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 recent-ONE-MATE 0.010 -0.007 0.005 0.003 -0.002

False positive identification rate, FPIR(T)

1e-01

3e-01

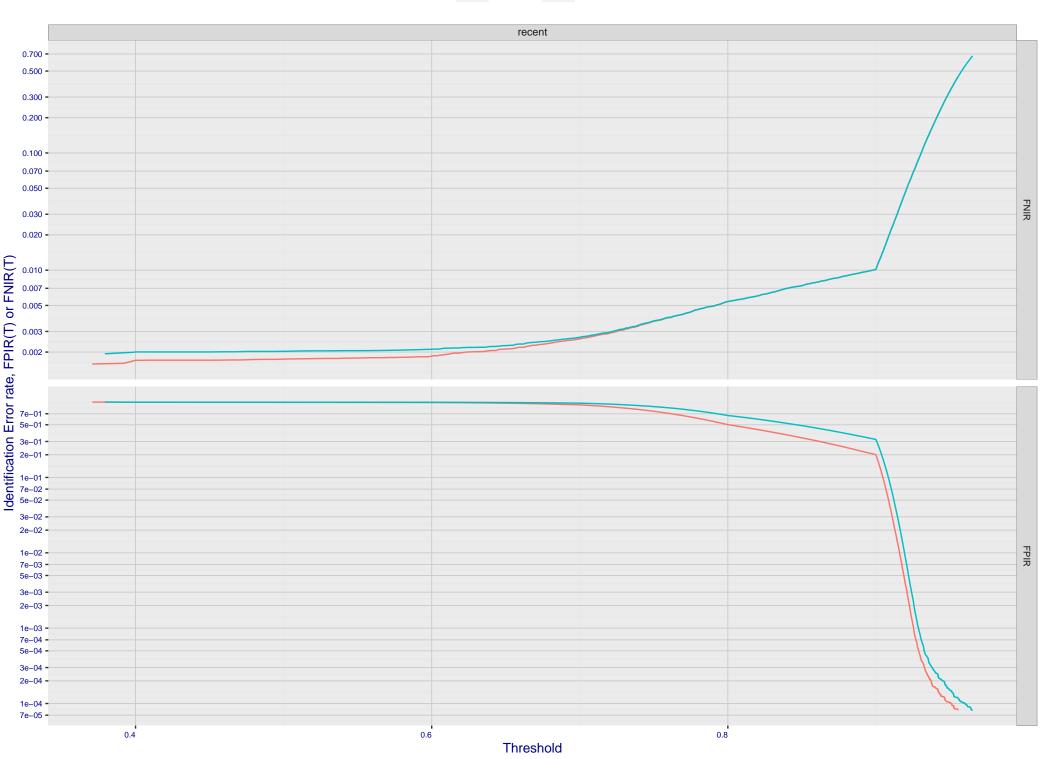
1e+00

1e-03

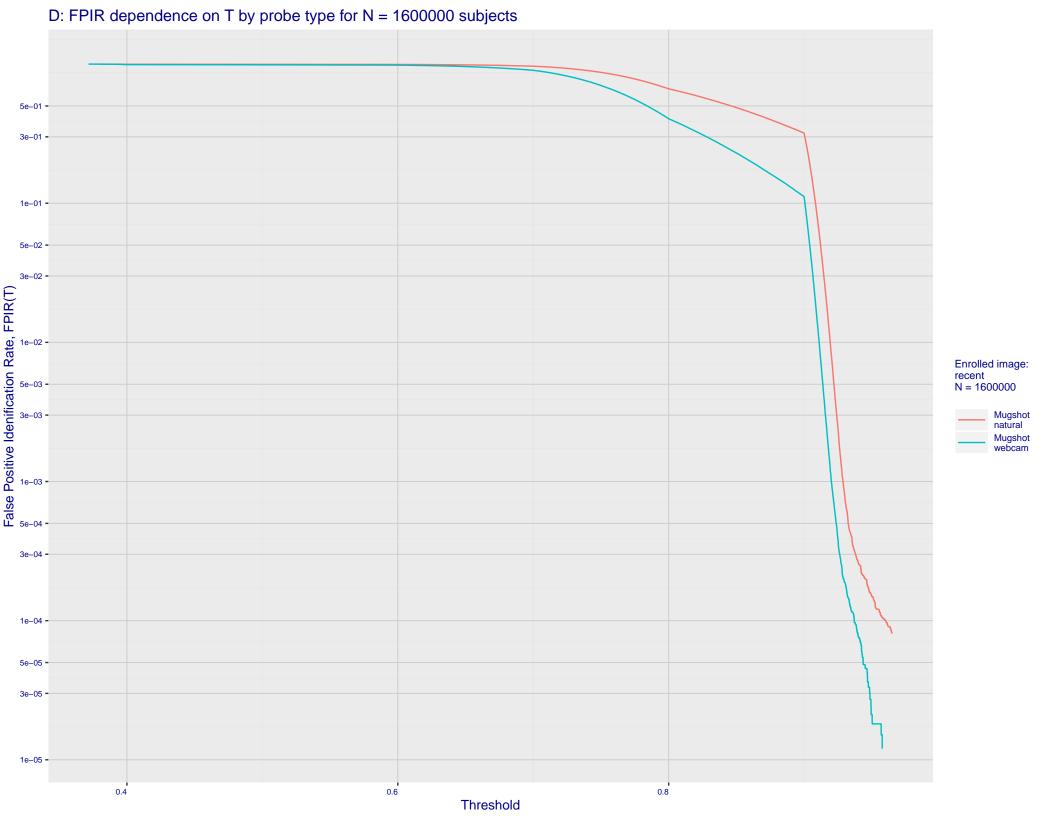
1e-04

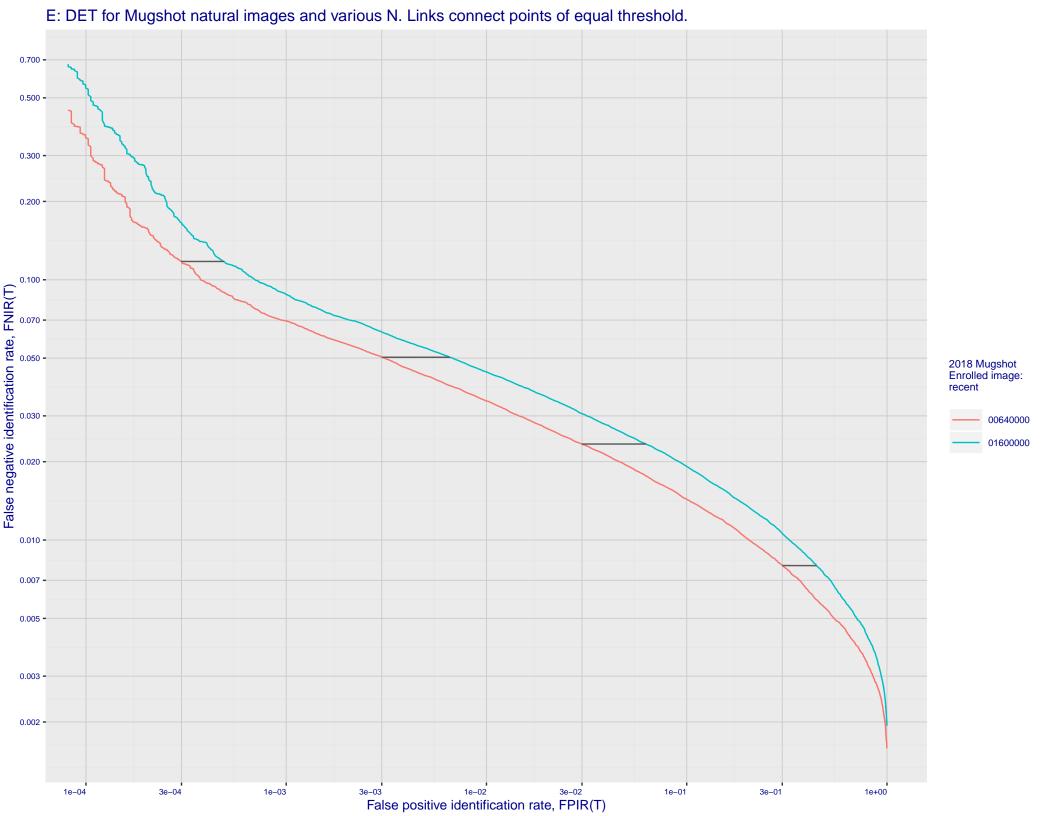
B: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images

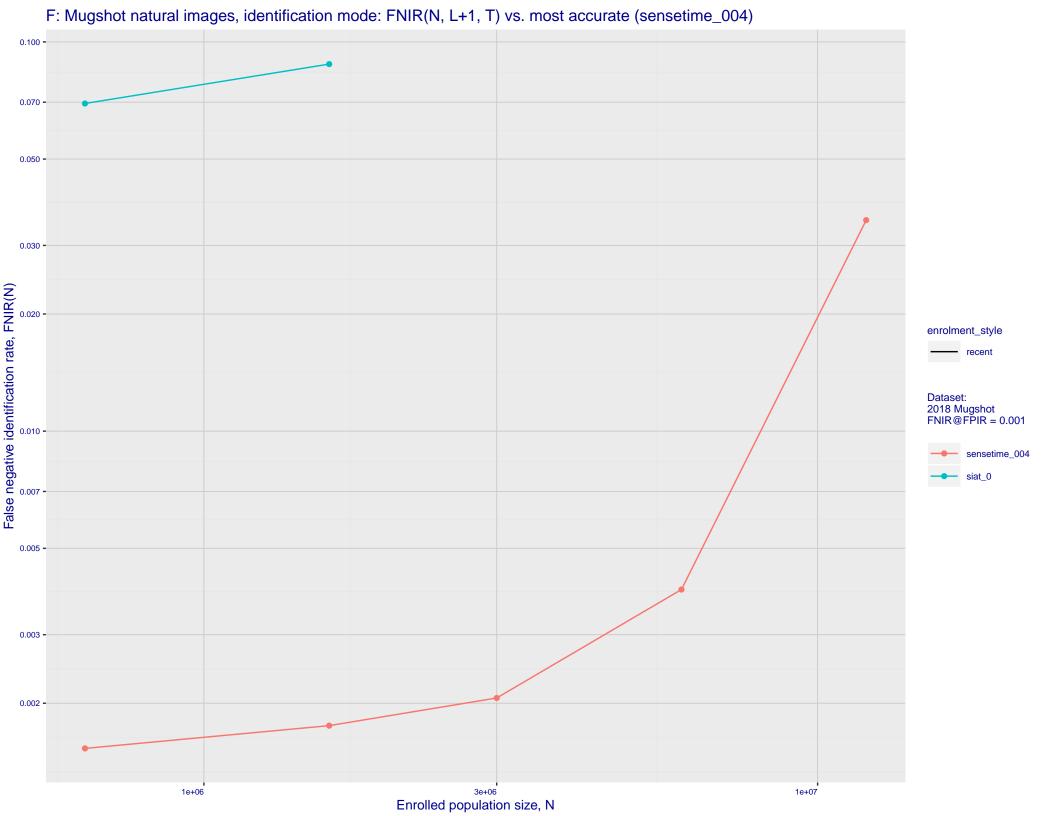




C: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 -5e+01 3e+01 2e+01 -1e+01 -7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -5e-01 -3e-01 -2e-01 -1e-01 -7e-02 - 7e-02 - 7e-03 Enrolled images: recent N = 1600000Mugshot natural Mugshot webcam 7e-03 • 5e-03 -3e-03 -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: siat_0

Developer: Shenzhen Inst Adv Integrated Tech CAS

Submission Date: 2018_02_14

Template size: 1096 bytes

Template time (2.5 percentile): 349 msec

Template time (median): 351 msec

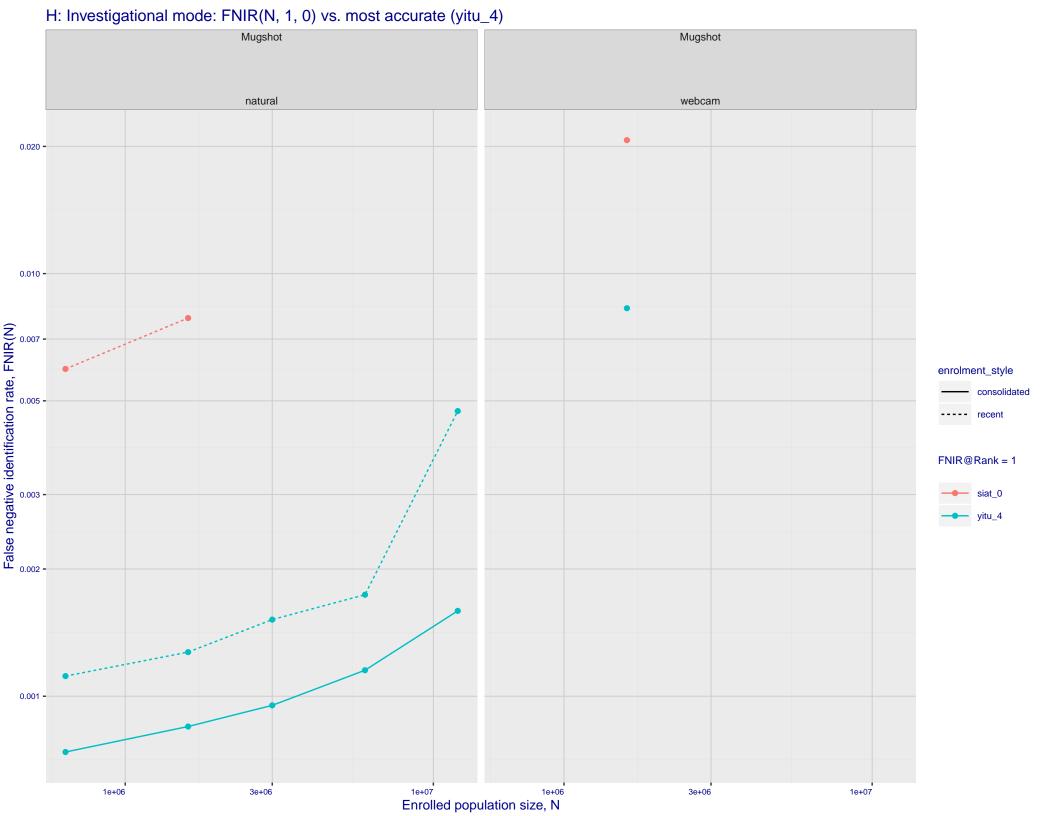
Template time (97.5 percentile): 369 msec

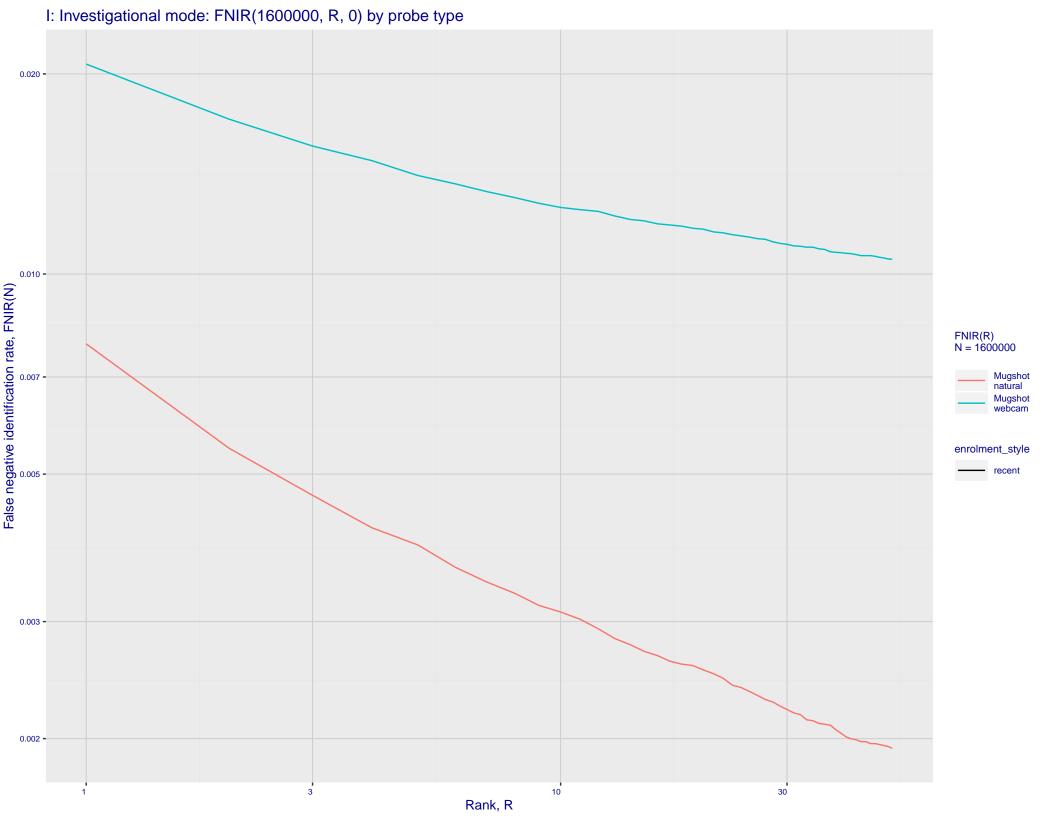
Frontal mugshot investigation rank 95 — FNIR(1600000, 0, 1) = 0.0079 vs. lowest 0.0010 from sensetime_004

natural investigation rank 65 -- FNIR(1600000, 0, 1) = 0.0207 vs. lowest 0.0067 from sensetime_003

Frontal mugshot identification rank 112 -- FNIR(1600000, T, L+1) = 0.0877 vs. lowest 0.0018 from sensetime_004

natural identification rank 59 -- FNIR(1600000, T, L+1) = 0.1073 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 -500

Enrolled population size, N, one image per person

Search Duration (milliseconds)