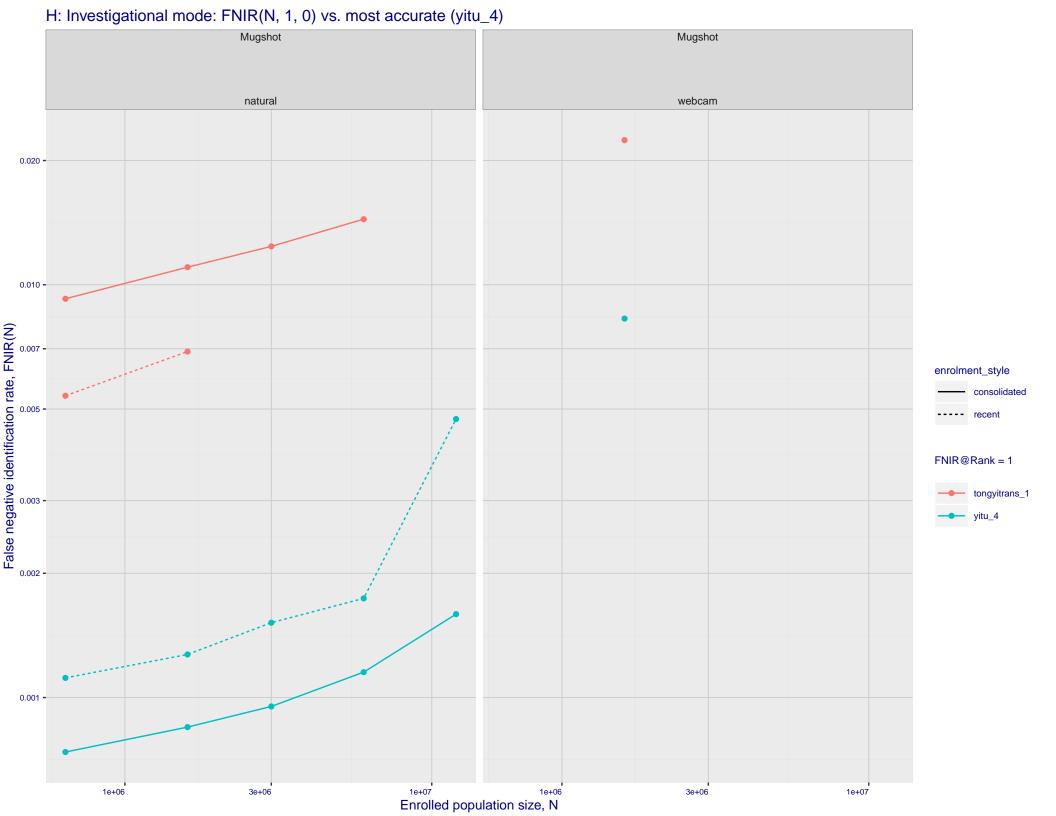
Template time (97.5 percentile): 269 msec

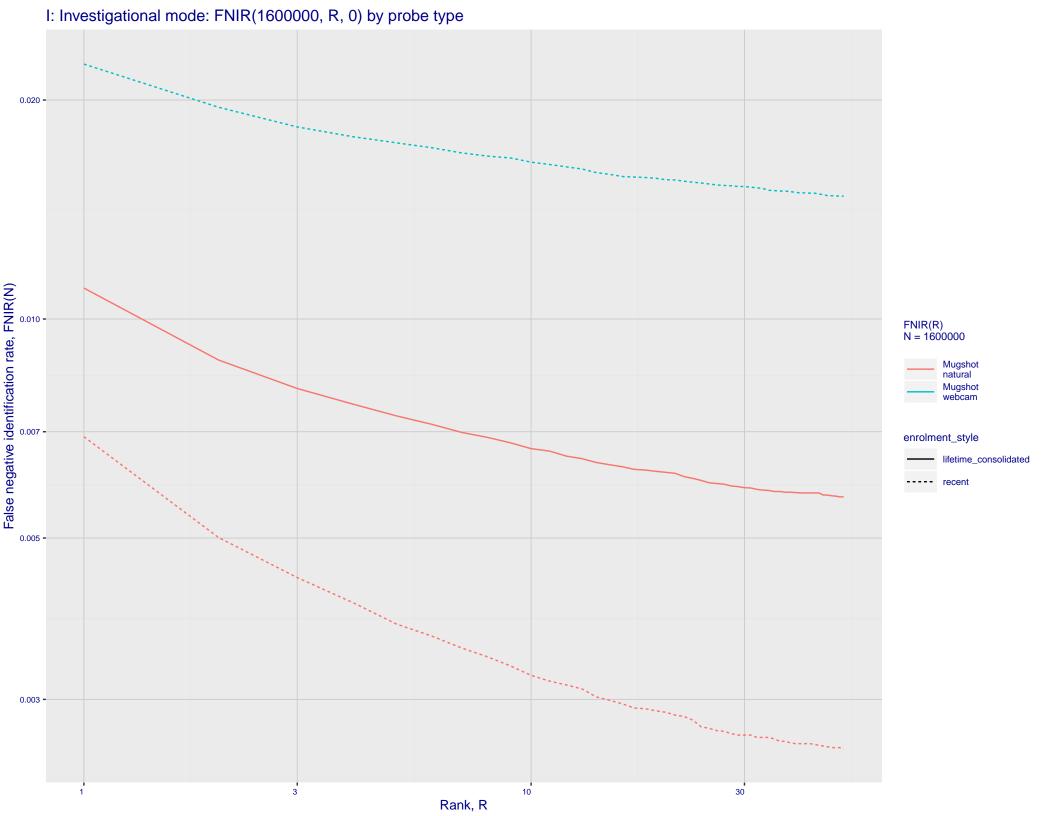
Frontal mugshot investigation rank 88 — FNIR(1600000, 0, 1) = 0.0069 vs. lowest 0.0010 from sensetime_004

natural investigation rank 72 -- FNIR(1600000, 0, 1) = 0.0224 vs. lowest 0.0067 from sensetime_003

Frontal mugshot identification rank 94 -- FNIR(1600000, T, L+1) = 0.0661 vs. lowest 0.0018 from sensetime_004

natural identification rank 52 -- FNIR(1600000, T, L+1) = 0.1010 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 - Log Model ---- Power Law Model 2000 1000 -700 -500 -300 -200 -7e+05 8e+05 Enrolled population size, N, one image per person

Search Duration (milliseconds)