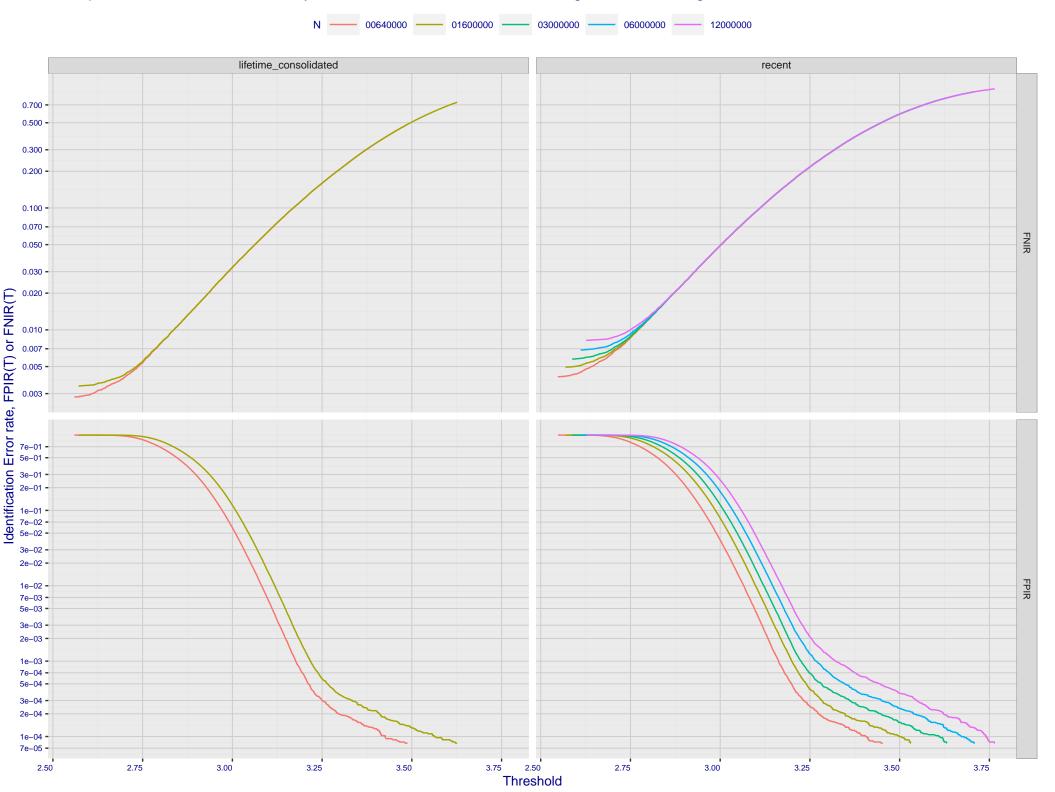
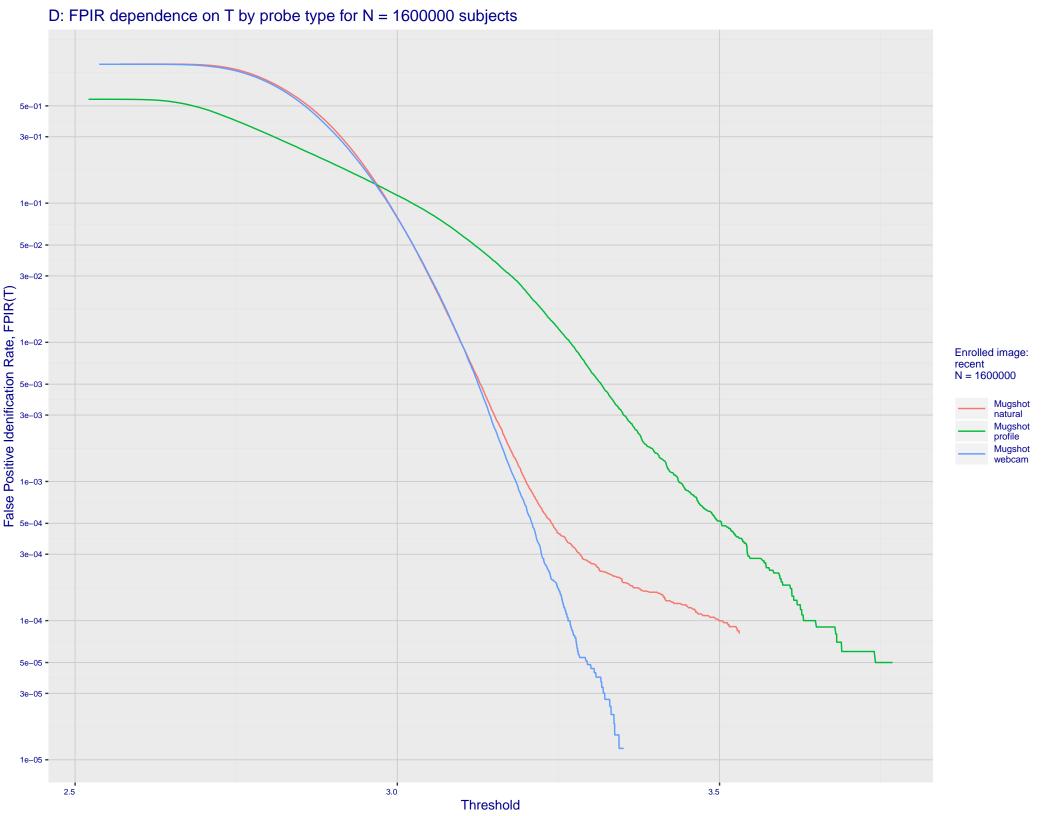
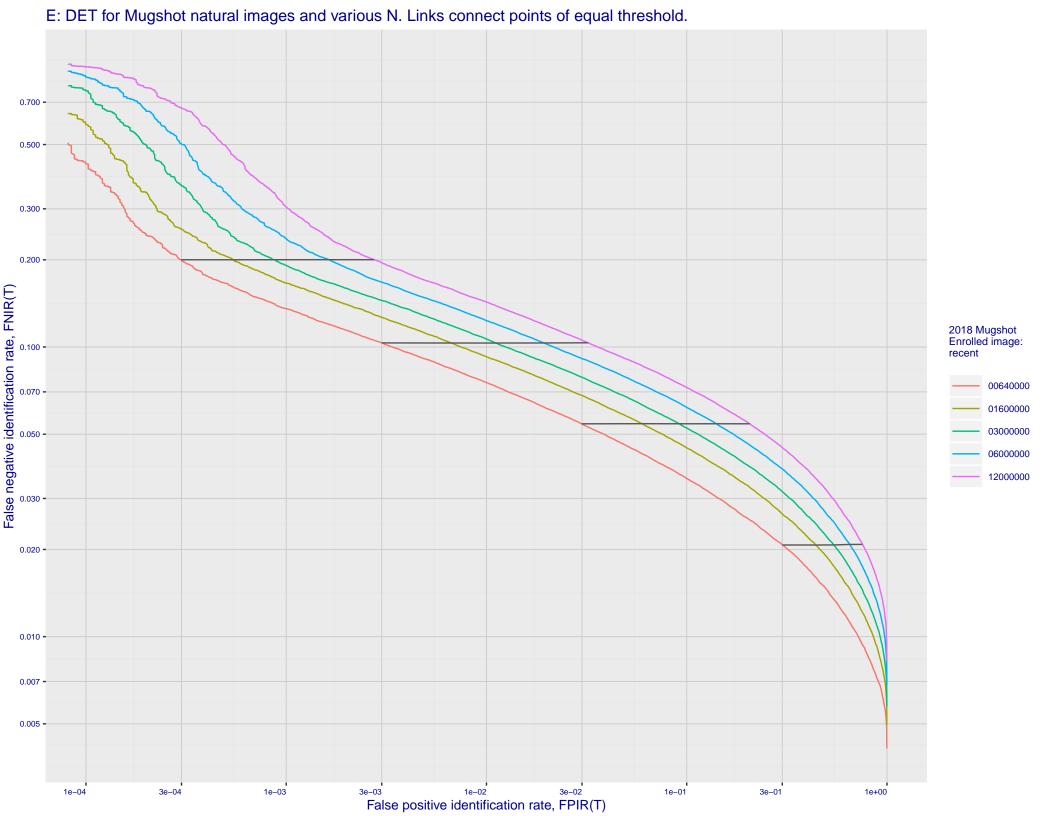
A: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Immigration Immigration Mugshot visa-border visa-kiosk natural 0.700 -0.500 0.300 -0.200 -False negative identification rate, FNIR(T) enrolment_style consolidated-ONE-MATE random-ONE-MATE recent-ONE-MATE unconsolidated-ALL-MATES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

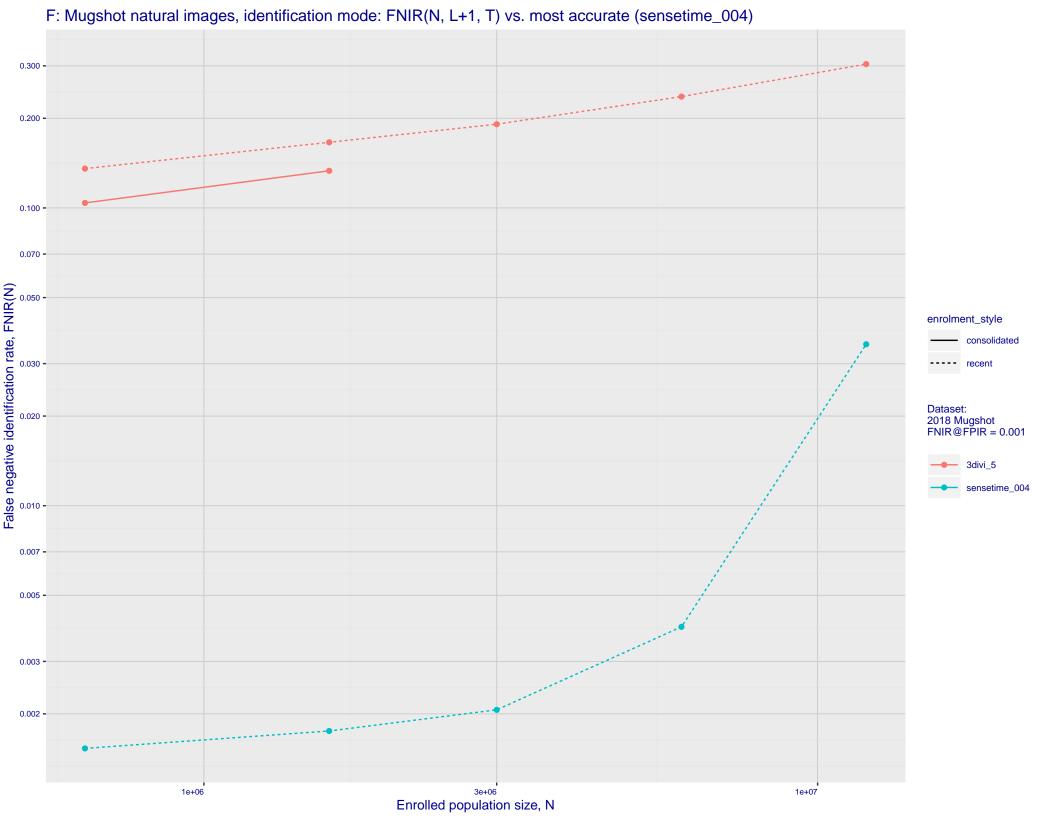
B: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images



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 -5e-02 -7e-02 -3e-02 -1e-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)

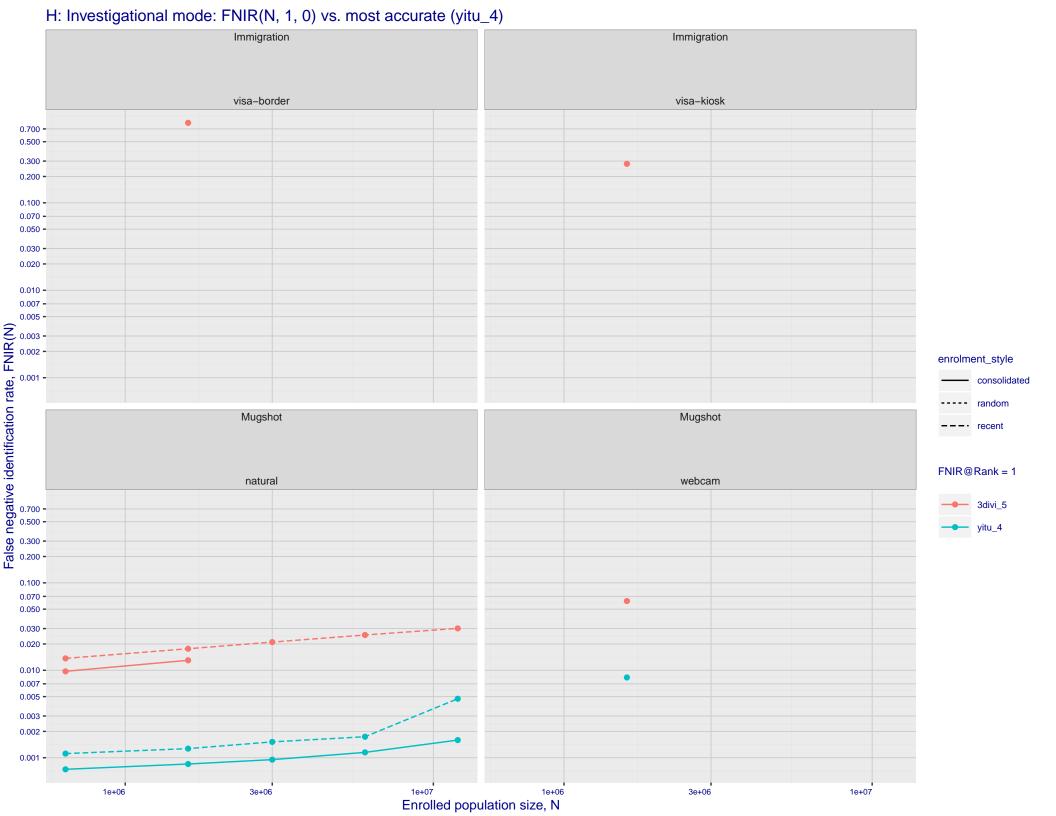


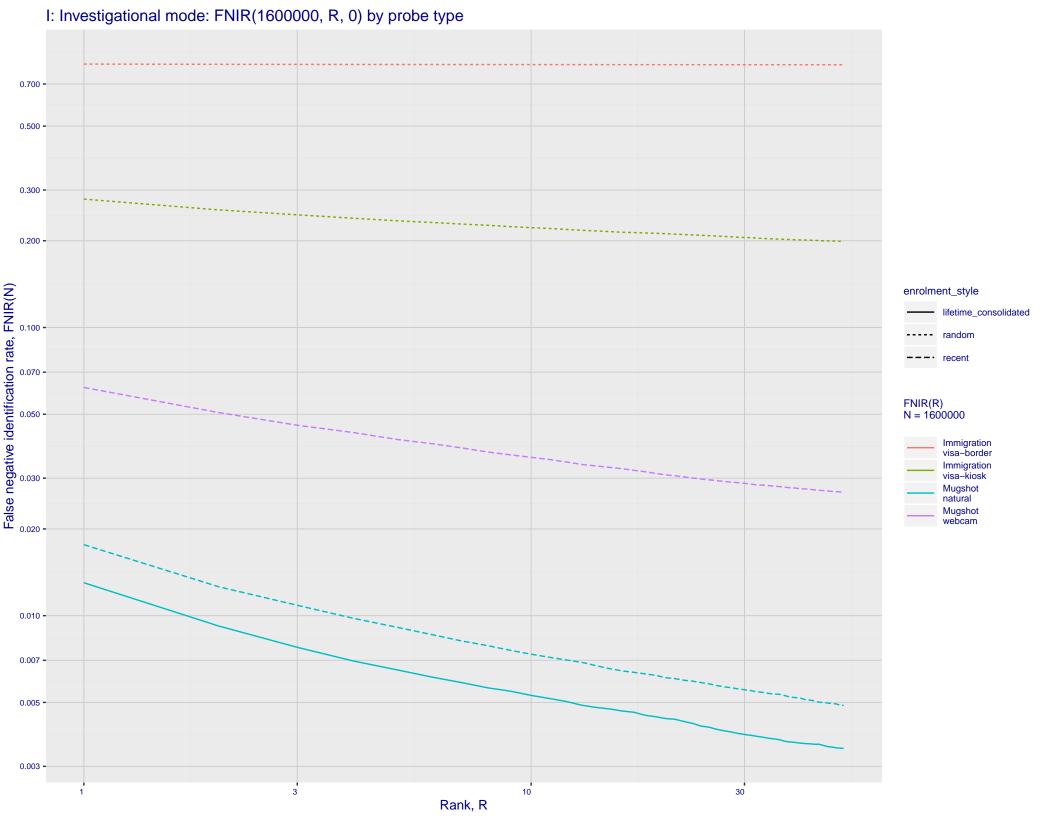




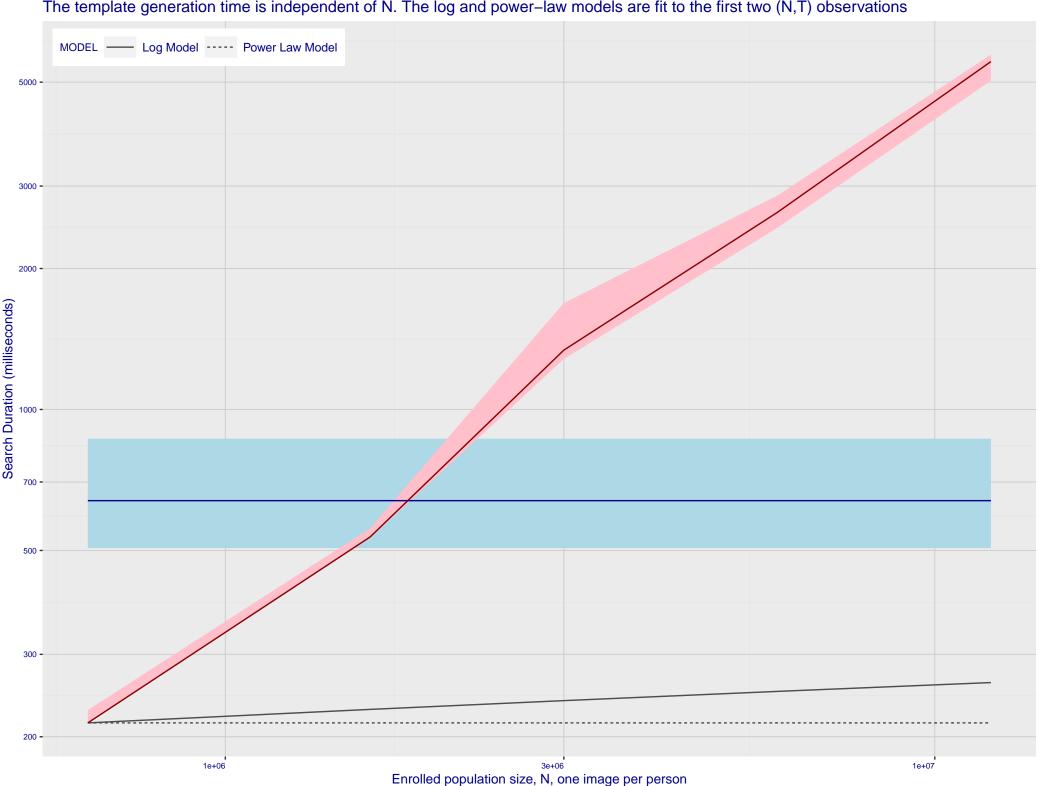
G: Datasheet

Algorithm: 3divi_5 Developer: 3Divi Submission Date: 2018_10_26 Template size: 4096 bytes Template time (2.5 percentile): 506 msec Template time (median): 639 msec Template time (97.5 percentile): 866 msec Frontal mugshot investigation rank 145 — FNIR(1600000, 0, 1) = 0.0176 vs. lowest 0.0010 from sensetime_004 natural investigation rank 144 -- FNIR(1600000, 0, 1) = 0.0619 vs. lowest 0.0067 from sensetime_003 natural investigation rank 214 -- FNIR(1600000, 0, 1) = 0.8815 vs. lowest 0.0492 from paravision_005 natural investigation rank 214 -- FNIR(1600000, 0, 1) = 0.8815 vs. lowest 0.0492 from paravision_005 natural investigation rank 99 -- FNIR(1600000, 0, 1) = 0.8207 vs. lowest 0.0014 from visionlabs_009 natural investigation rank 77 -- FNIR(1600000, 0, 1) = 0.2790 vs. lowest 0.0694 from cib_000 Frontal mugshot identification rank 152 -- FNIR(1600000, T, L+1) = 0.1661 vs. lowest 0.0018 from sensetime_004 natural identification rank 151 -- FNIR(1600000, T, L+1) = 0.3392 vs. lowest 0.0122 from sensetime_003 natural identification rank 99 -- FNIR(1600000, T, L+1) = 0.9945 vs. lowest 0.1020 from sensetime_004 natural identification rank 84 -- FNIR(1600000, T, L+1) = 0.8646 vs. lowest 0.0059 from sensetime_004 natural identification rank 56 -- FNIR(1600000, T, L+1) = 0.6000 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



M: Identification FNIR(N, T, L+1) and Investigational FNIR(N, 0, R) under ageing

