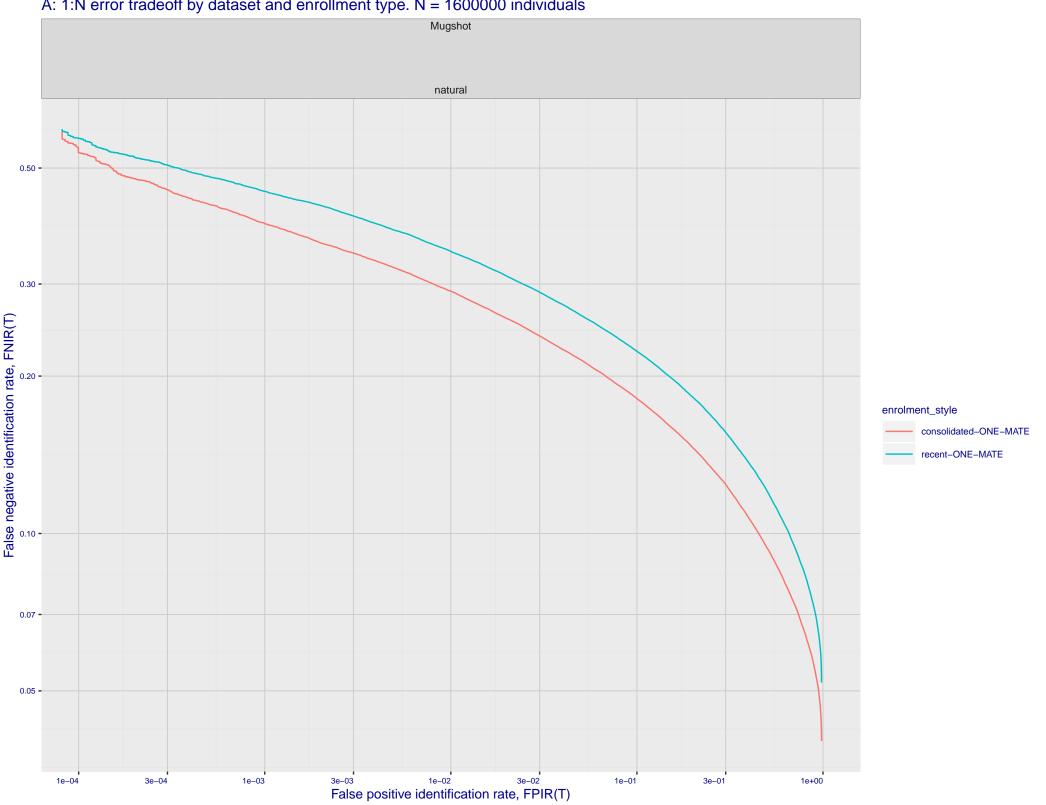
A: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals



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

0.70 -

0.50 -

0.30 -

0.20 -

0.10 -

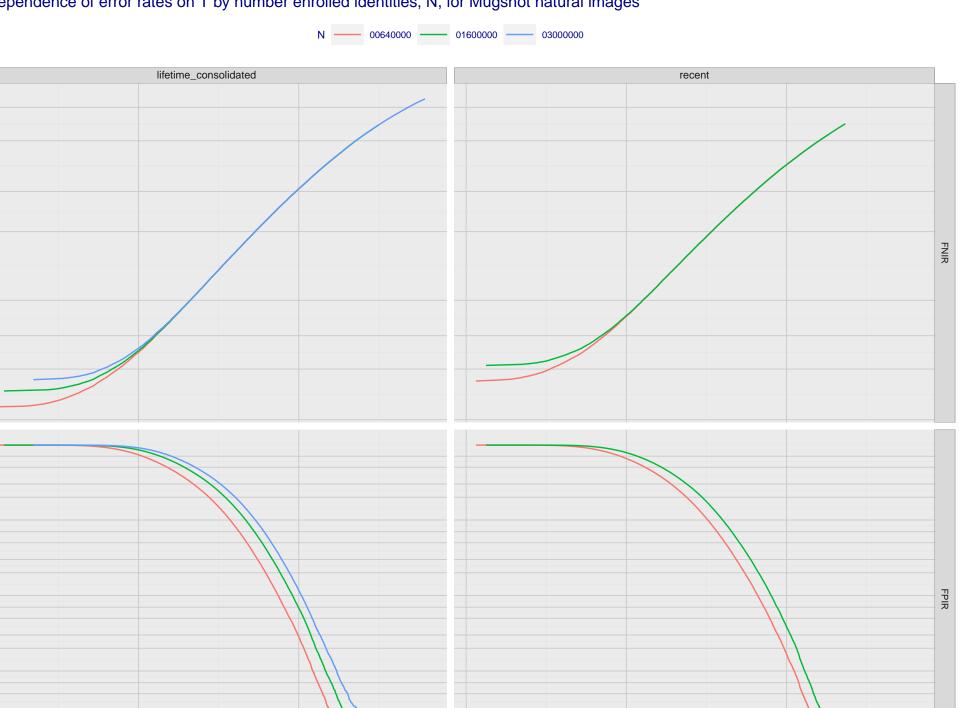
Error rate, FPIR(T) or FNIR(T) 0.00 - 0.00

O 3e-01 - 2e-01 - 2e-01 - 7e-02 - 5e-02 - 3e-02 - 3e-01 - 7e-02 - 3e-02 - 3e-01 - 7e-02 - 3e-02 - 3e-01 - 3e-0

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 -7e-05 -

0.6



0.6

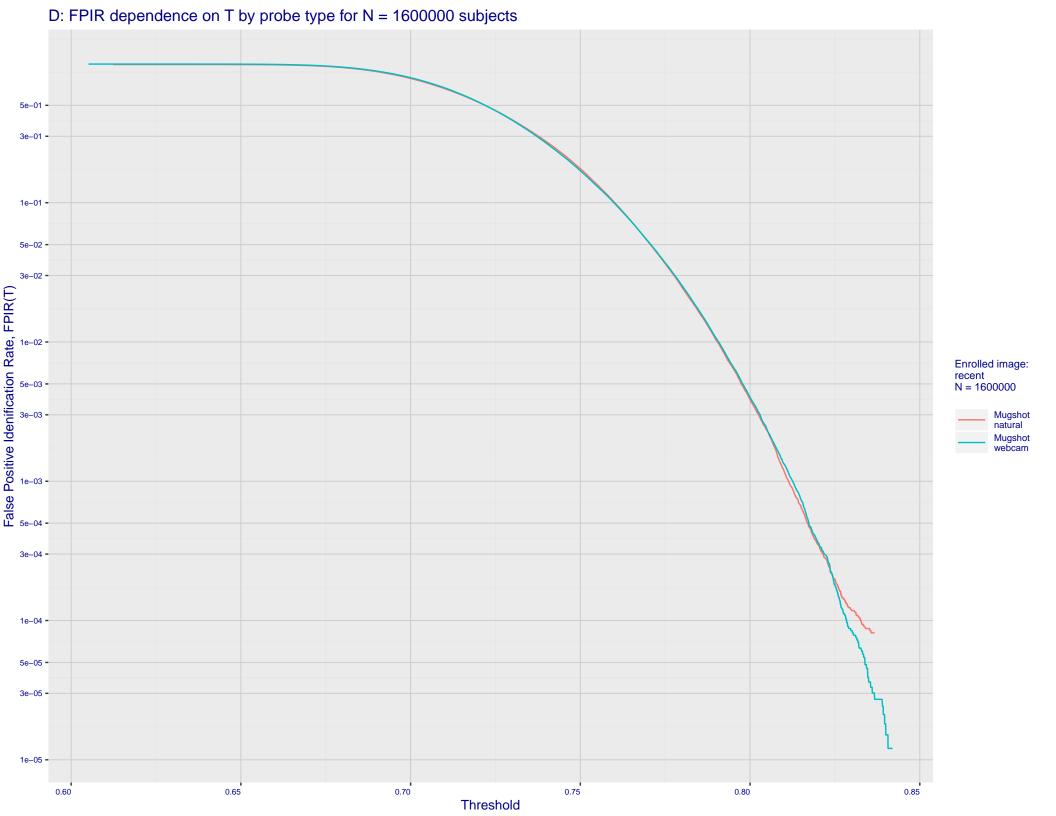
Threshold

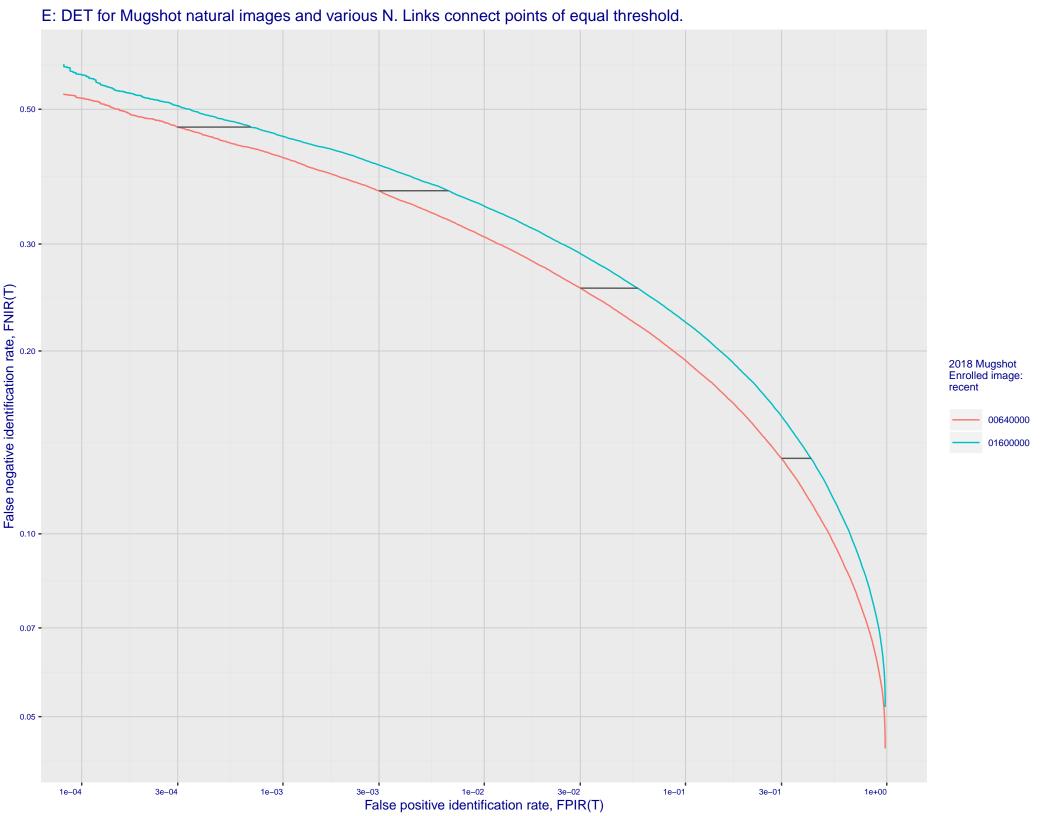
0.7

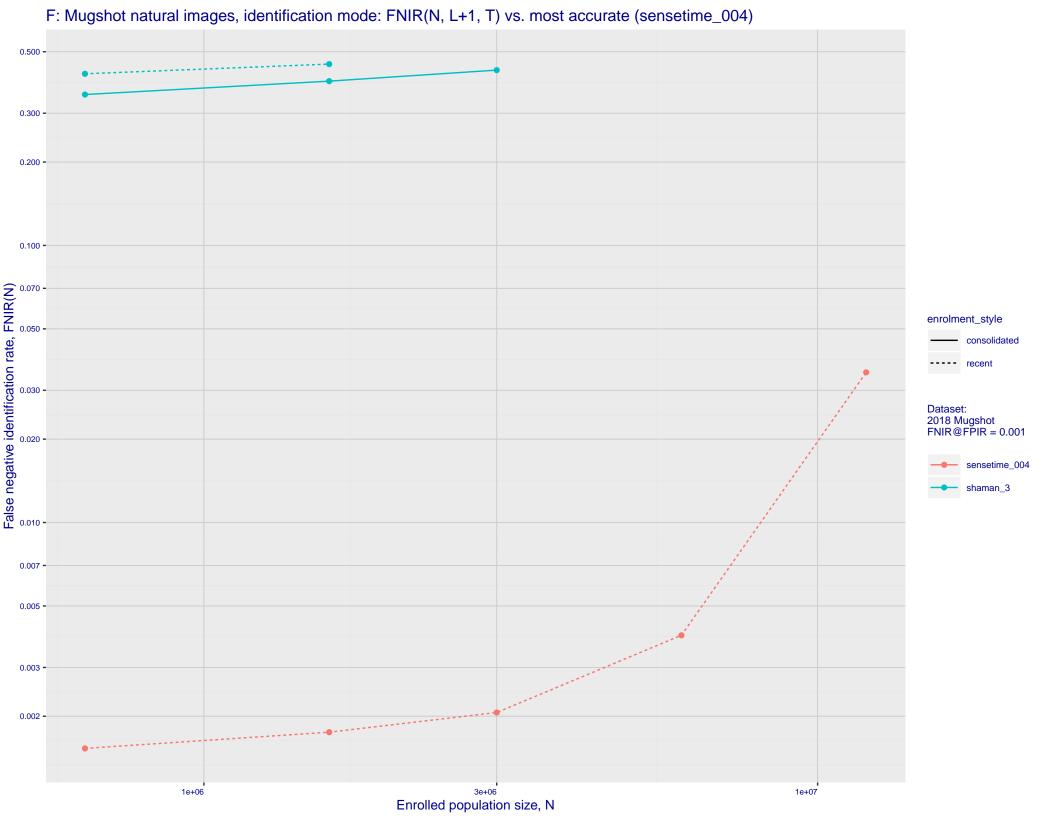
0.8

0.8

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-02 -3e-02 -3e-02 -1e-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: shaman_3

Developer: Shaman Software Submission Date: 2018_06_30

Template size: 2048 bytes

Template time (2.5 percentile): 669 msec

Template time (median): 672 msec

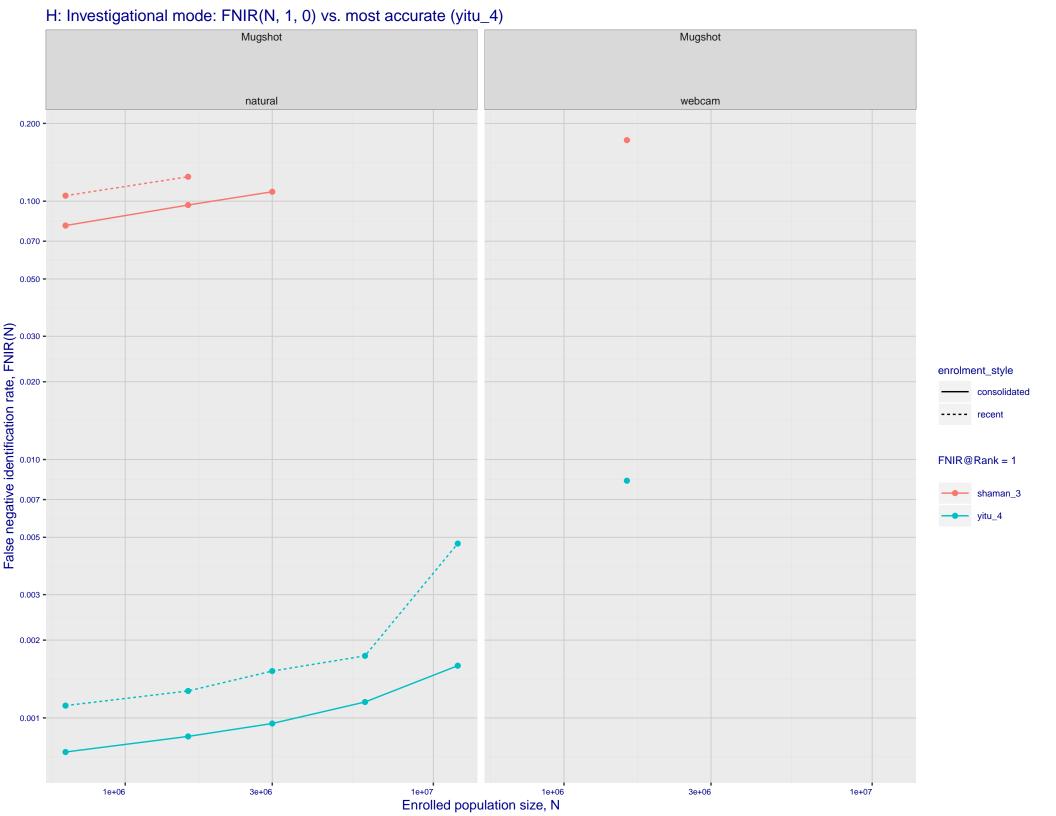
Template time (97.5 percentile): 1075 msec

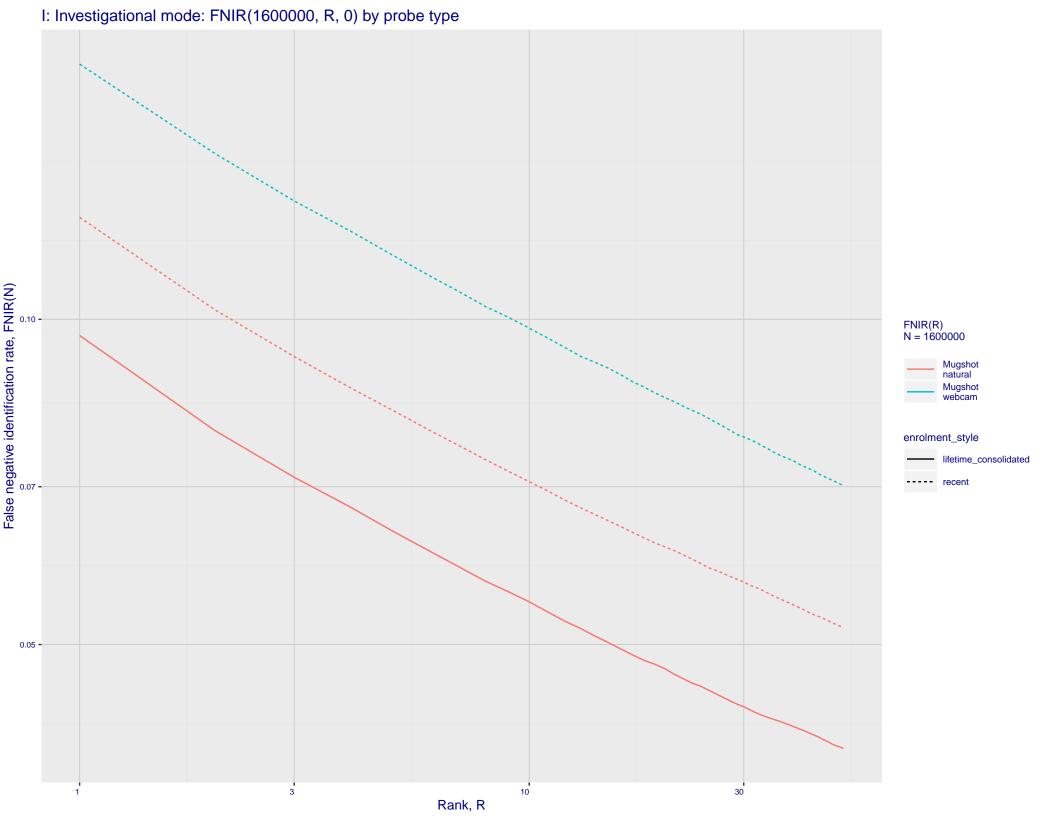
Frontal mugshot investigation rank 206 — FNIR(1600000, 0, 1) = 0.1243 vs. lowest 0.0010 from sensetime_004

natural investigation rank 176 -- FNIR(1600000, 0, 1) = 0.1723 vs. lowest 0.0067 from sensetime_003

Frontal mugshot identification rank 201 -- FNIR(1600000, T, L+1) = 0.4513 vs. lowest 0.0018 from sensetime_004

natural identification rank 176 -- FNIR(1600000, T, L+1) = 0.5971 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 1000 -700 -200 -7e+05 Enrolled population size, N, one image per person

Search Duration (milliseconds)