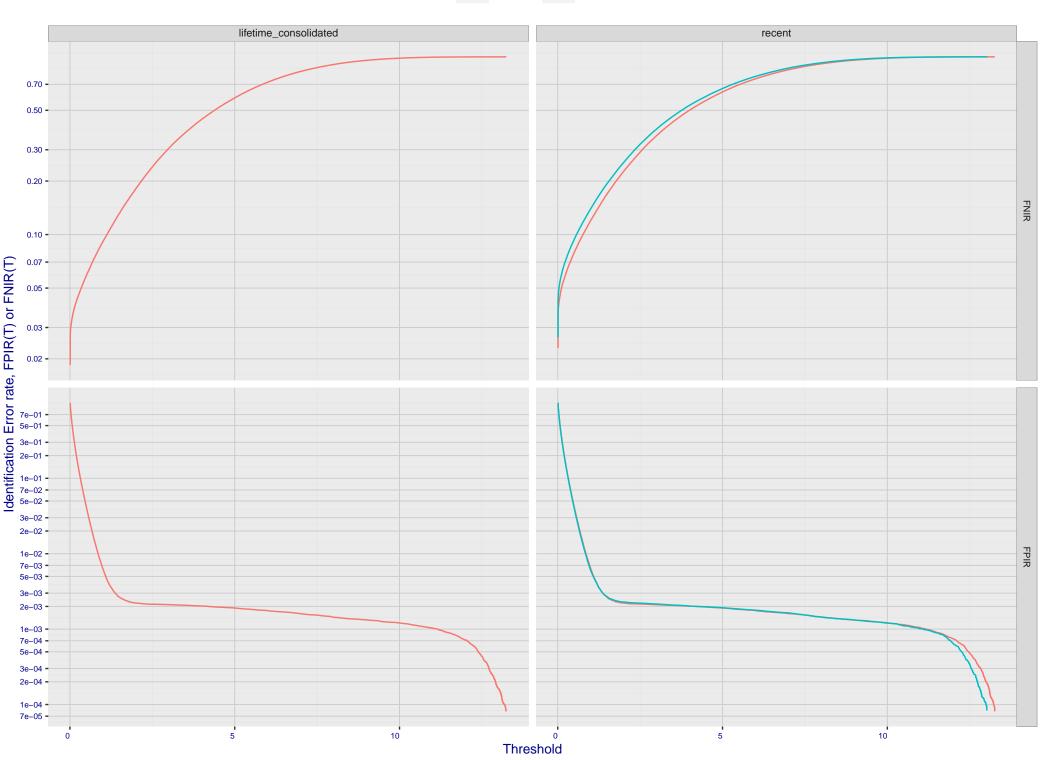
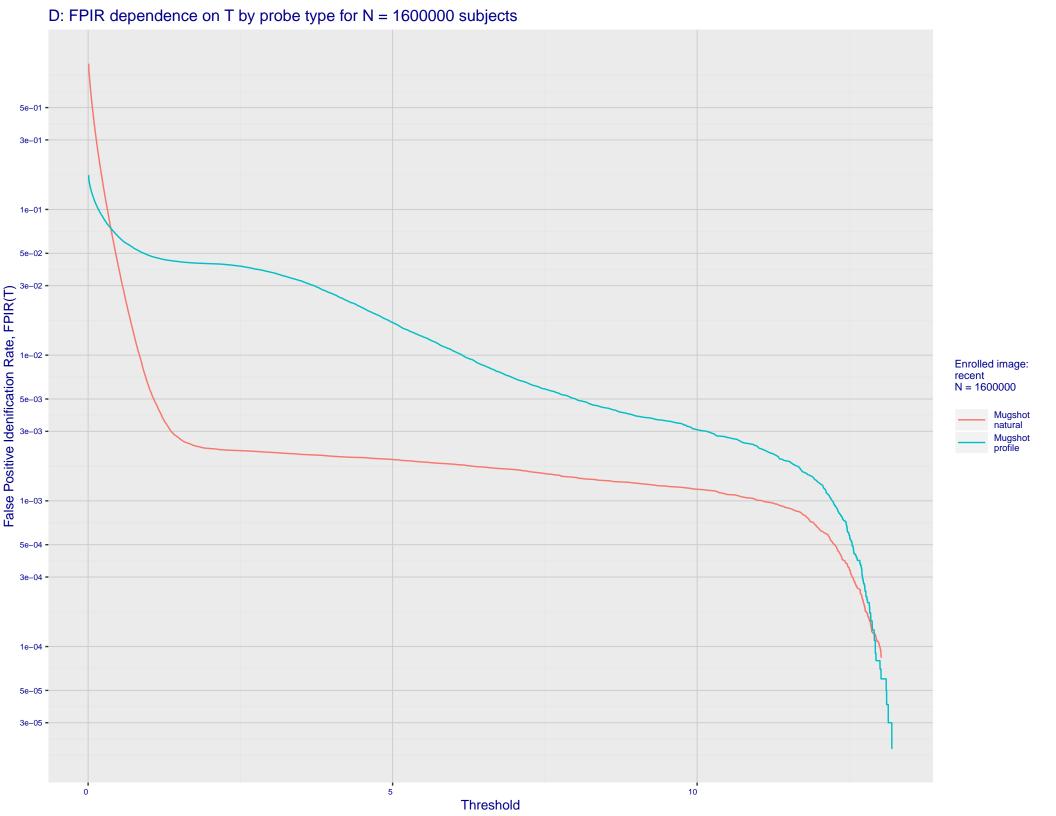
A: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Immigration Immigration Mugshot visa-border visa-kiosk natural 0.70 -0.50 -False negative identification rate, FNIR(T) enrolment_style random-ONE-MATE recent-ONE-MATE 0.07 -0.05 -0.03 -1e-04 3e-04 1e-03 3e-03 1e-02 3e-02 1e-01 3e-01 1e+00 1e-04 3e-04 1e-03 3e-03 1e-02 3e-02 1e-01 3e-01 1e+00 1e-04 3e-04 1e-03 3e-03 1e-02 3e-02 1e-01 3e-01 1e+00 False positive identification rate, FPIR(T)

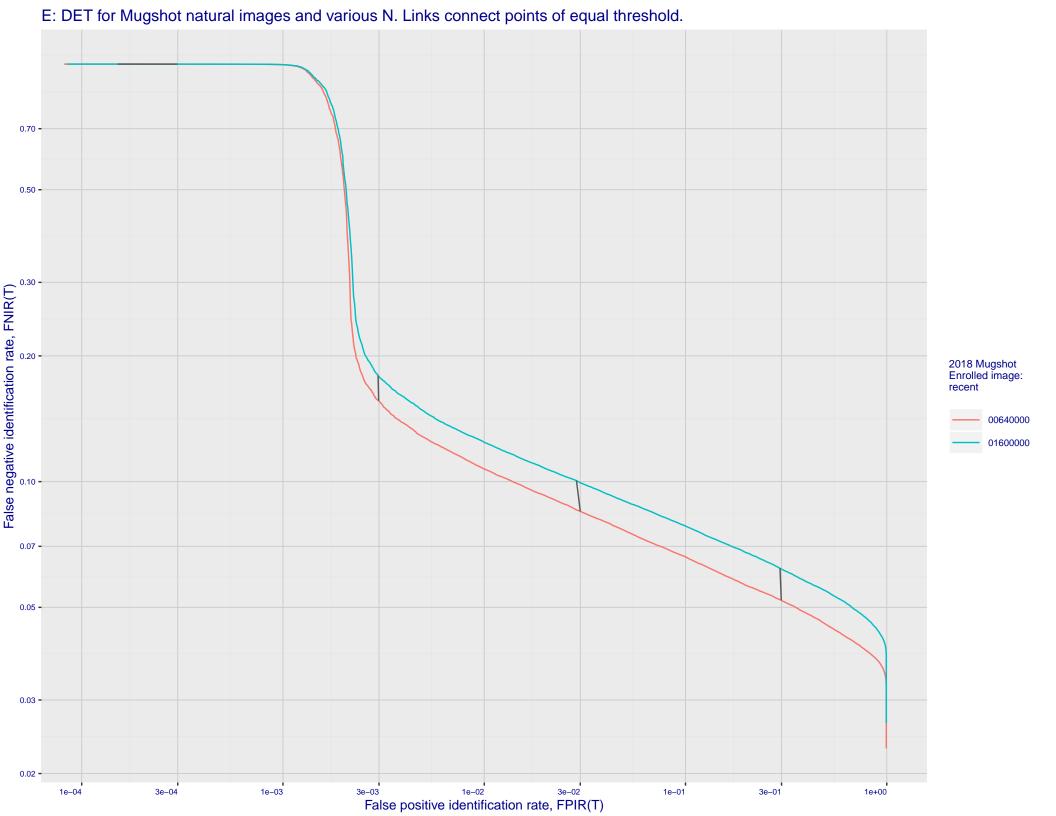
B: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images

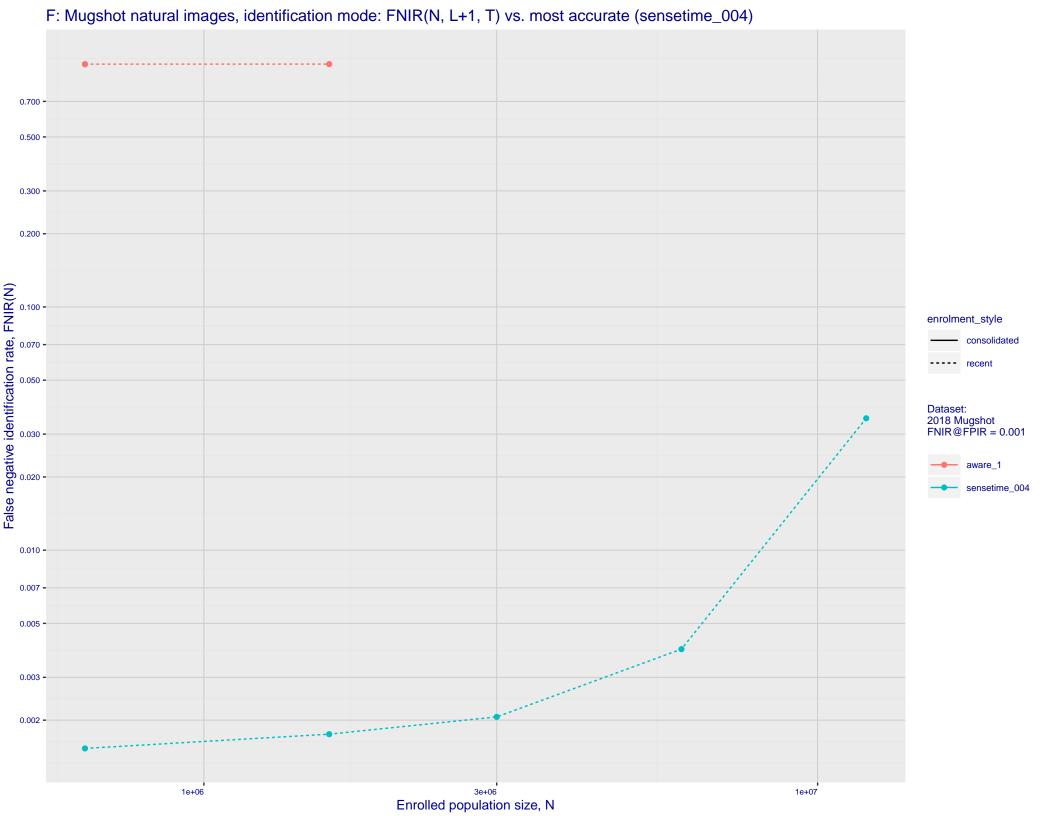




C: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 5e+01 3e+01 2e+01 · 1e+01 -7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -5e-01 -3e-01 -2e-01 -7e-01 - 7e-02 Enrolled images: recent N = 1600000Mugshot natural Mugshot profile 7e-03 -5e-03 -3e-03 -2e-03 -1e-03 • 7e-04 **-**5e-04 -3e-04 2e-04 -1e-04 -7e-05 -5e-05 -3e-05 • 2e-05 1e-05 3e-04 3e-03 1e-01 3e-05 1e-04 3e-01 False Positive Idenification Rate, FPIR(T)

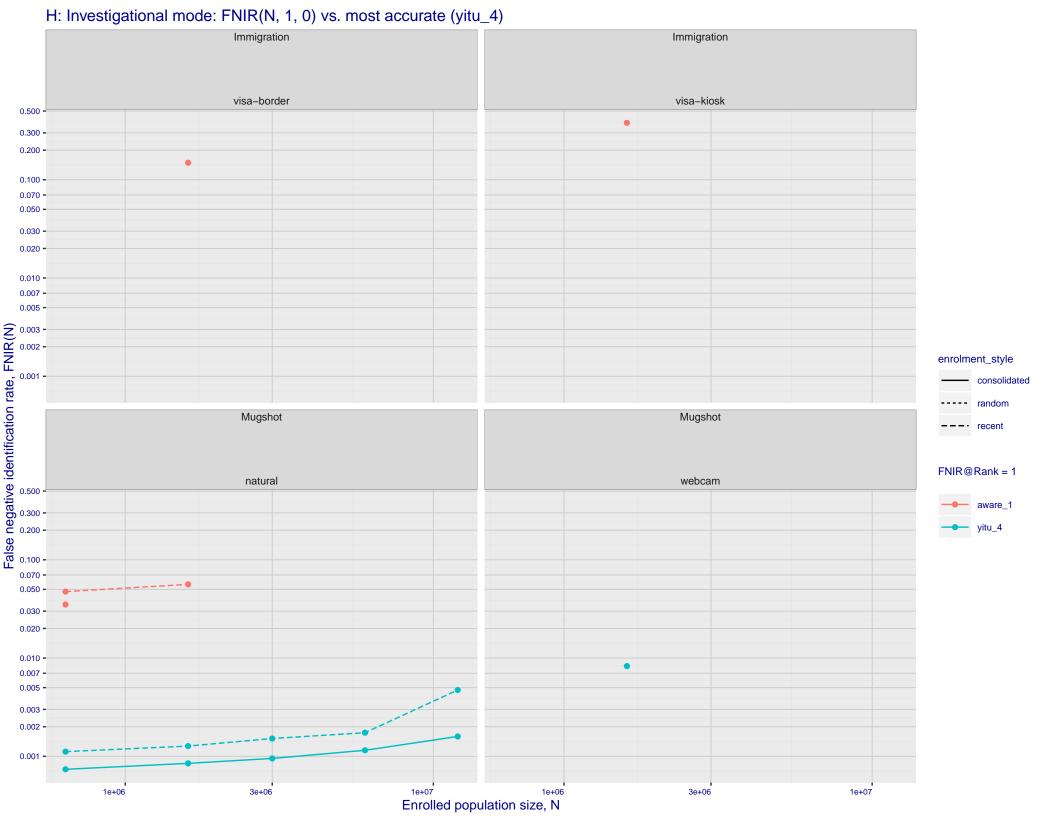


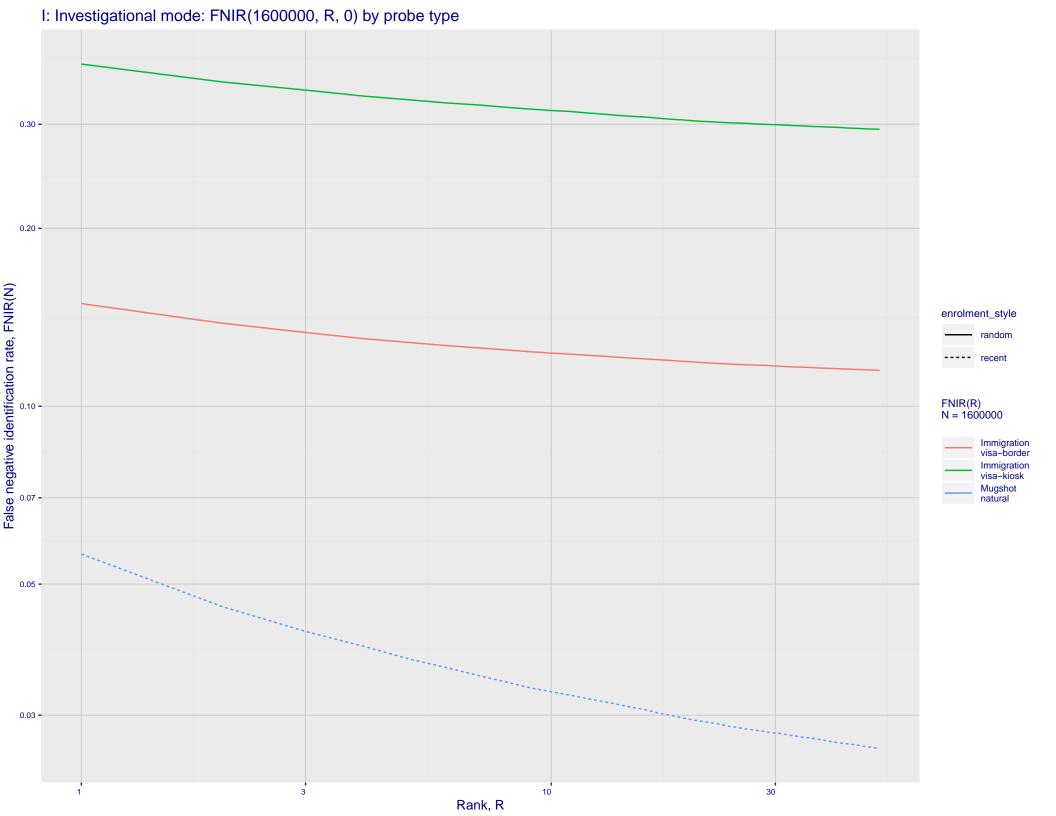




G: Datasheet

Algorithm: aware_1 Developer: Aware Submission Date: 2018_02_16 Template size: 1564 bytes Template time (2.5 percentile): 592 msec Template time (median): 648 msec Template time (97.5 percentile): 726 msec Frontal mugshot investigation rank 192 -- FNIR(1600000, 0, 1) = 0.0562 vs. lowest 0.0010 from sensetime_004 natural investigation rank 315 -- FNIR(1600000, 0, 1) = 0.9693 vs. lowest 0.0492 from paravision_005 natural investigation rank 315 -- FNIR(1600000, 0, 1) = 0.9693 vs. lowest 0.0492 from paravision_005 natural investigation rank 86 -- FNIR(1600000, 0, 1) = 0.1492 vs. lowest 0.0014 from visionlabs_009 natural investigation rank 86 -- FNIR(1600000, 0, 1) = 0.3793 vs. lowest 0.0694 from cib_000 Frontal mugshot identification rank 245 -- FNIR(1600000, T, L+1) = 0.9965 vs. lowest 0.0018 from sensetime_004 natural identification rank 168 -- FNIR(1600000, T, L+1) = 0.9999 vs. lowest 0.1020 from sensetime_004 natural identification rank 85 -- FNIR(1600000, T, L+1) = 0.9044 vs. lowest 0.0059 from sensetime_004 natural identification rank 84 -- FNIR(1600000, T, L+1) = 0.9896 vs. lowest 0.1129 from visionlabs_009





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 700 500 -100 7e+05 8e+05 Enrolled population size, N, one image per person

Search Duration (milliseconds)