A: Datasheet

Algorithm: cognitec_000

Template size: 2052 bytes

Template time (2.5 percentile): 179 msec

Template time (median): 192 msec

Template time (97.5 percentile): 206 msec

Investigation:

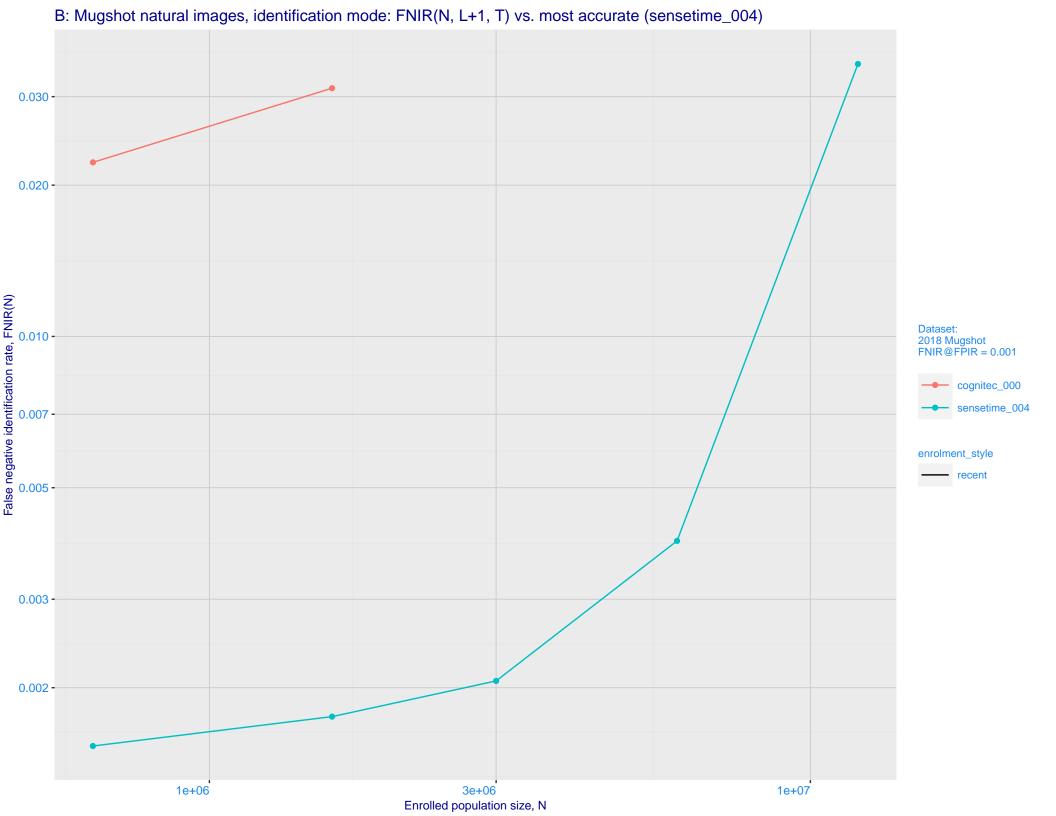
Frontal mugshot ranking 56 (out of 267) -- FNIR(1600000, 0, 1) = 0.0032 vs. lowest 0.0009 from sensetime_005

Immigration visa-border ranking 70 (out of 154) -- FNIR(1600000, 0, 1) = 0.0128 vs. lowest 0.0013 from visionlabs_010

Immigration visa-kiosk ranking 63 (out of 150) -- FNIR(1600000, 0, 1) = 0.1430 vs. lowest 0.0568 from hr_000

Identification:

Frontal mugshot ranking 54 (out of 267) -- FNIR(1600000, T, L+1) = 0.0312, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

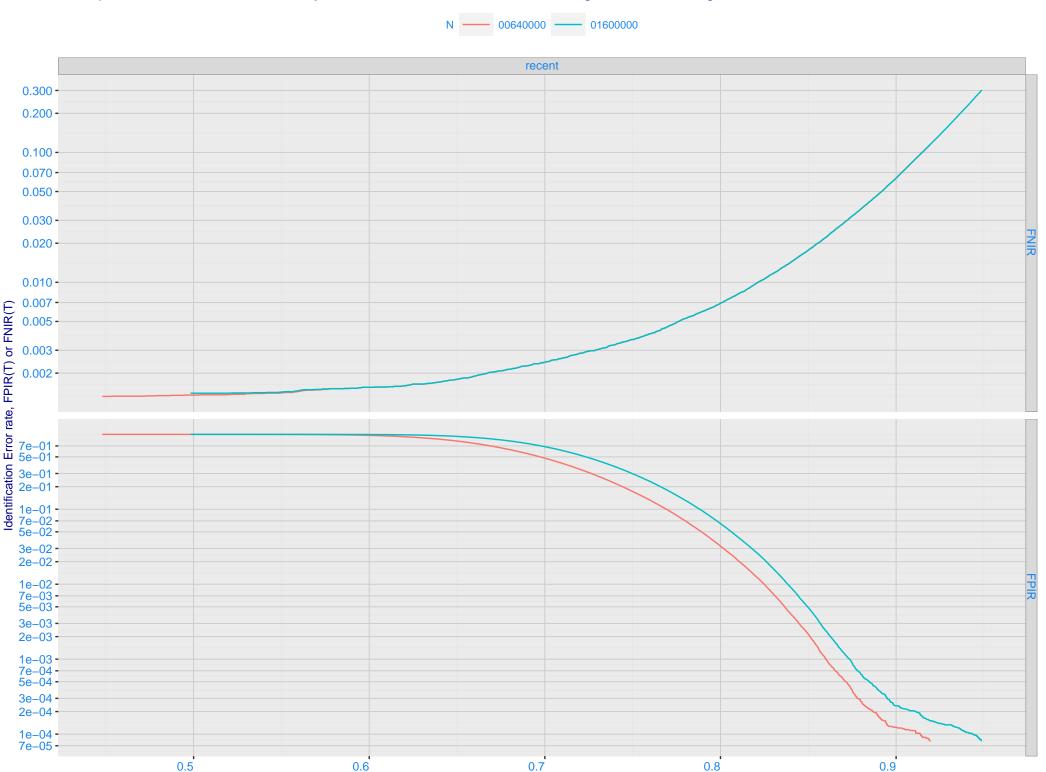


C: Evolution of accuracy for COGNITEC algorithms on three datasets 2018 – present



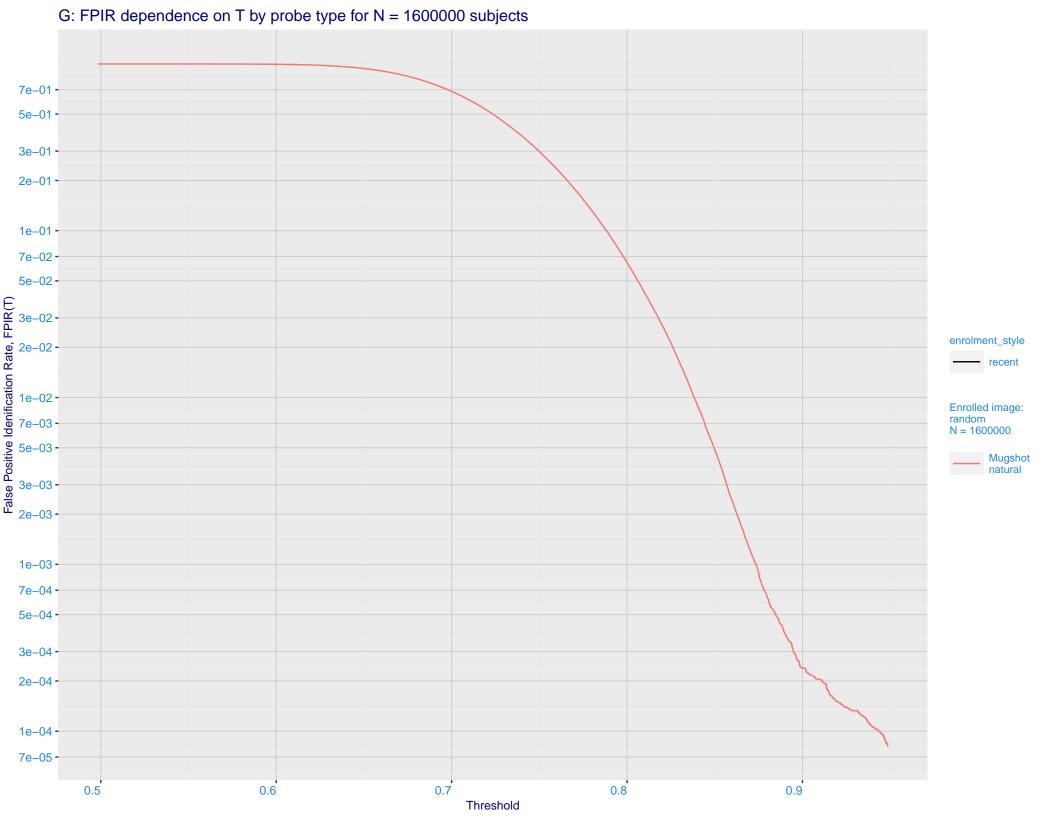
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Immigration Immigration Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -Ealse negative identification rate, FNIR(T) 0.003 - 0.0001 - 0.700 - 0.500 - 0.200 - 0.100 - 0 enrolment_style random-ONE-MATE recent-ONE-MATE 0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -0.002 -0.001 -

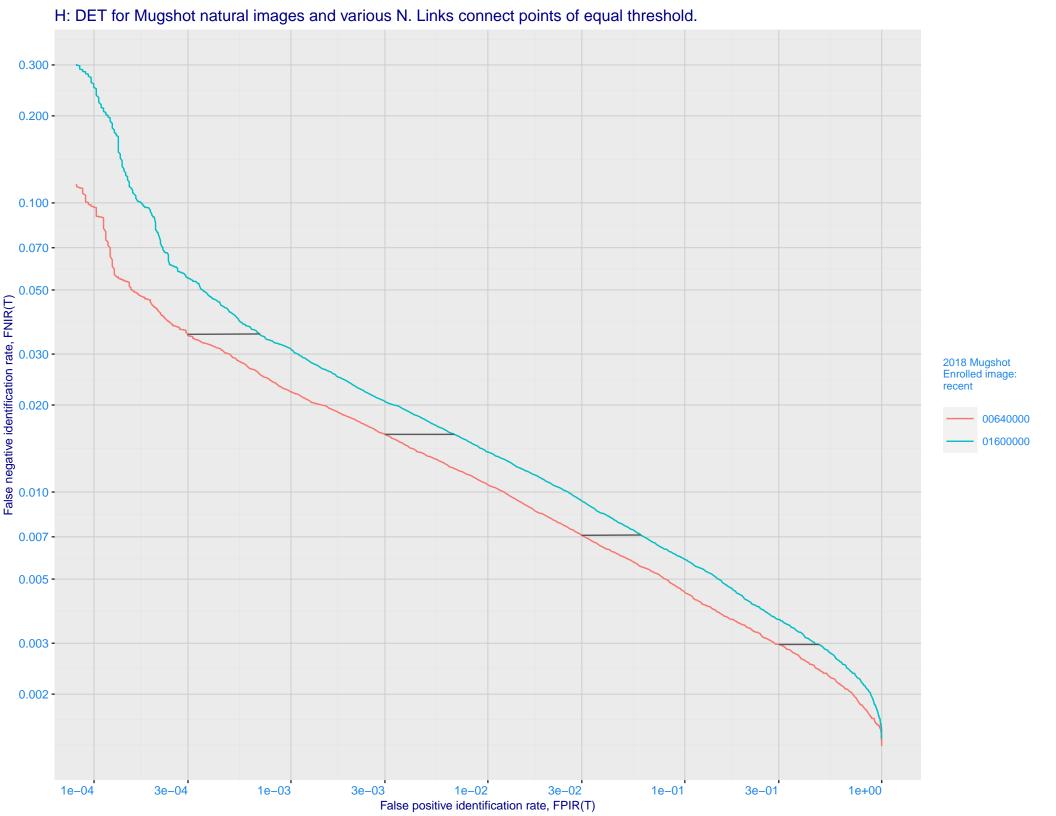
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images



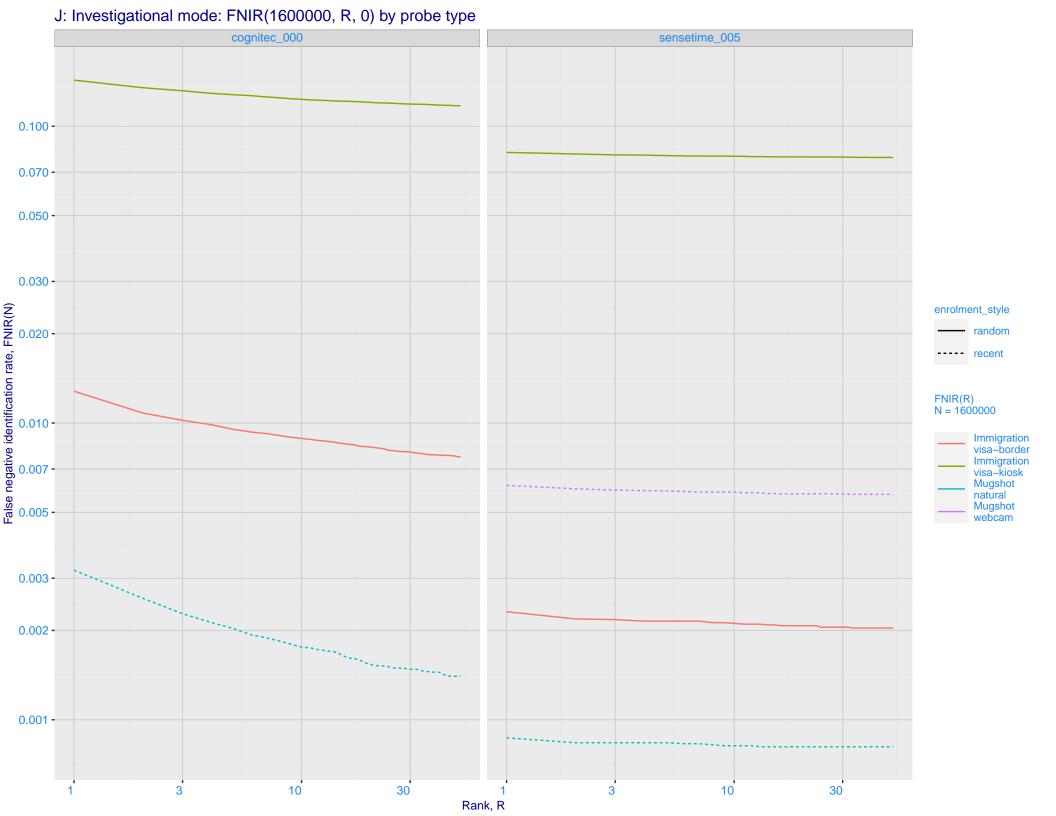
Threshold

F: 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 -Selectivity. SEL(T) 1e-01 - 74.75 SEL(T) 5e-02 - 5e-02 - 3e-02 - 75.75 SEL(T) Enrolled images: recent N = 1600000 Mugshot natural 2e-02 -1e-02 -7e-03 -5e-03 -3e-03 -2e-03 -1e-03 -7e-04 -5e-04 -3e-04 -2e-04 -1e-04 -7e-05 -5e-05 -1e-04 3e-04 1e-03 3e-03 1e-02 3e-02 1e-01 3e-01 False Positive Idenification Rate, FPIR(T)

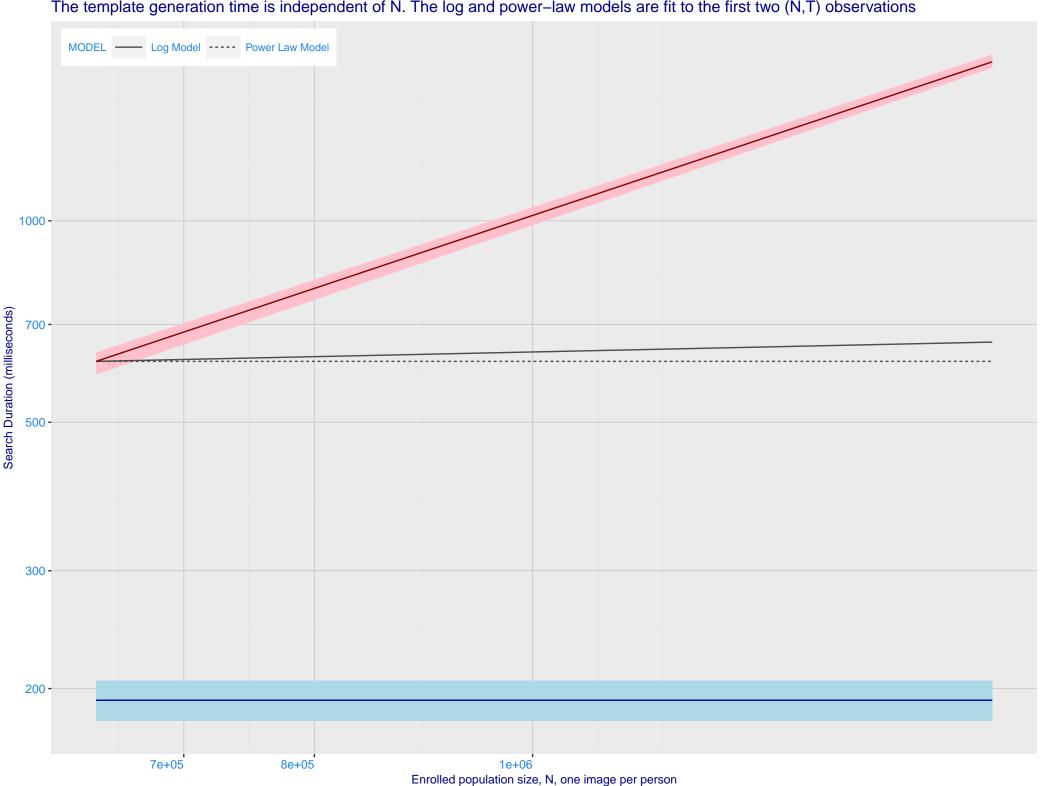




I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005) Immigration **Immigration** visa-border visa-kiosk 0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -0.003 - 0.002 - 0.001 - 0.001 - 0.000 FNIR@Rank = 1 -- cognitec_000 sensetime_005 Mugshot webcam Mugshot natural enrolment_style random ---- recent 0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -0.002 -0.001 -1e+06 3e+06 1e+07 1e+06 3e+06 1e+07 Enrolled population size, N



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



