A: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Mugshot natural 0.500 0.300 0.200 0.100 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)

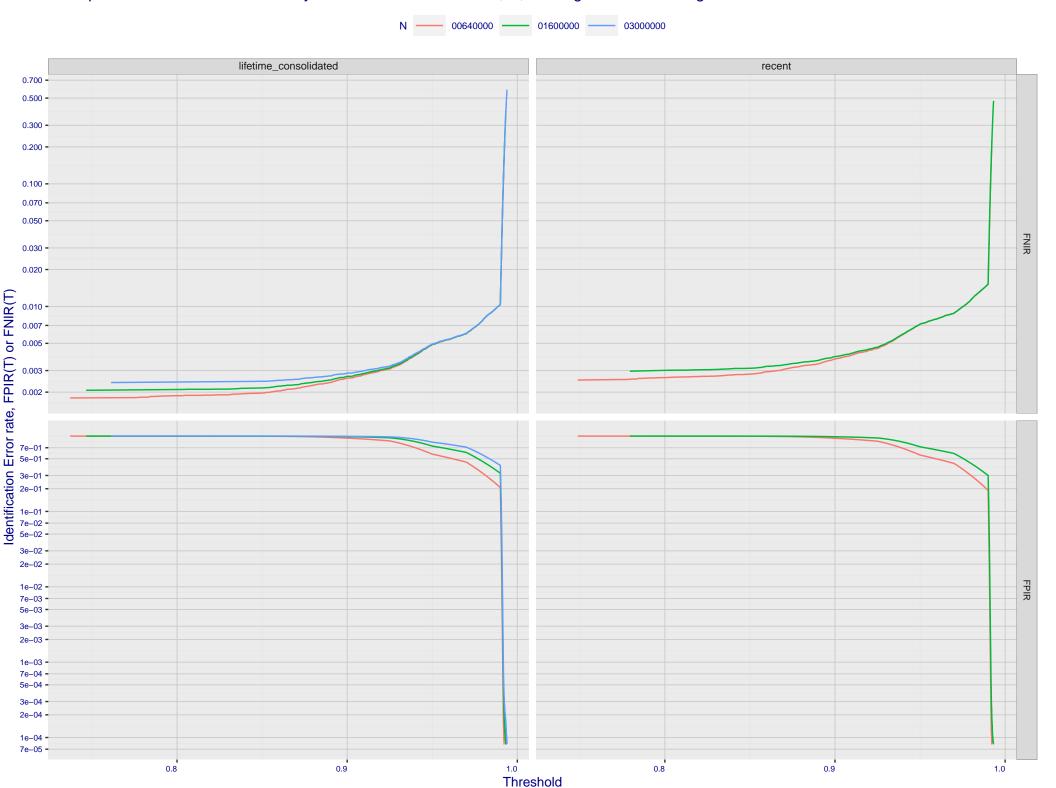
3e-01

1e+00

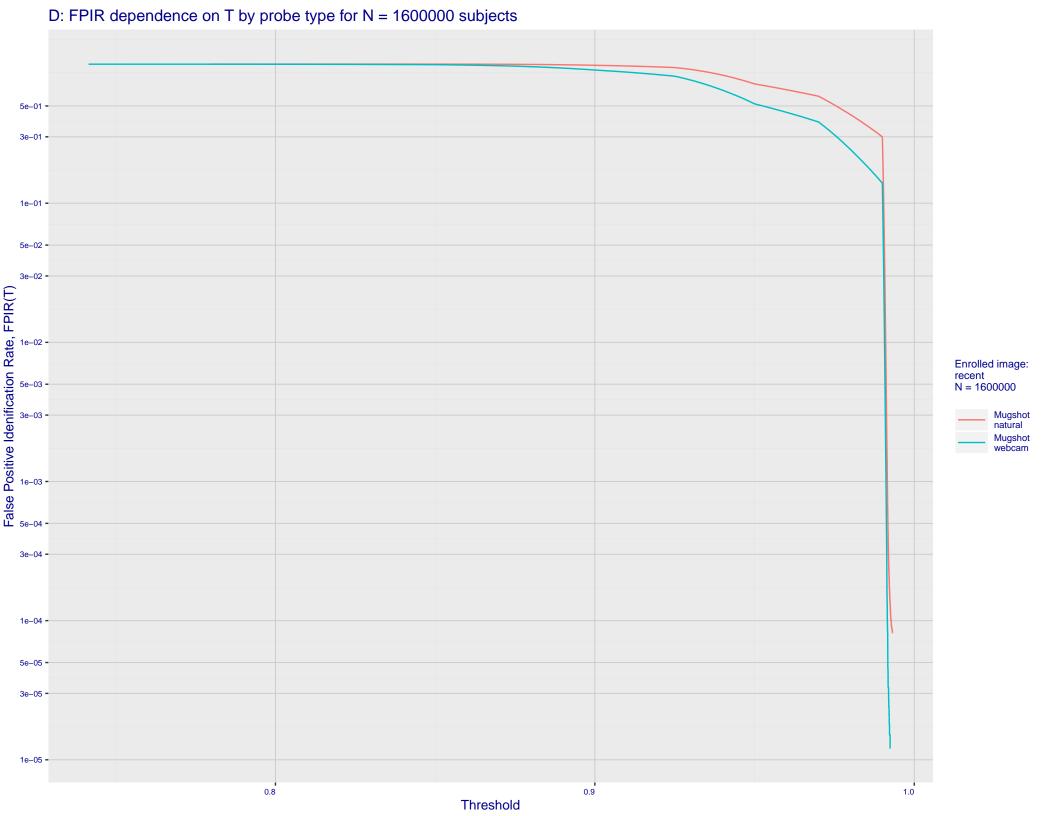
1e-03

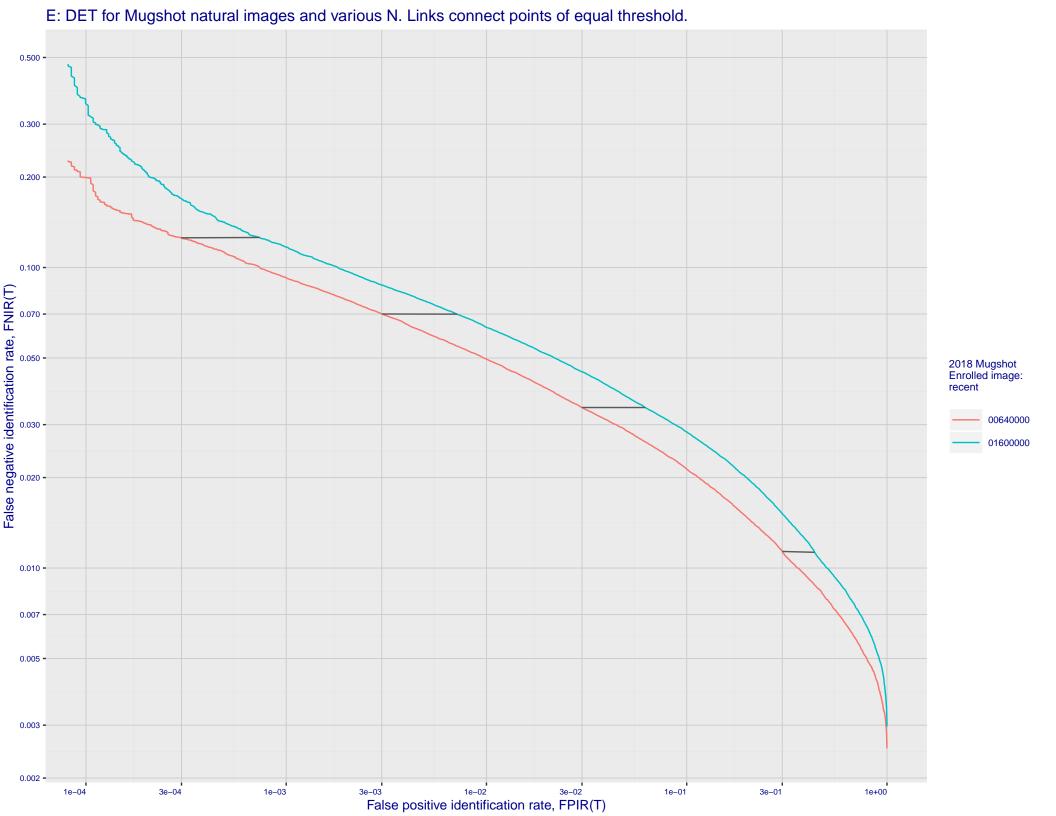
1e-04

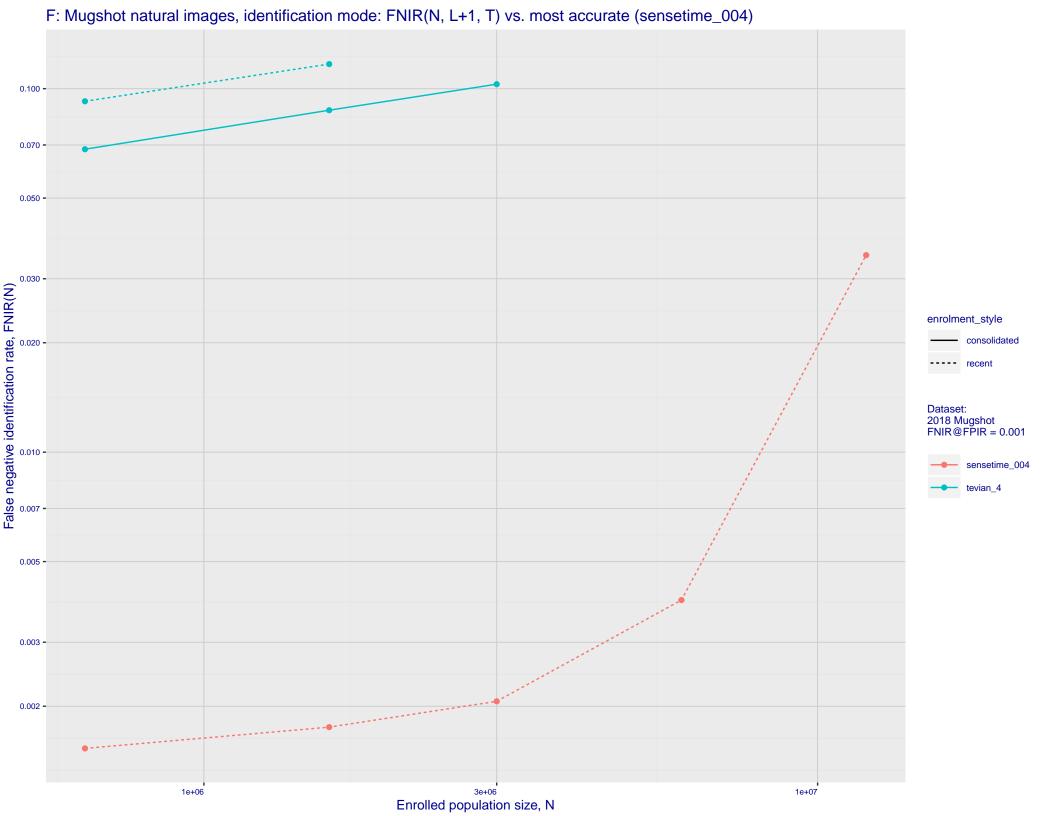
B: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images



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 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: tevian_4

Developer: Tevian

Submission Date: 2018_06_20

Template size: 2048 bytes

Template time (2.5 percentile): 263 msec

Template time (median): 300 msec

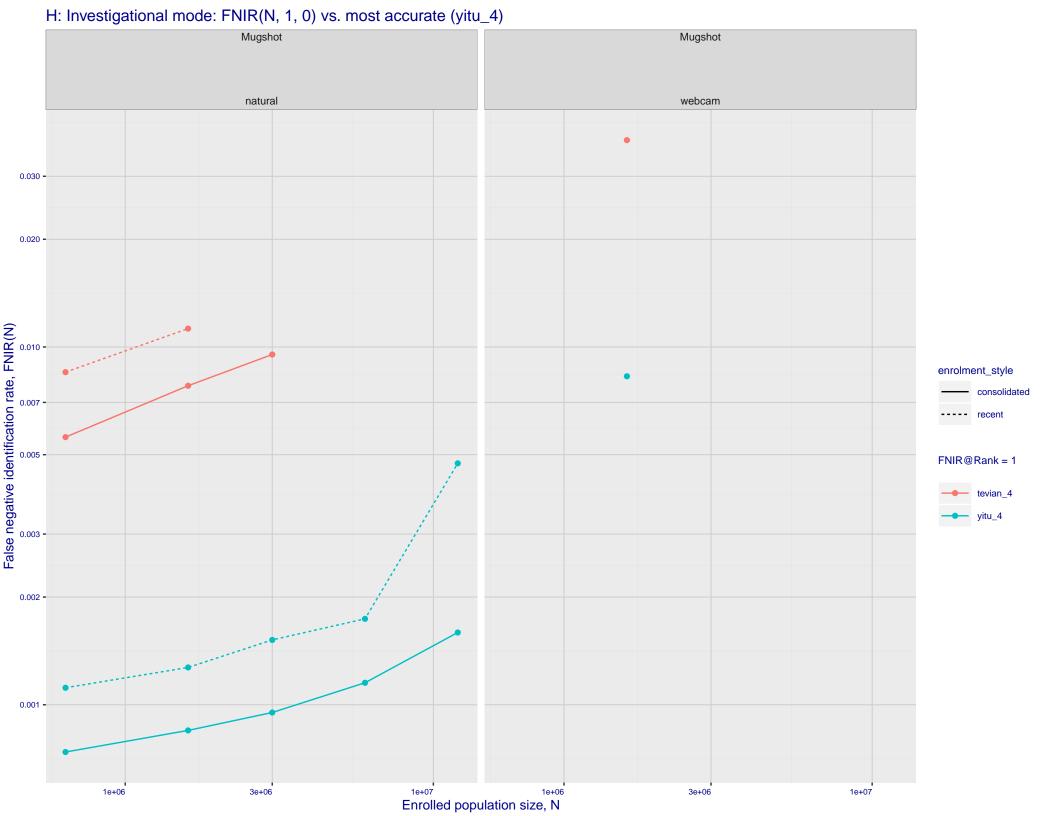
Template time (97.5 percentile): 336 msec

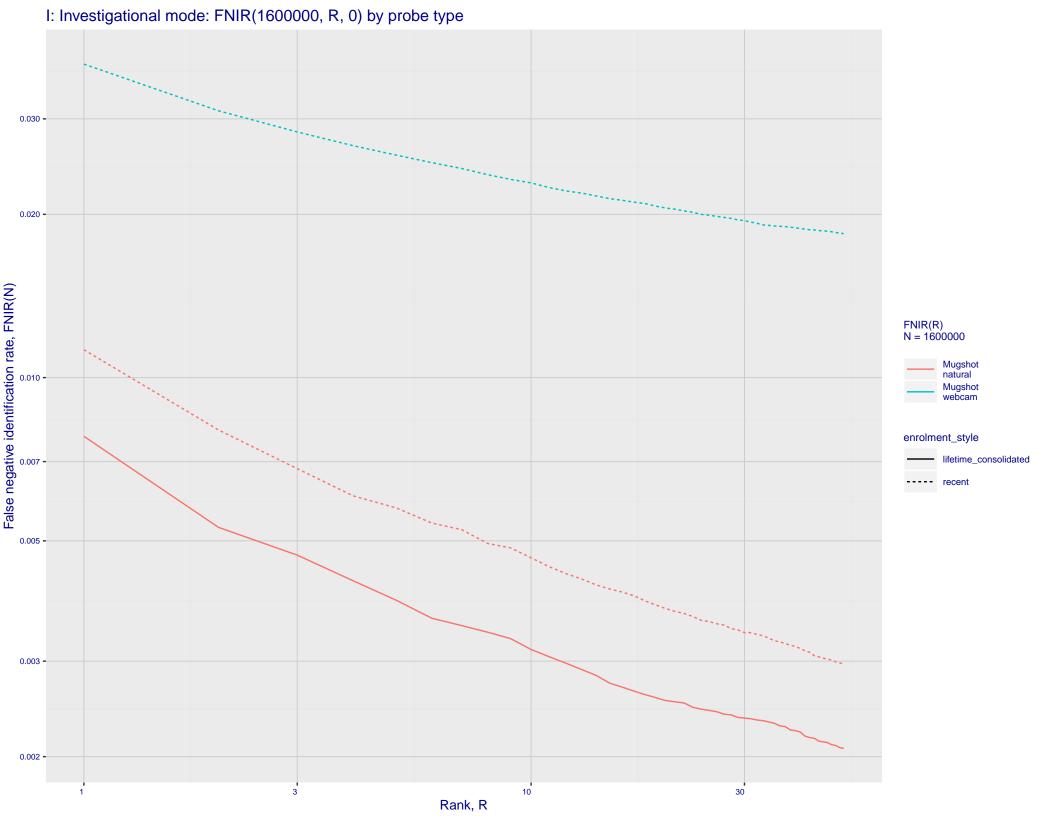
Frontal mugshot investigation rank 122 -- FNIR(1600000, 0, 1) = 0.0113 vs. lowest 0.0010 from sensetime_004

natural investigation rank 112 -- FNIR(1600000, 0, 1) = 0.0379 vs. lowest 0.0067 from sensetime_003

Frontal mugshot identification rank 130 -- FNIR(1600000, T, L+1) = 0.1169 vs. lowest 0.0018 from sensetime_004

natural identification rank 110 -- FNIR(1600000, T, L+1) = 0.1762 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

