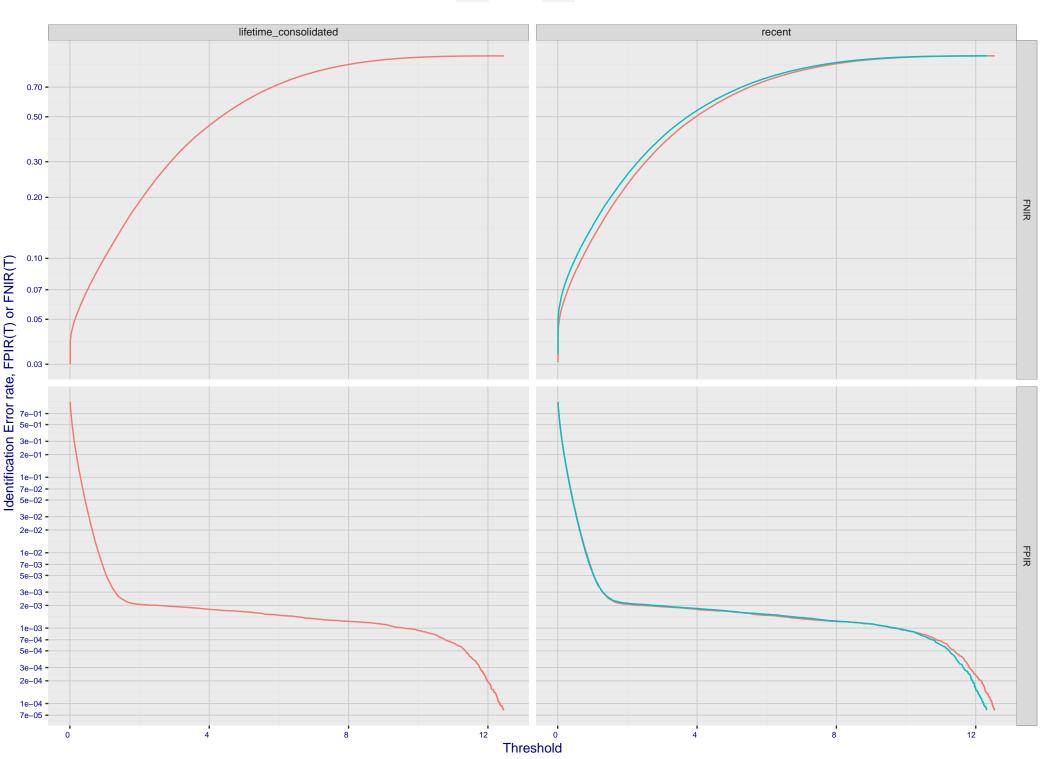
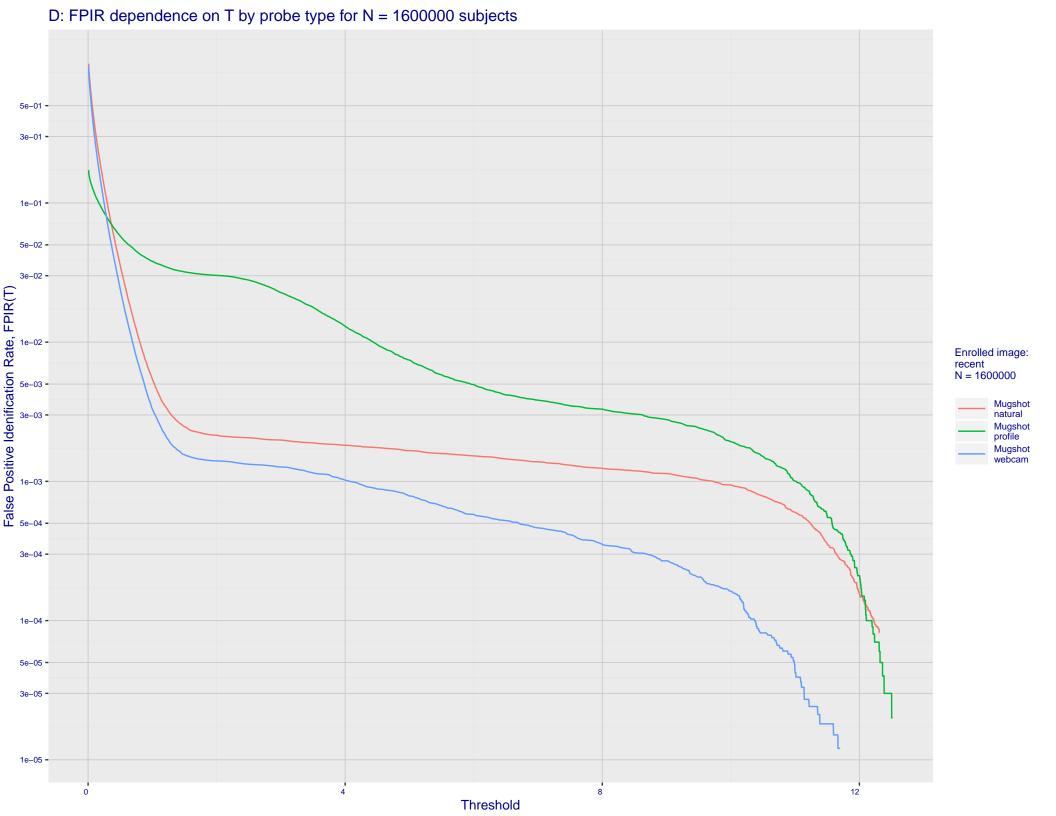
A: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Immigration Immigration Mugshot visa-border visa-kiosk natural 0.70 -0.50 -False negative identification rate, FNIR(T) enrolment_style random-ONE-MATE recent-ONE-MATE 0.07 -0.05 -1e-04 3e-04 1e-03 3e-03 1e-02 3e-02 1e-01 3e-01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

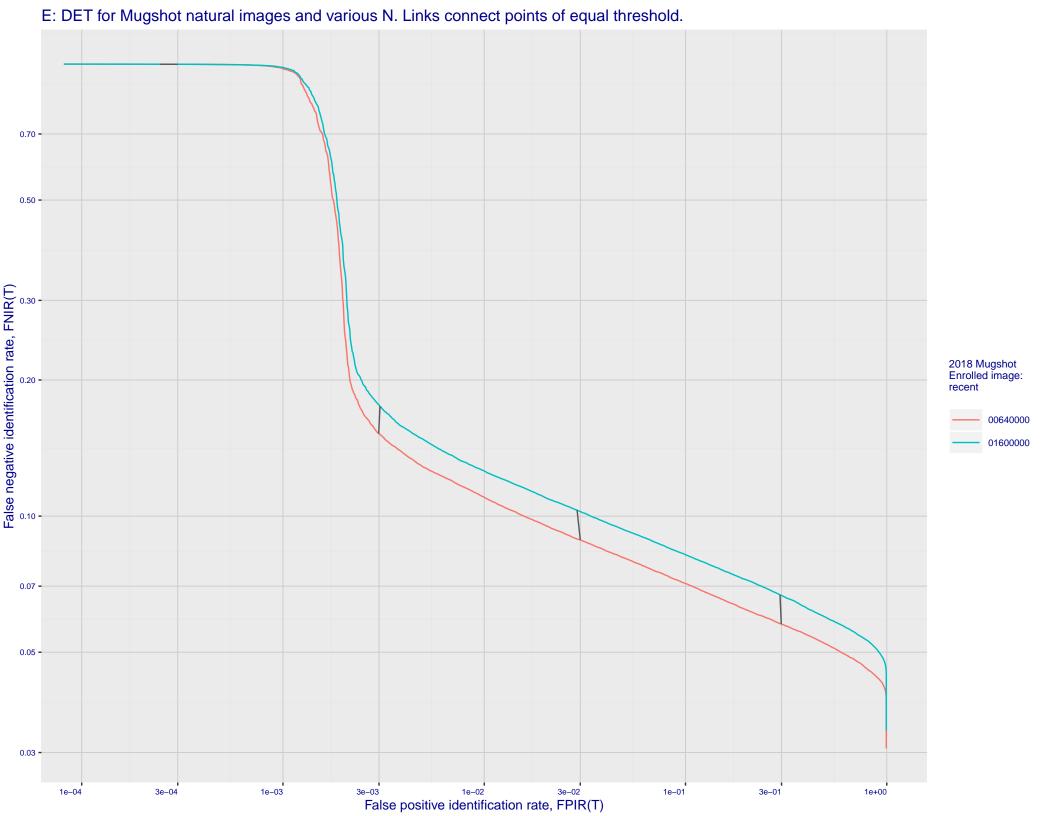
B: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images

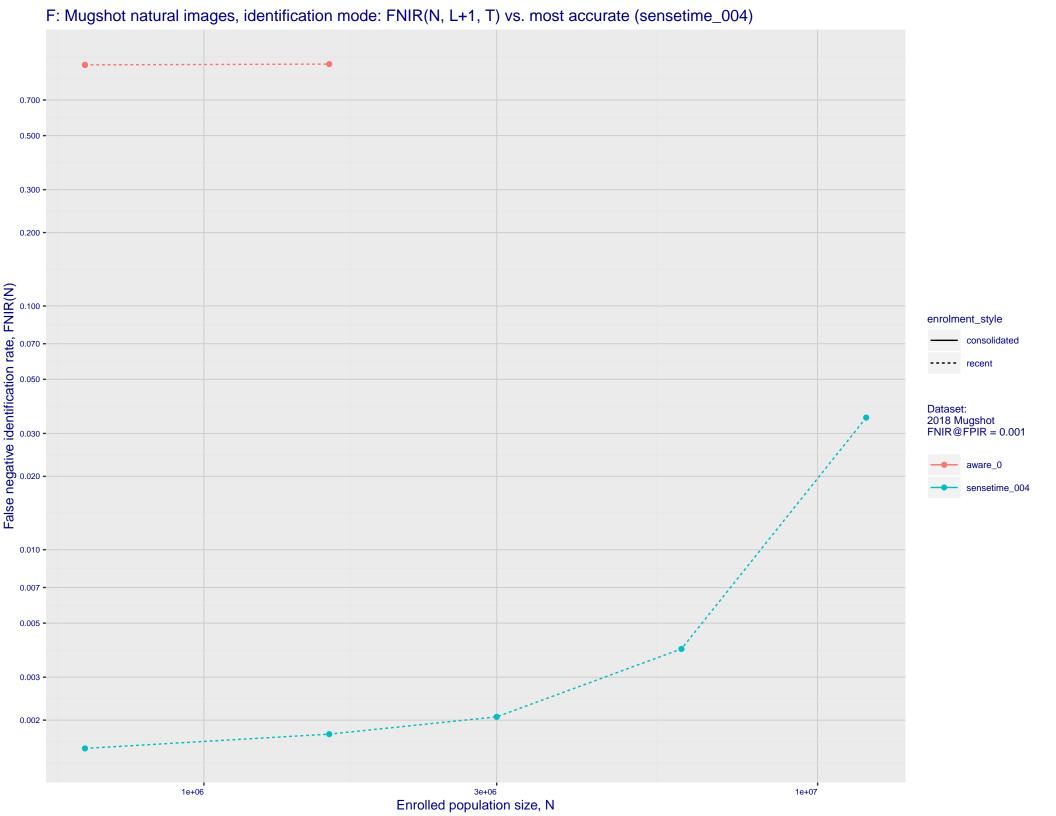




C: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 5e+01 3e+01 2e+01 -1e+01 7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -5e-01 -3e-01 -2e-01 -1e-01 - 7e-02 - 7e-02 - 5e-02 - 7e-02 Enrolled images: recent N = 1600000 Mugshot natural Mugshot profile Mugshot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

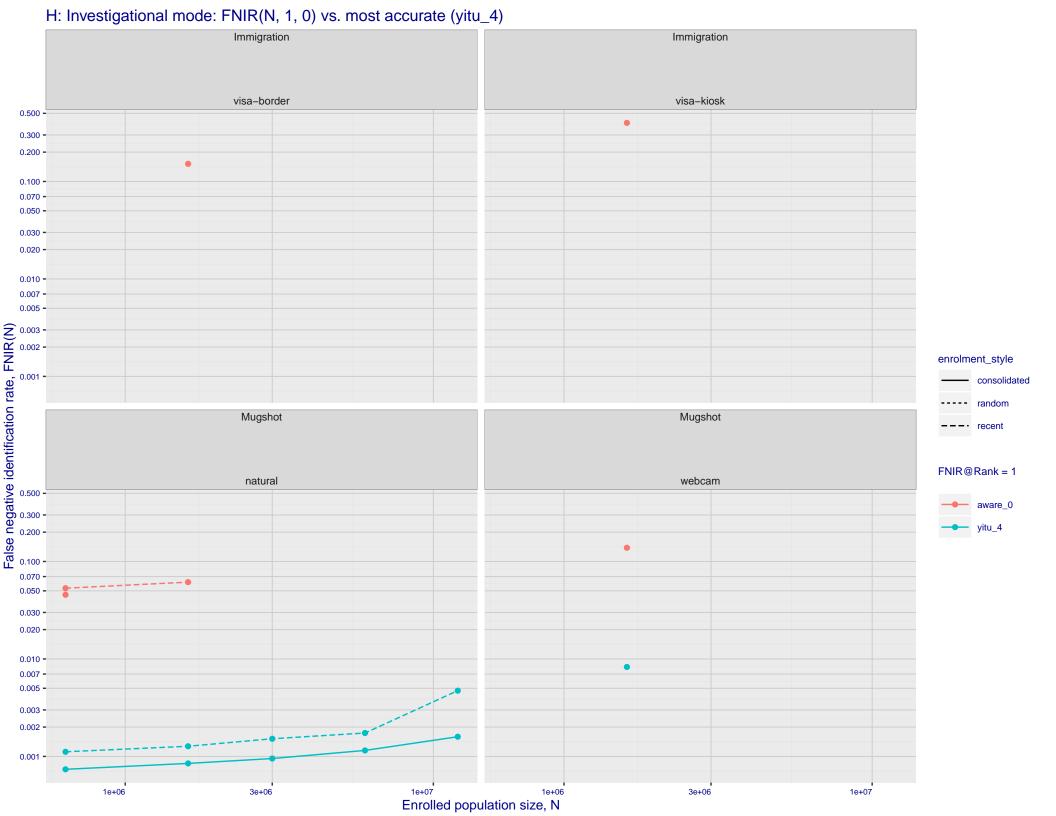


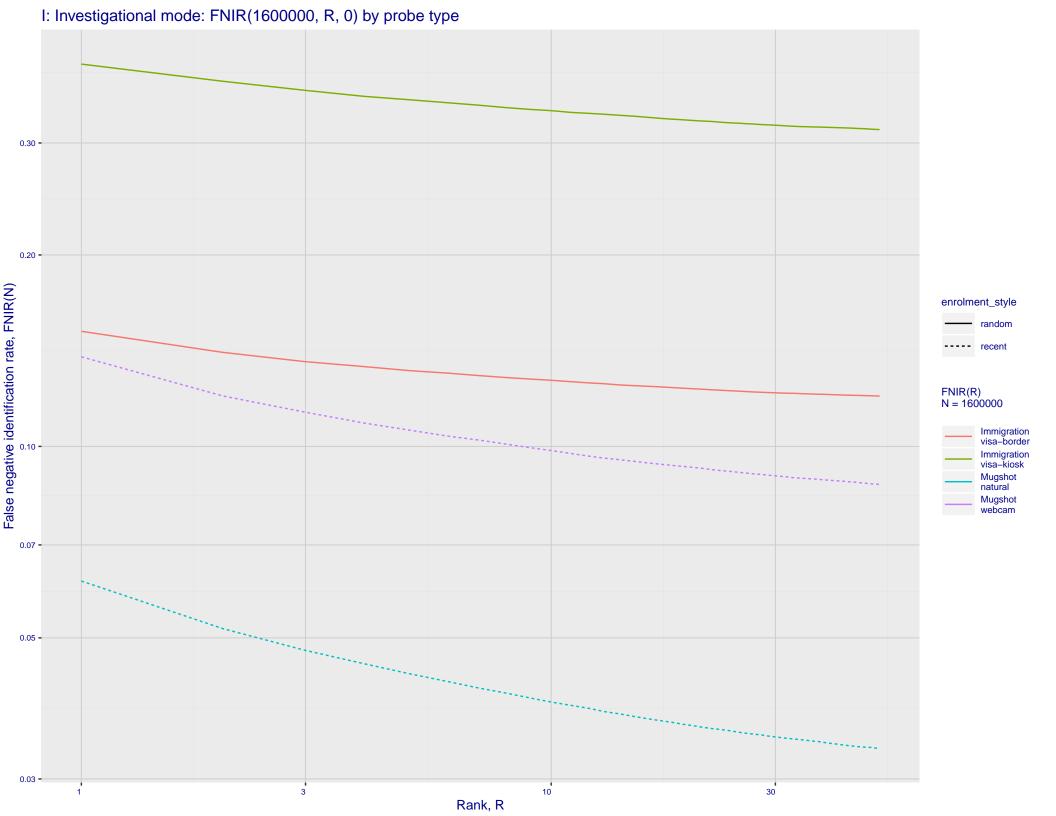




G: Datasheet

Algorithm: aware_0 Developer: Aware Submission Date: 2018_02_16 Template size: 1564 bytes Template time (2.5 percentile): 597 msec Template time (median): 650 msec Template time (97.5 percentile): 723 msec Frontal mugshot investigation rank 195 -- FNIR(1600000, 0, 1) = 0.0614 vs. lowest 0.0010 from sensetime_004 natural investigation rank 171 -- FNIR(1600000, 0, 1) = 0.1383 vs. lowest 0.0067 from sensetime_003 natural investigation rank 321 -- FNIR(1600000, 0, 1) = 0.9713 vs. lowest 0.0492 from paravision_005 natural investigation rank 321 -- FNIR(1600000, 0, 1) = 0.9713 vs. lowest 0.0492 from paravision_005 natural investigation rank 87 -- FNIR(1600000, 0, 1) = 0.1517 vs. lowest 0.0014 from visionlabs_009 natural investigation rank 88 -- FNIR(1600000, 0, 1) = 0.3992 vs. lowest 0.0694 from cib_000 Frontal mugshot identification rank 244 -- FNIR(1600000, T, L+1) = 0.9825 vs. lowest 0.0018 from sensetime_004 natural identification rank 190 -- FNIR(1600000, T, L+1) = 0.8167 vs. lowest 0.0122 from sensetime_003 natural identification rank 164 -- FNIR(1600000, T, L+1) = 0.9999 vs. lowest 0.1020 from sensetime_004 natural identification rank 80 -- FNIR(1600000, T, L+1) = 0.6377 vs. lowest 0.0059 from sensetime_004 natural identification rank 75 -- FNIR(1600000, T, L+1) = 0.9186 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 -200 -100 -7e+05 8e+05 Enrolled population size, N, one image per person

Search Duration (milliseconds)