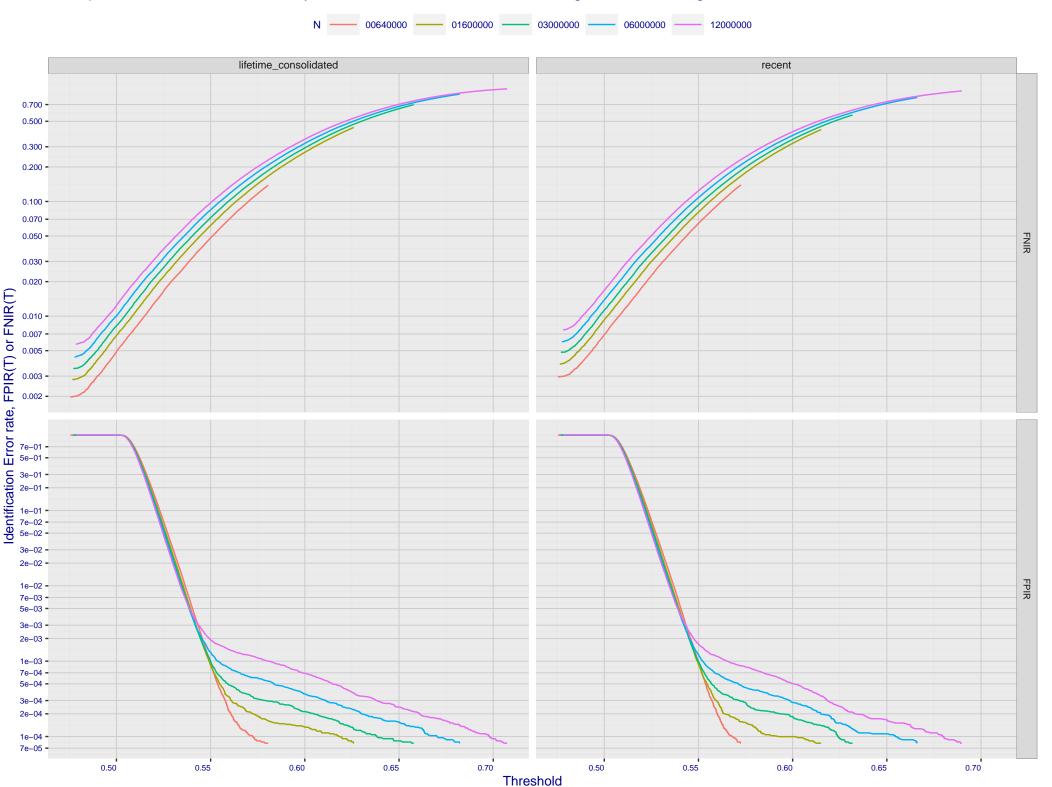
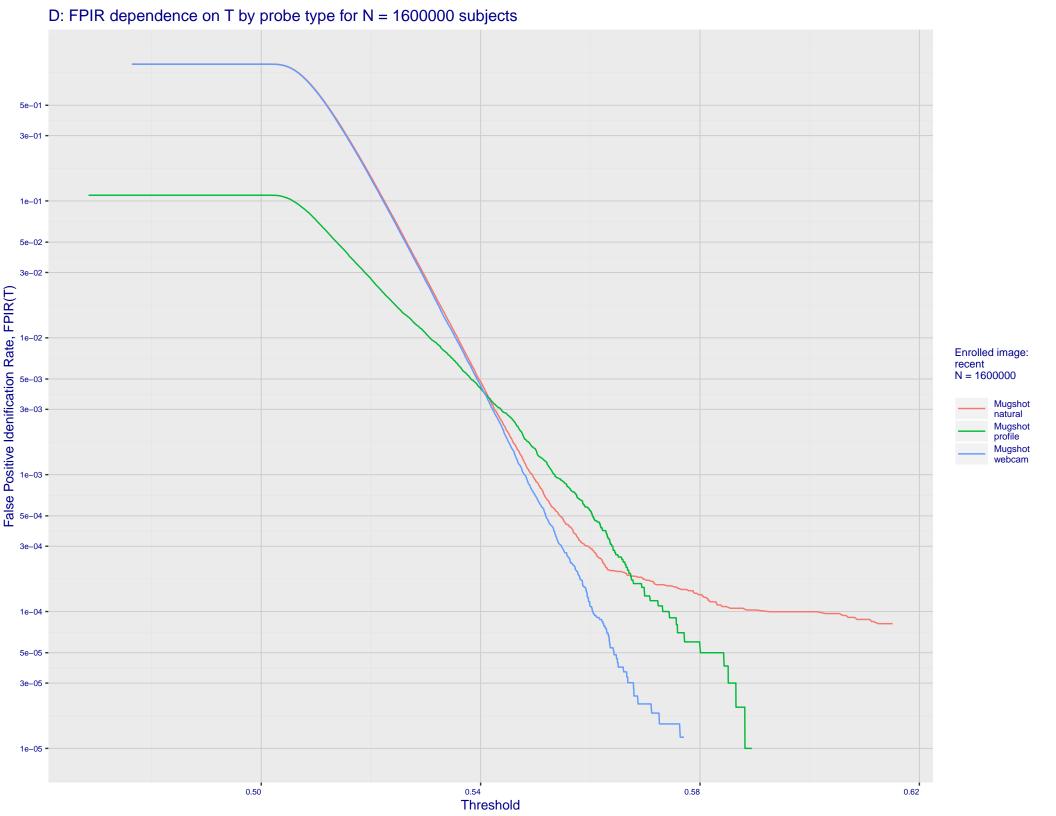
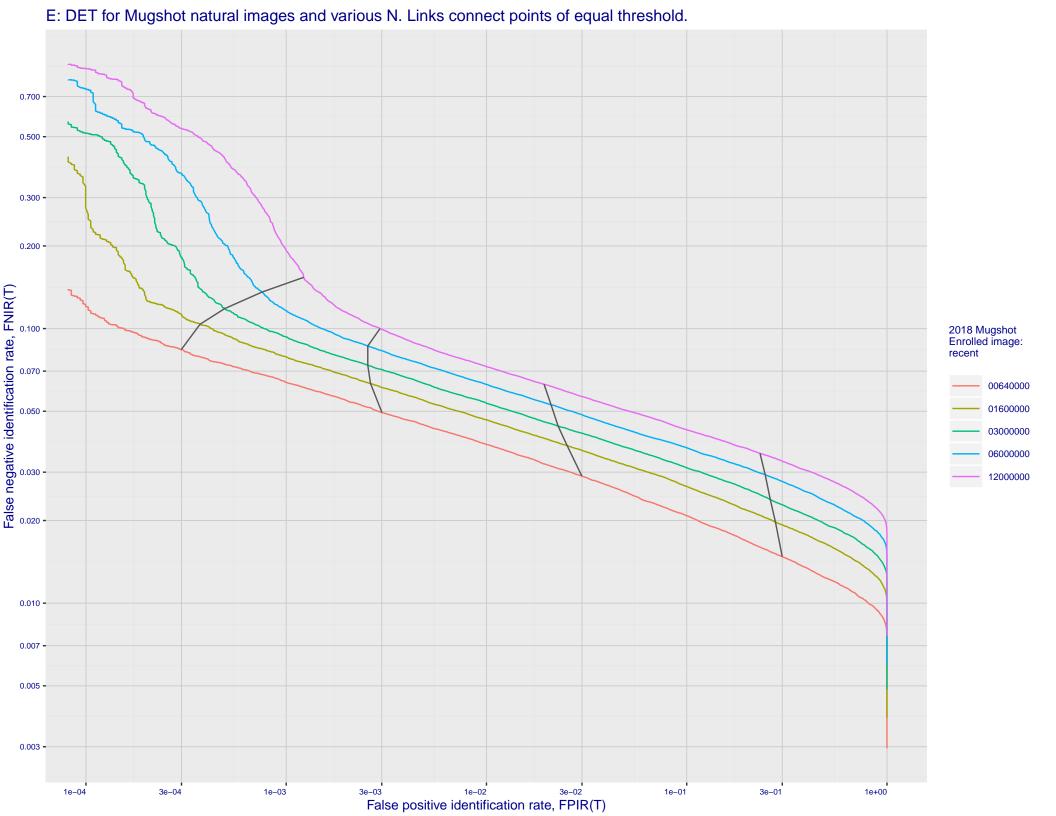
A: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Immigration Immigration Mugshot visa-kiosk visa-border natural 0.700 -0.500 -0.300 -0.200 -False negative identification rate, FNIR(T) enrolment_style consolidated-ONE-MATE random-ONE-MATE recent-ONE-MATE 0.010 -0.007 0.005 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 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 1e-04 3e-04 1e-03 3e-03 1e-02 3e-02 1e-01 3e-01 1e-01 1e-01 3e-01 1e-01 False positive identification rate, FPIR(T)

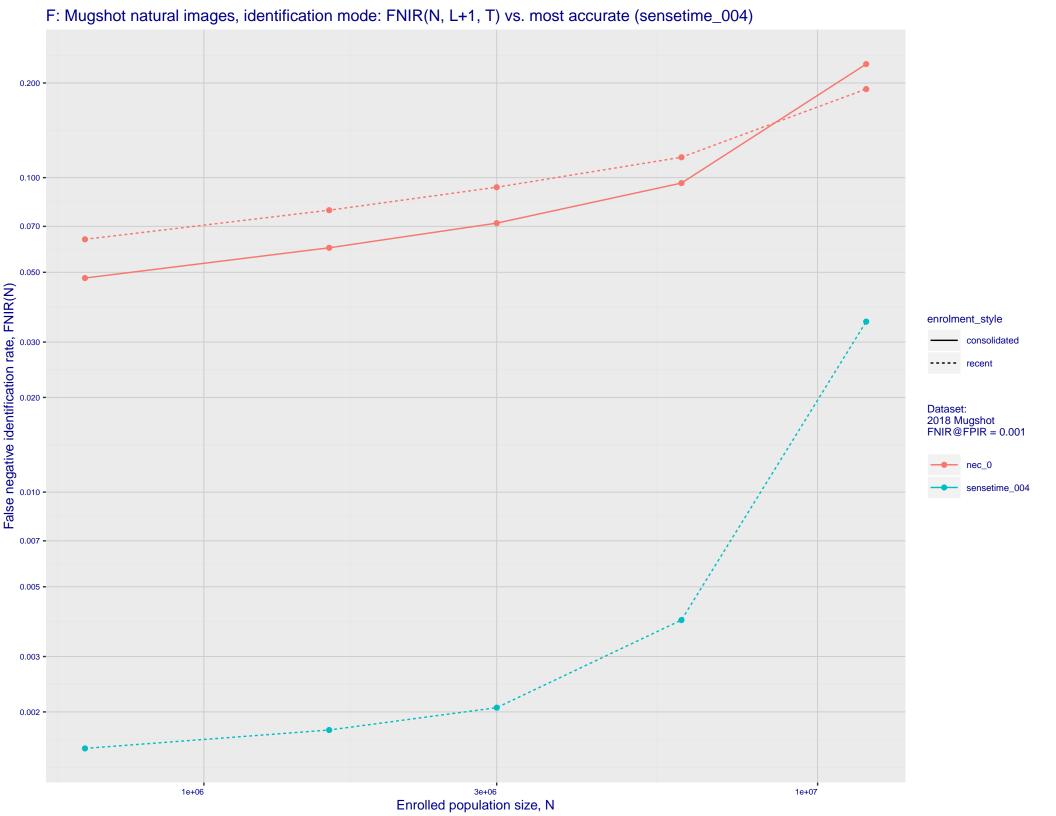
B: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images



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 5e-02 S 3e-02 S 3e-02 1e-02 7e-03 -Enrolled images: recent N = 1600000 Mugshot natural Mugshot profile Mugshot webcam 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-03 1e-05 3e-05 1e-04 3e-04 1e-01 3e-01 False Positive Idenification Rate, FPIR(T)

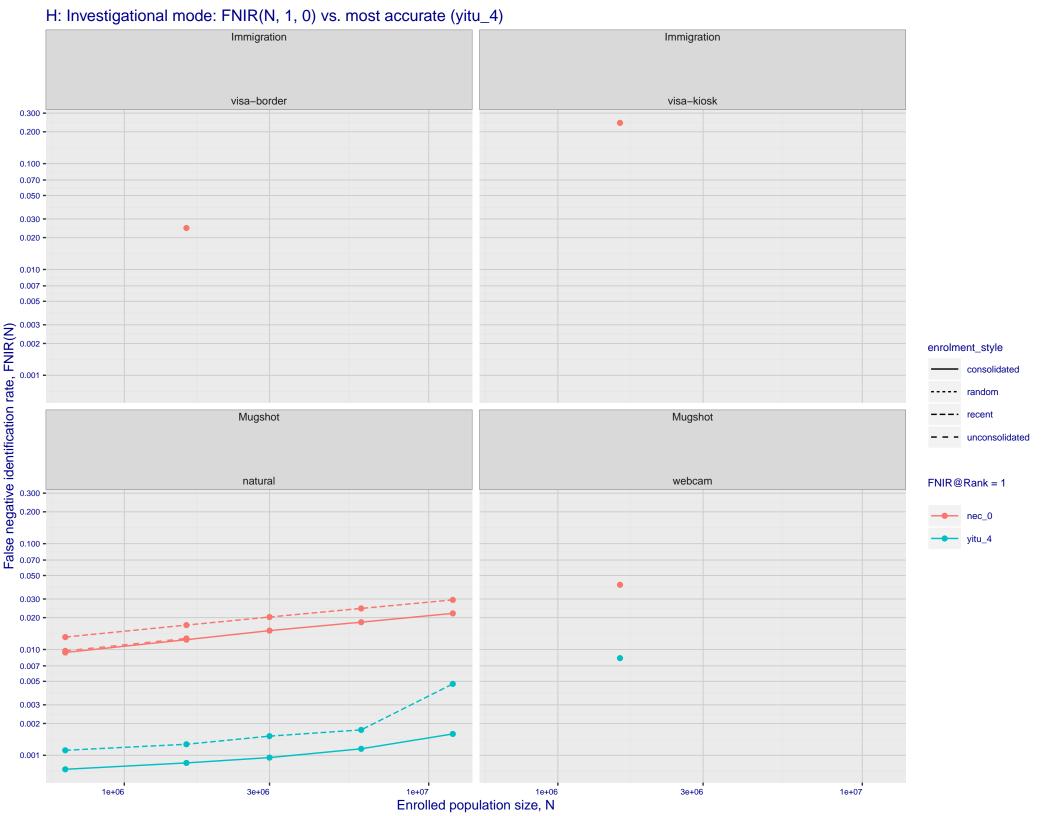


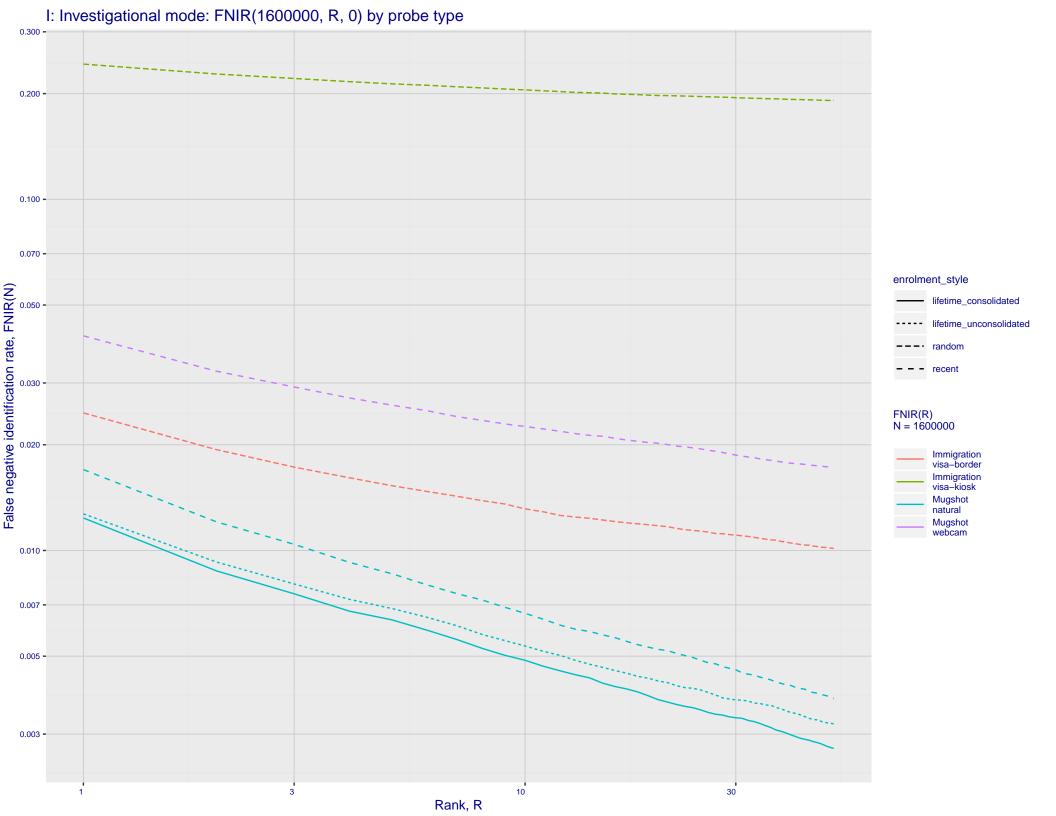




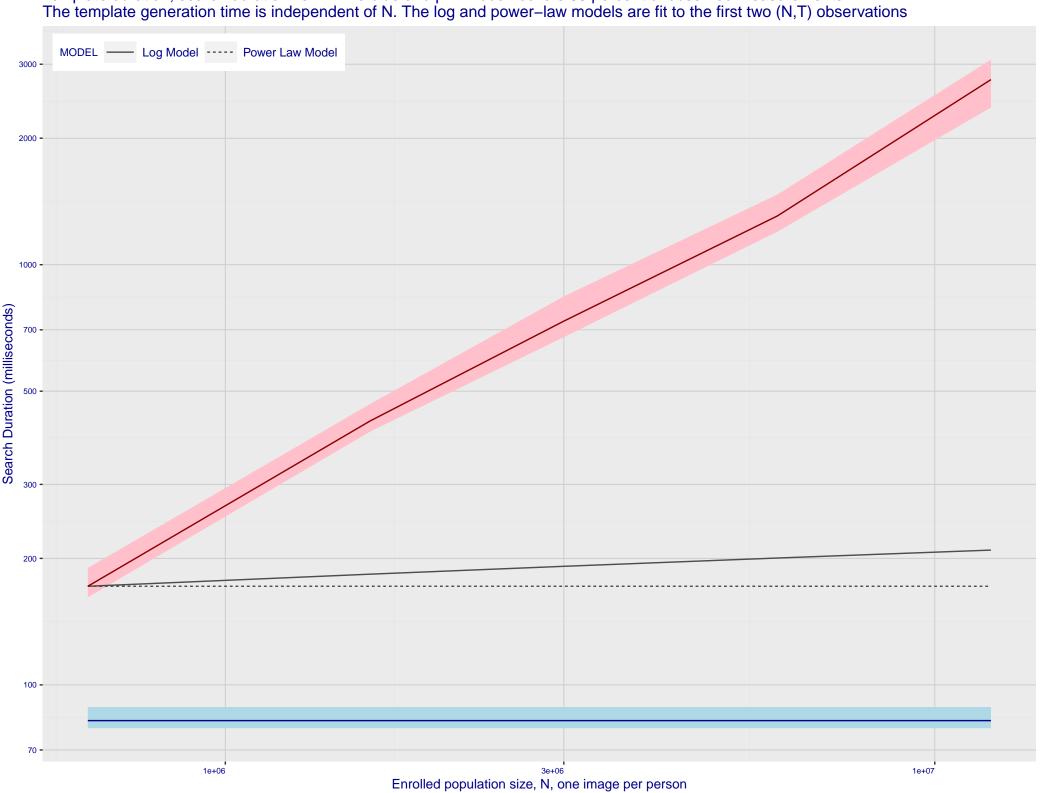
G: Datasheet

Algorithm: nec_0 Developer: NEC Submission Date: 2018_06_21 Template size: 2592 bytes Template time (2.5 percentile): 79 msec Template time (median): 82 msec Template time (97.5 percentile): 89 msec Frontal mugshot investigation rank 143 — FNIR(1600000, 0, 1) = 0.0170 vs. lowest 0.0010 from sensetime_004 natural investigation rank 123 -- FNIR(1600000, 0, 1) = 0.0409 vs. lowest 0.0067 from sensetime_003 natural investigation rank 262 -- FNIR(1600000, 0, 1) = 0.9410 vs. lowest 0.0492 from paravision_005 natural investigation rank 262 -- FNIR(1600000, 0, 1) = 0.9410 vs. lowest 0.0492 from paravision_005 natural investigation rank 61 -- FNIR(1600000, 0, 1) = 0.0246 vs. lowest 0.0014 from visionlabs_009 natural investigation rank 72 -- FNIR(1600000, 0, 1) = 0.2428 vs. lowest 0.0694 from cib_000 Frontal mugshot identification rank 103 -- FNIR(1600000, T, L+1) = 0.0788 vs. lowest 0.0018 from sensetime_004 natural identification rank 87 -- FNIR(1600000, T, L+1) = 0.1404 vs. lowest 0.0122 from sensetime_003 natural identification rank 55 -- FNIR(1600000, T, L+1) = 0.9646 vs. lowest 0.1020 from sensetime_004 natural identification rank 104 -- FNIR(1600000, T, L+1) = NA vs. lowest 0.0059 from sensetime_004 natural identification rank 46 -- FNIR(1600000, T, L+1) = 0.4745 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



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

