A: Datasheet

Algorithm: neurotechnology_1

Developer: Neurotechnology

Submission Date: 2018_02_16

Template size: 5214 bytes

Template time (2.5 percentile): 650 msec

Template time (median): 656 msec

Template time (97.5 percentile): 776 msec

Investigation:

Frontal mugshot ranking 212 (out of 279) -- FNIR(1600000, 0, 1) = 0.0441 vs. lowest 0.0009 from sensetime_005

Mugshot profile ranking 176 (out of 210) -- FNIR(1600000, 0, 1) = 0.9660 vs. lowest 0.0587 from xforwardai_002

Immigration visa-border ranking 112 (out of 168) -- FNIR(1600000, 0, 1) = 0.0581 vs. lowest 0.0013 from visionlabs_010

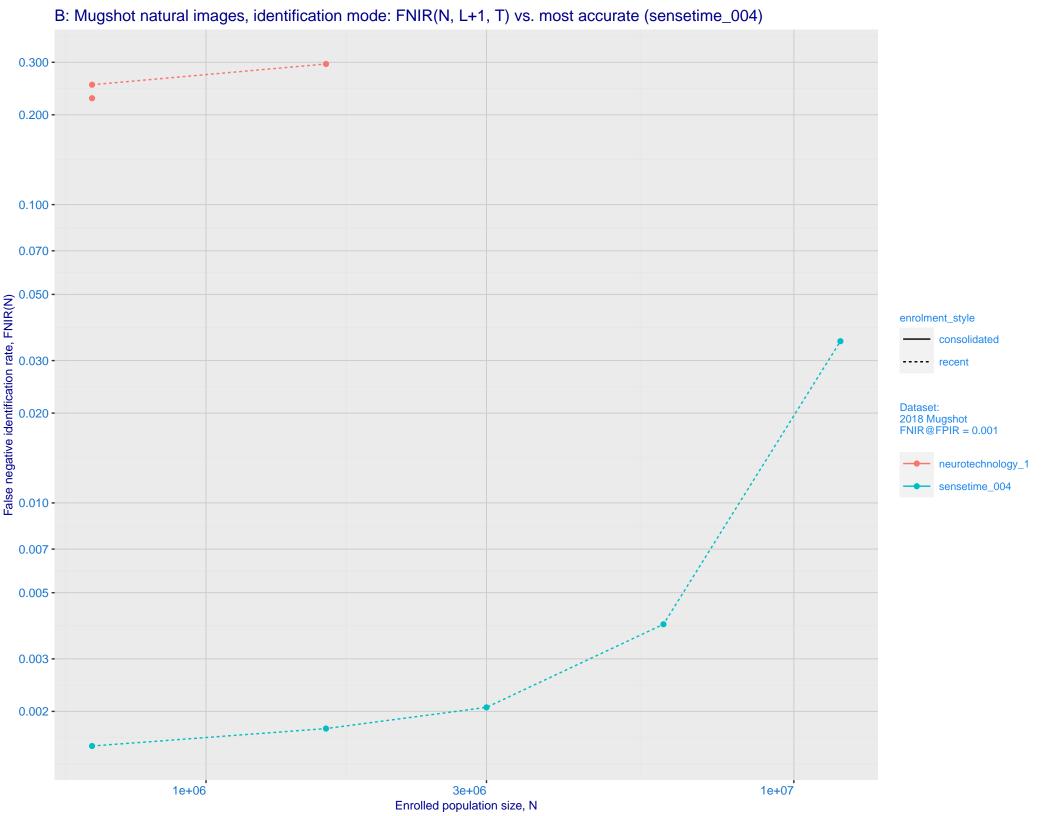
Immigration visa-kiosk ranking 109 (out of 165) -- FNIR(1600000, 0, 1) = 0.2787 vs. lowest 0.0568 from cloudwalk_hr_000

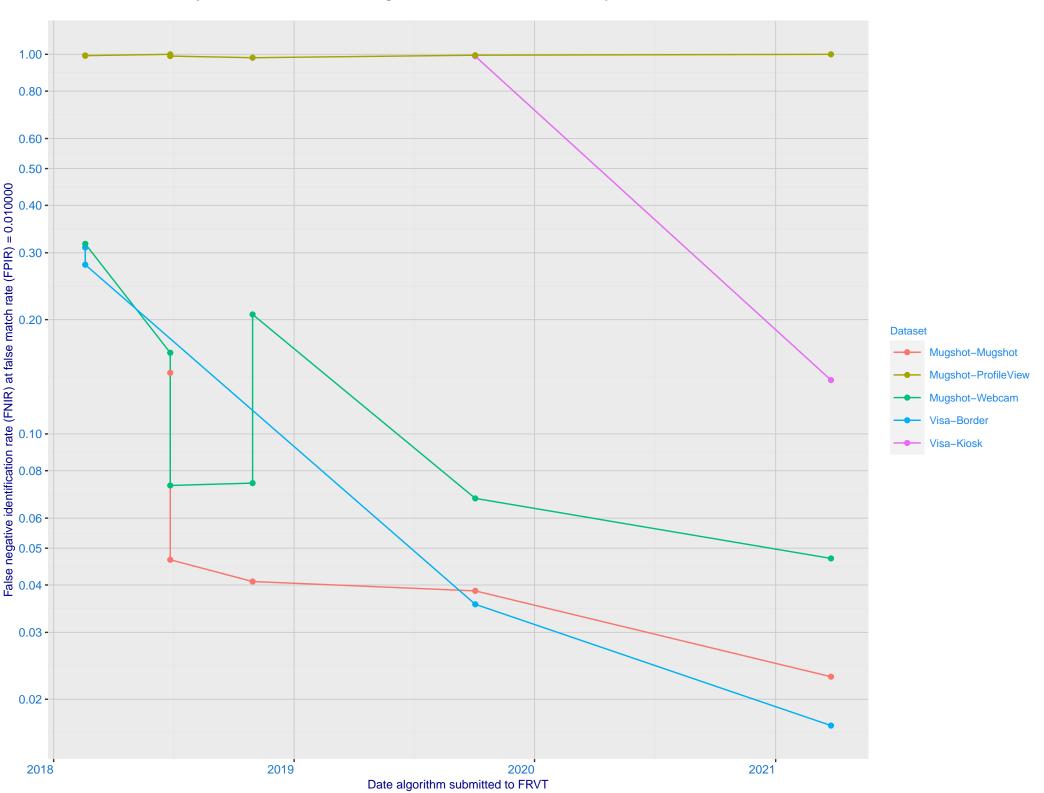
Identification:

Frontal mugshot ranking 206 (out of 279) -- FNIR(1600000, T, L+1) = 0.2961, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot profile ranking 122 (out of 209) -- FNIR(1600000, T, L+1) = 0.9977, FPIR=0.001000 vs. lowest 0.1331 from cloudwalk_hr_000

Immigration visa-border ranking 116 (out of 167) -- FNIR(1600000, T, L+1) = 0.4249, FPIR=0.001000 vs. lowest 0.0047 from idemia_008

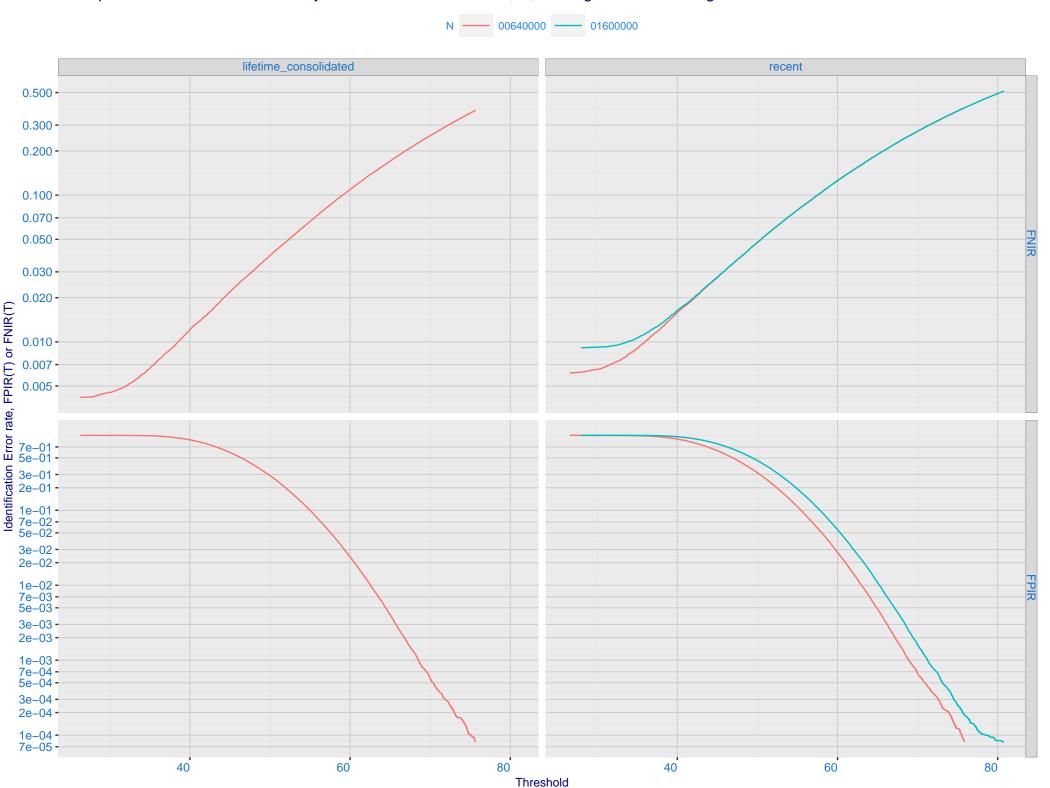




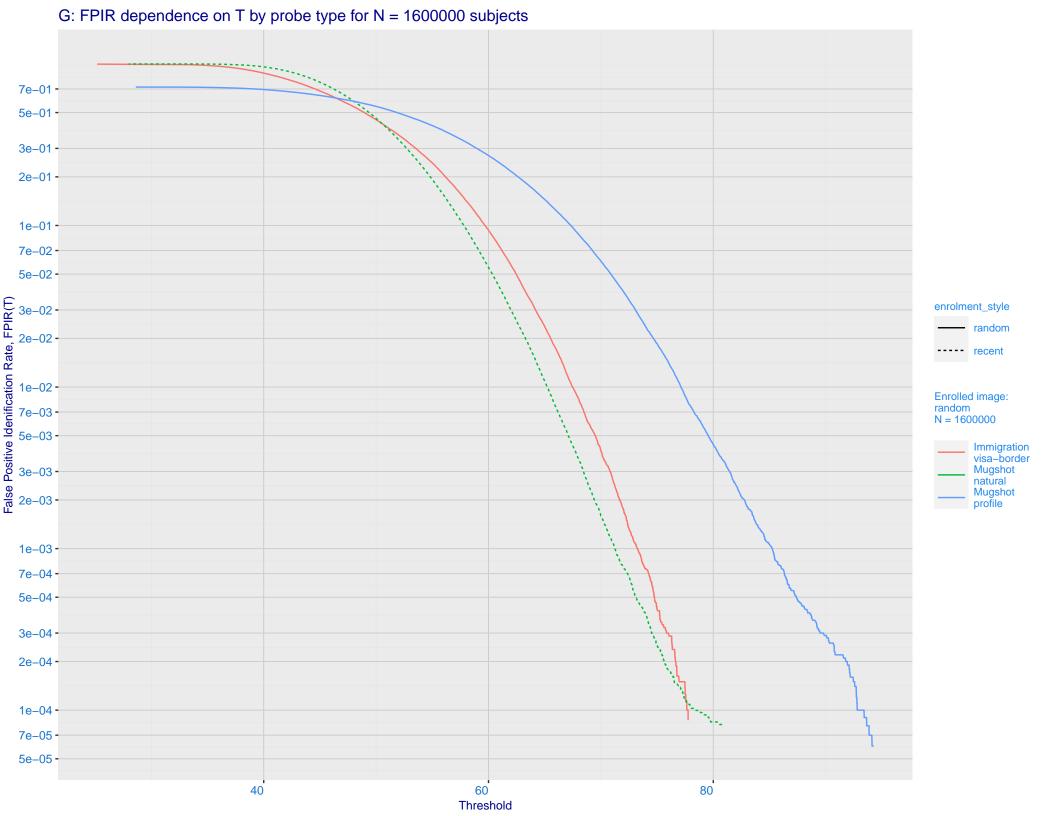
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Immigration Immigration Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 neurotechnology 0.050 -0.030 -0.020 -0.010 -0.007 -Ealse negative identification rate, FNIR(T) 0.003 - 0.000 - 0.500 - 0.500 - 0.200 - 0.100 - 0. enrolment_style random-ONE-MATE recent-ONE-MATE 0.070 -0.050 sensetime 004 0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -0.002 -0.001 -

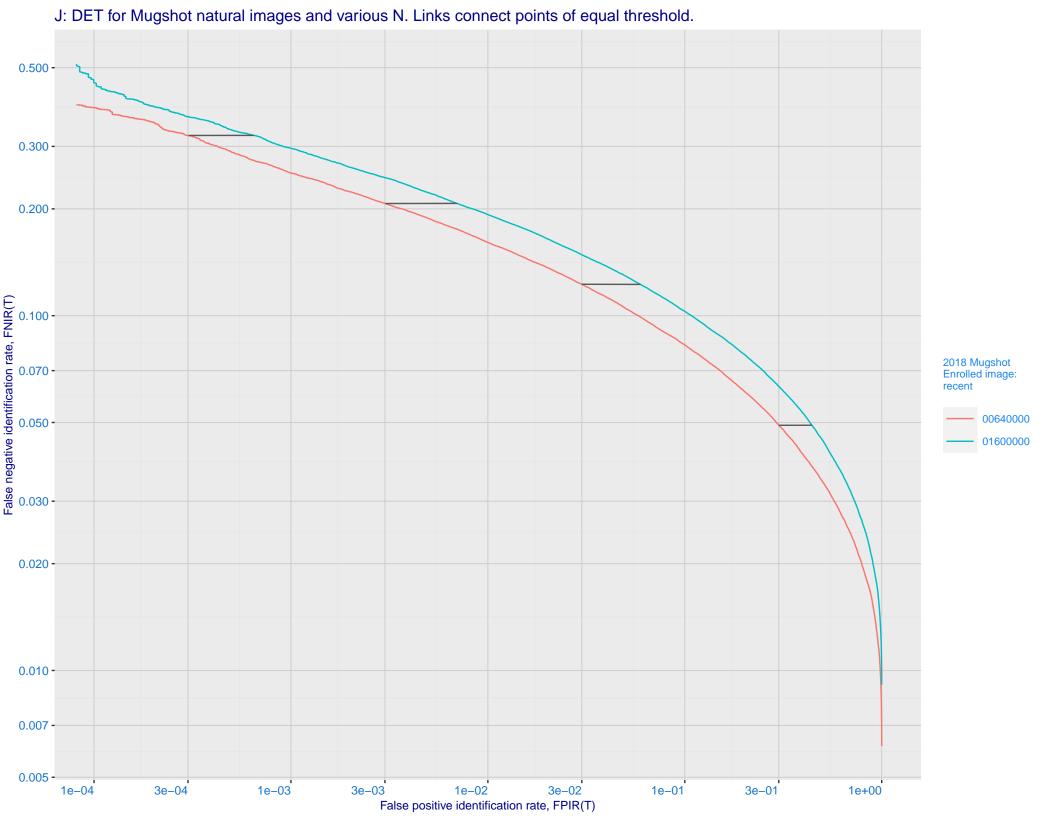
False positive identification rate, FPIR(T)

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

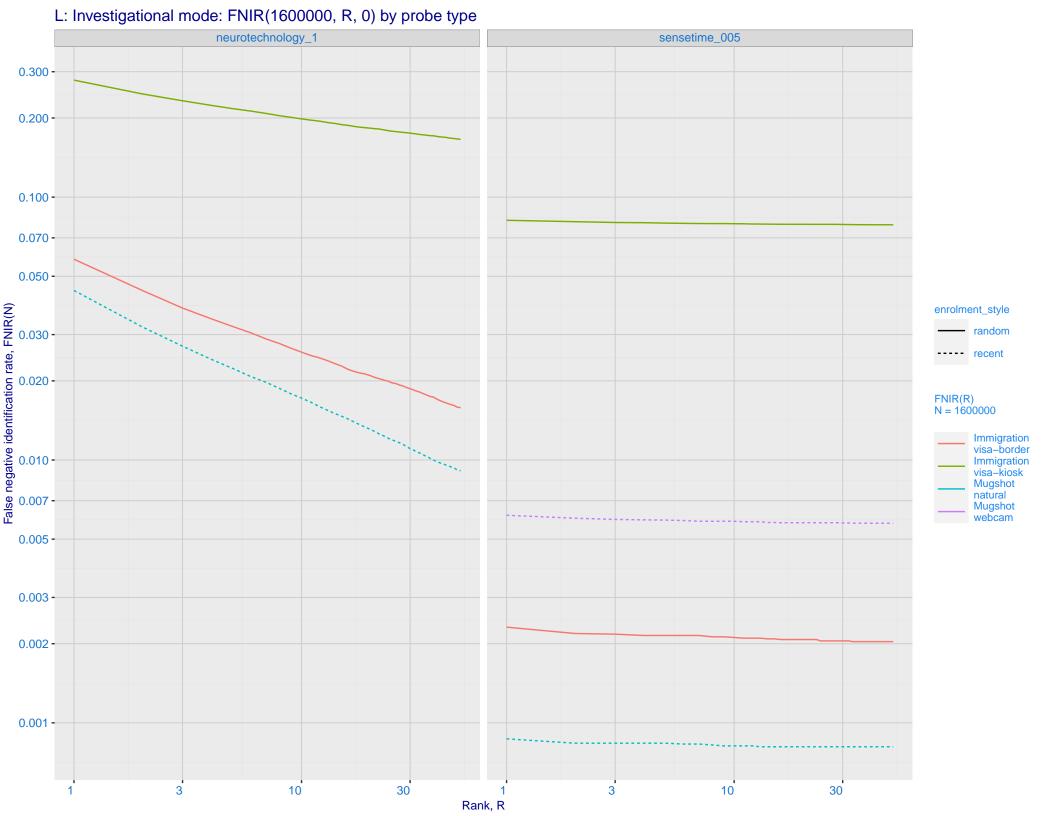


F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 · 5e+01 -3e+01 -2e+01 -1e+01 -7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -5e-01 -3e-01 -2e-01 -E 1e-01 -Enrolled images: recent N = 1600000 See-02 - 3e-02 - 3e-02 -Mugshot natural 2e-02 -1e-02 -7e-03 -5e-03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

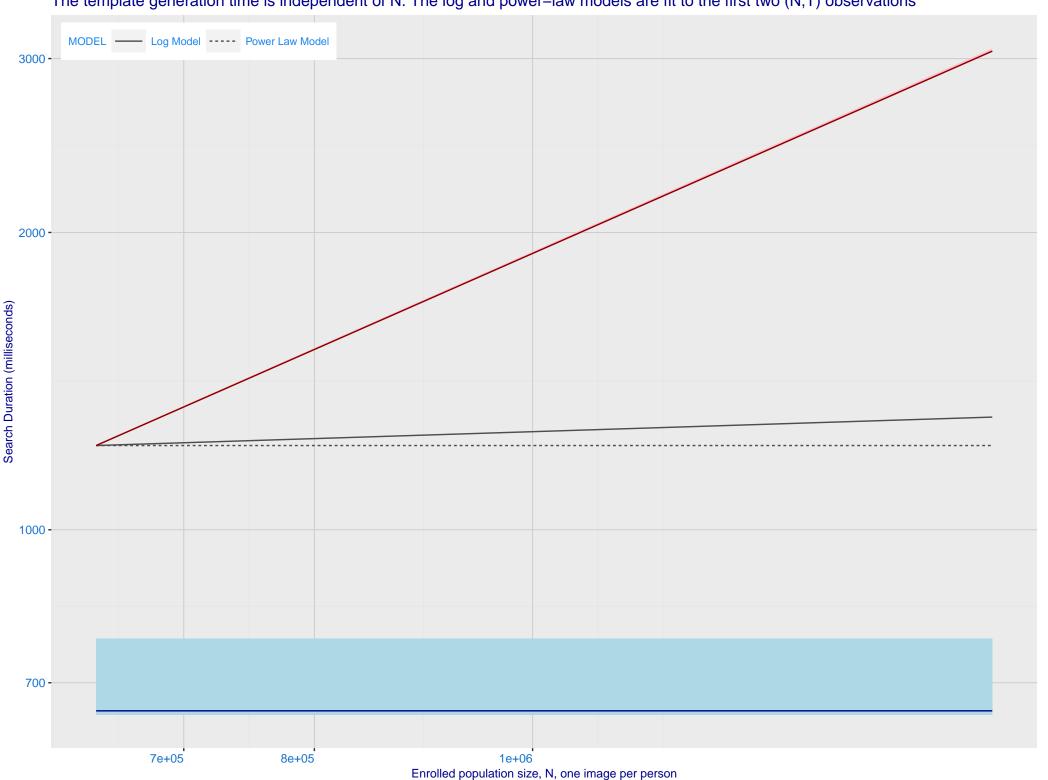




K: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005) Immigration **Immigration** visa-border visa-kiosk 0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -Ealse negative identification rate, FNIR(N) 0.003 - 0.001 - 0.300 - 0.100 - 0.070 - 0. enrolment_style consolidated ---- random --- recent Mugshot webcam Mugshot natural FNIR@Rank = 1 neurotechnology_1 sensetime_005 0.050 -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



M: 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



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



