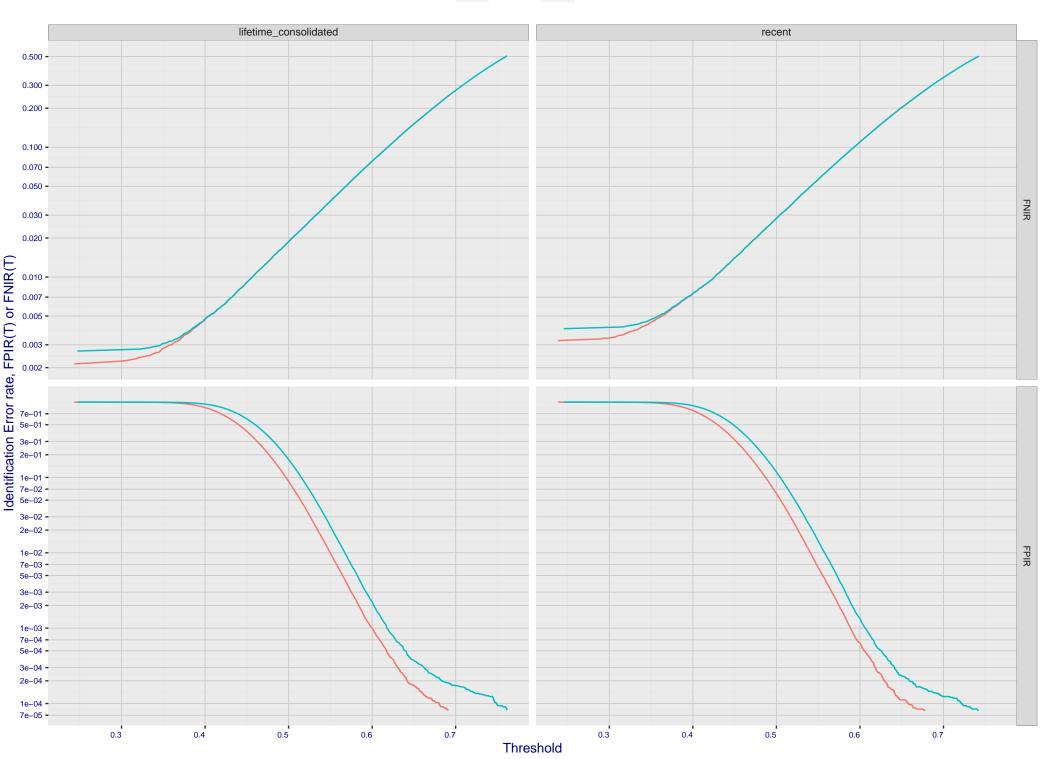
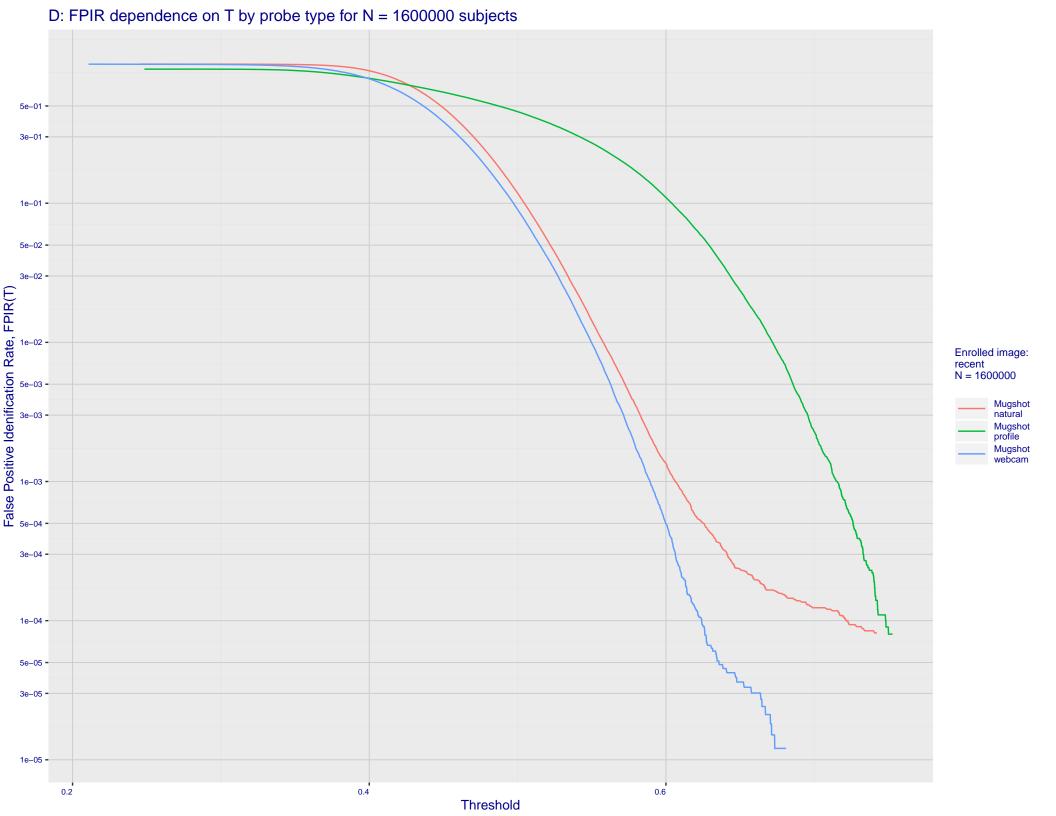
A: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Immigration Immigration Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 False negative identification rate, FNIR(T) enrolment_style consolidated-ONE-MATE random-ONE-MATE recent-ONE-MATE unconsolidated-ALL-MATES unconsolidated-ANY-MATE 0.010 -0.007 -0.005 -0.003 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)

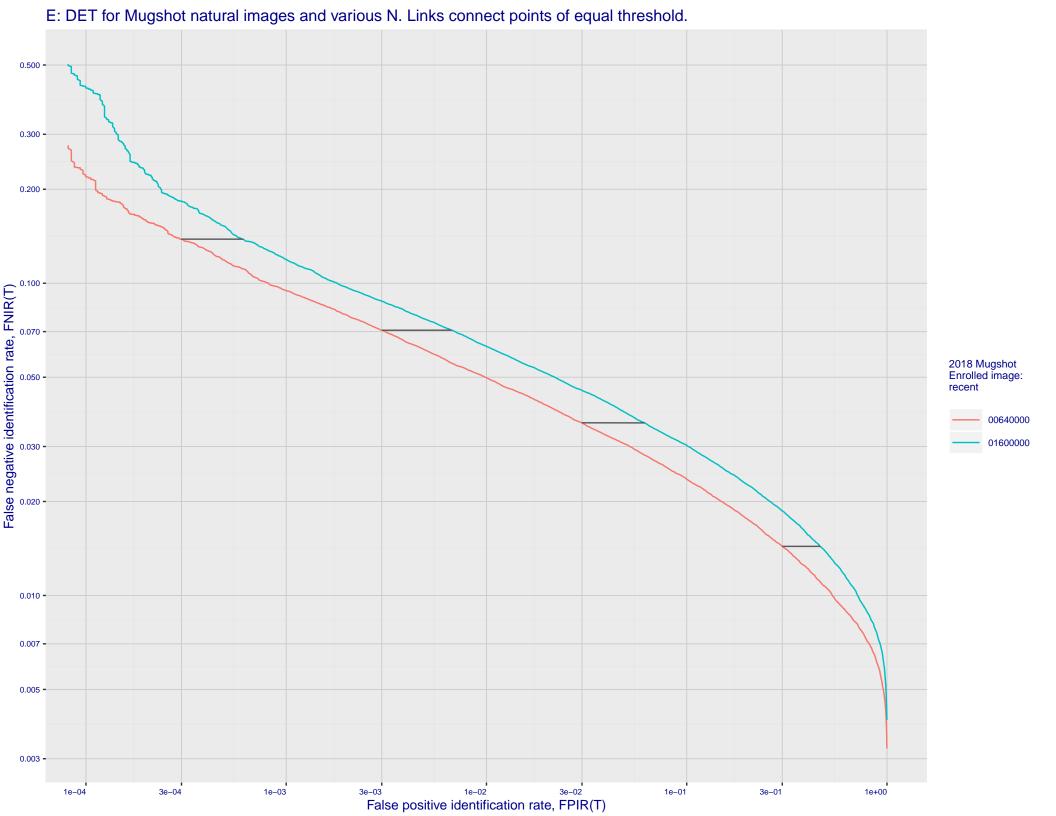
B: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images

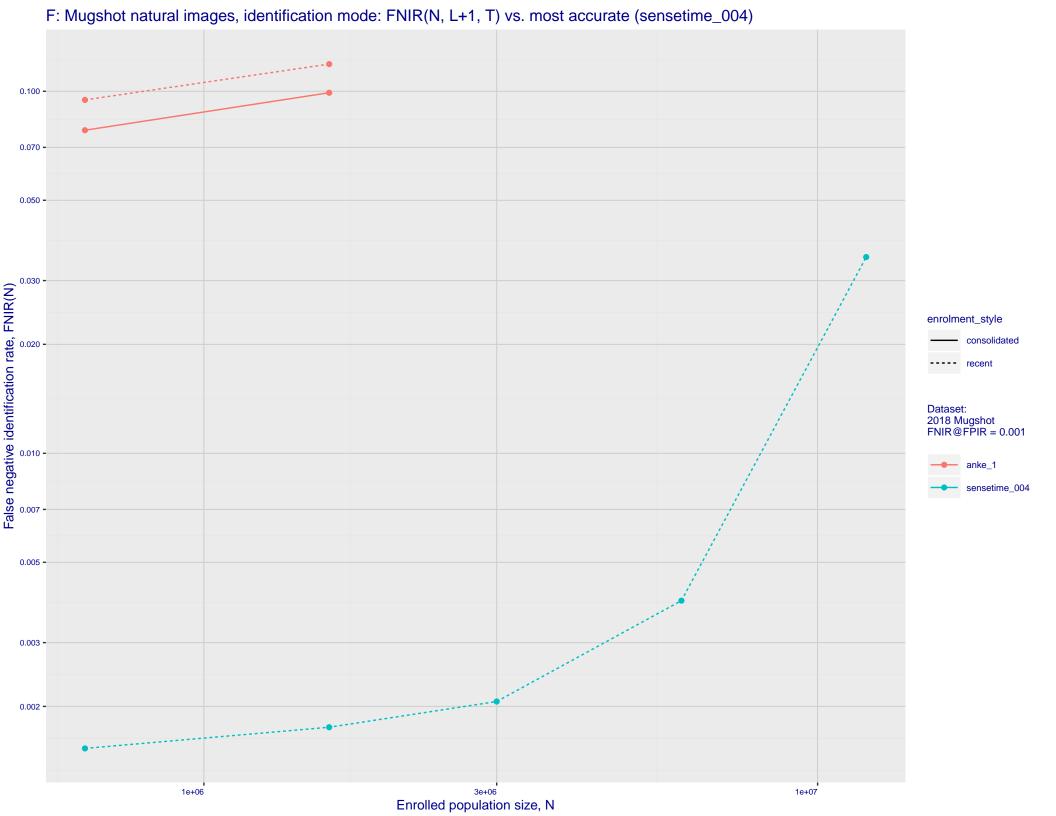




C: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 5e+01 3e+01 2e+01 -1e+01 -7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -5e-01 -3e-01 -2e-01 -1e-01 -Enrolled images: recent N = 1600000 7e-02 - 7e-02 - 7e-03 Mugshot natural Mugshot profile Mugshot webcam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

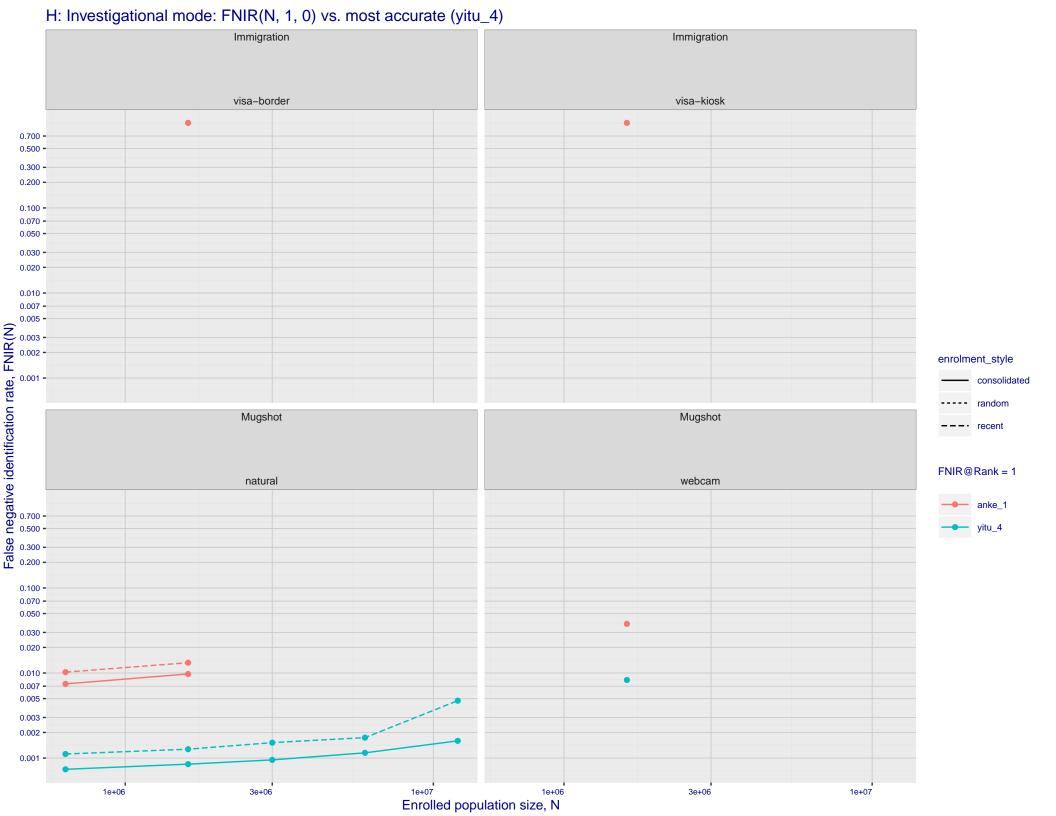


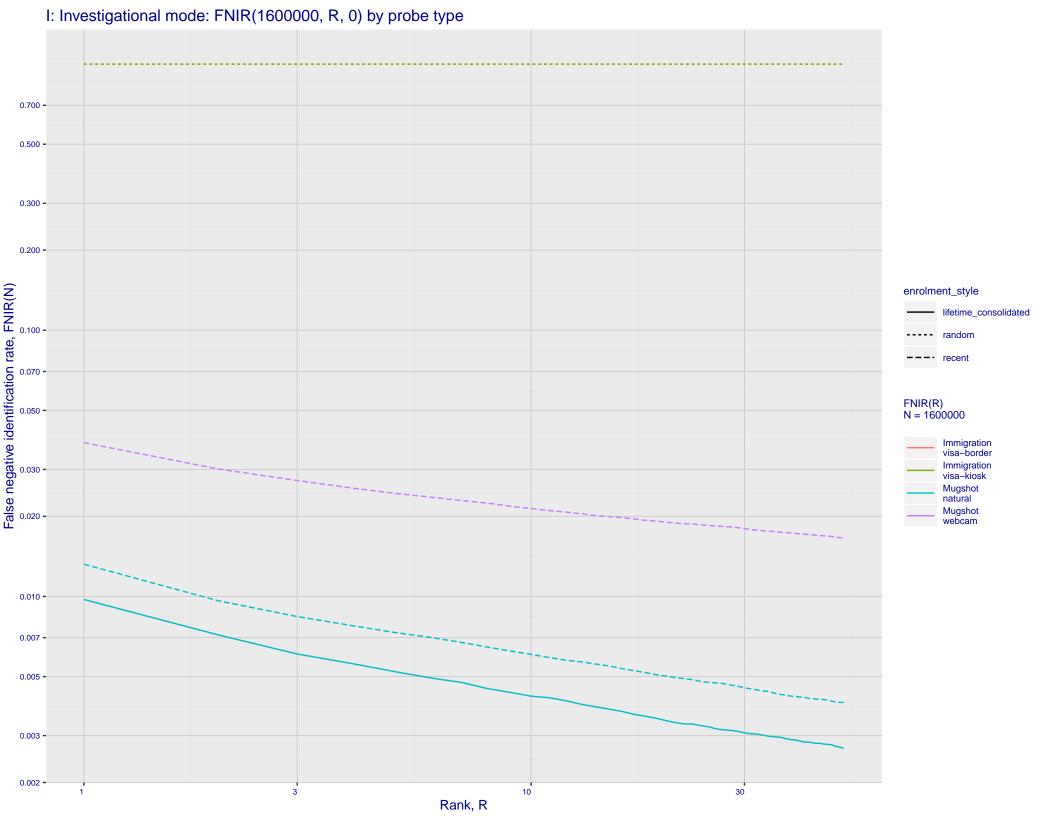




G: Datasheet

Algorithm: anke_1 Developer: Anke Investments Submission Date: 2018_10_30 Template size: 2072 bytes Template time (2.5 percentile): 370 msec Template time (median): 431 msec Template time (97.5 percentile): 507 msec Frontal mugshot investigation rank 134 -- FNIR(1600000, 0, 1) = 0.0132 vs. lowest 0.0010 from sensetime_004 natural investigation rank 110 -- FNIR(1600000, 0, 1) = 0.0378 vs. lowest 0.0067 from sensetime_003 natural investigation rank 234 -- FNIR(1600000, 0, 1) = 0.9183 vs. lowest 0.0492 from paravision_005 natural investigation rank 234 -- FNIR(1600000, 0, 1) = 0.9183 vs. lowest 0.0492 from paravision_005 natural investigation rank 104 -- FNIR(1600000, 0, 1) = 1.0000 vs. lowest 0.0014 from visionlabs_009 natural investigation rank 102 -- FNIR(1600000, 0, 1) = 1.0000 vs. lowest 0.0694 from cib_000 Frontal mugshot identification rank 135 -- FNIR(1600000, T, L+1) = 0.1189 vs. lowest 0.0018 from sensetime_004 natural identification rank 118 -- FNIR(1600000, T, L+1) = 0.2195 vs. lowest 0.0122 from sensetime_003 natural identification rank 92 -- FNIR(1600000, T, L+1) = 0.9925 vs. lowest 0.1020 from sensetime_004 natural identification rank 99 -- FNIR(1600000, T, L+1) = 1.0000 vs. lowest 0.0059 from sensetime_004 natural identification rank 95 -- FNIR(1600000, T, L+1) = 1.0000 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

