A: Datasheet

Algorithm: newland_2

Developer: Newland Computer Co Ltd

Submission Date: 2018_10_30

Template size: 2048 bytes

Template time (2.5 percentile): 823 msec

Template time (median): 855 msec

Template time (97.5 percentile): 952 msec

Investigation:

Frontal mugshot ranking 227 (out of 279) -- FNIR(1600000, 0, 1) = 0.0786 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 194 (out of 241) -- FNIR(1600000, 0, 1) = 0.1169 vs. lowest 0.0062 from sensetime_005

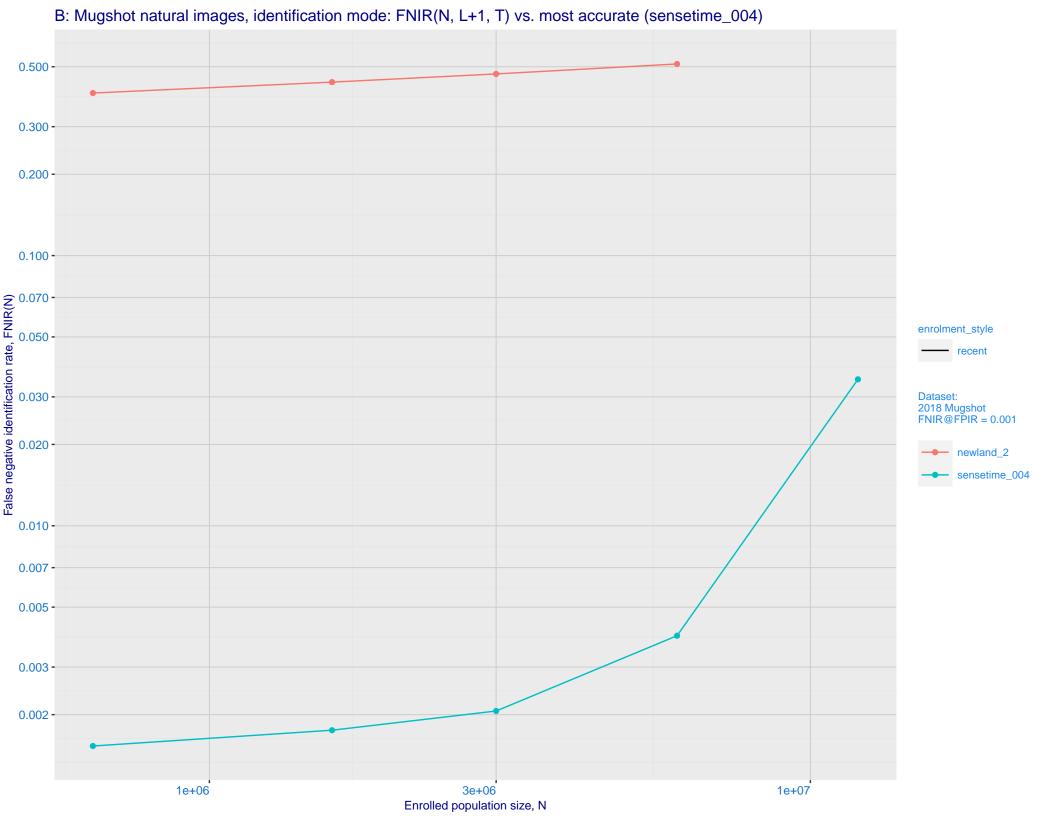
Mugshot profile ranking 143 (out of 210) -- FNIR(1600000, 0, 1) = 0.9360 vs. lowest 0.0587 from xforwardai_002

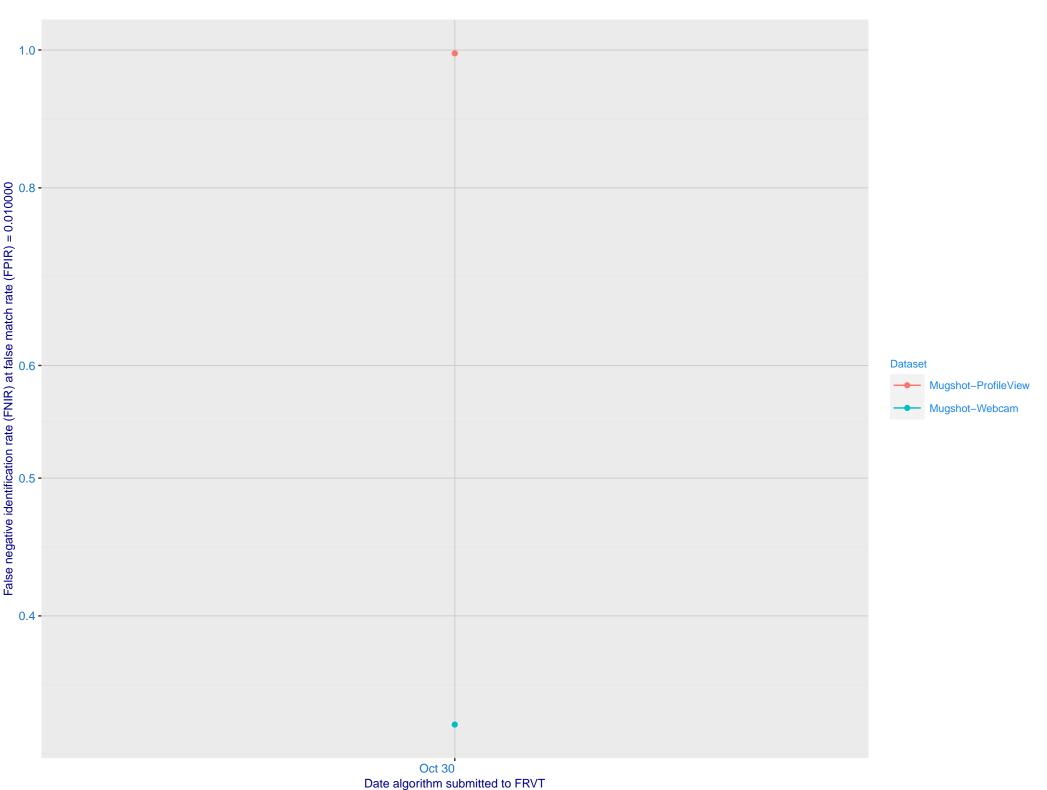
Identification:

Frontal mugshot ranking 225 (out of 279) -- FNIR(1600000, T, L+1) = 0.4385, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot webcam ranking 190 (out of 236) -- FNIR(1600000, T, L+1) = 0.4657, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 142 (out of 209) -- FNIR(1600000, T, L+1) = 0.9991, FPIR=0.001000 vs. lowest 0.1331 from cloudwalk_hr_000

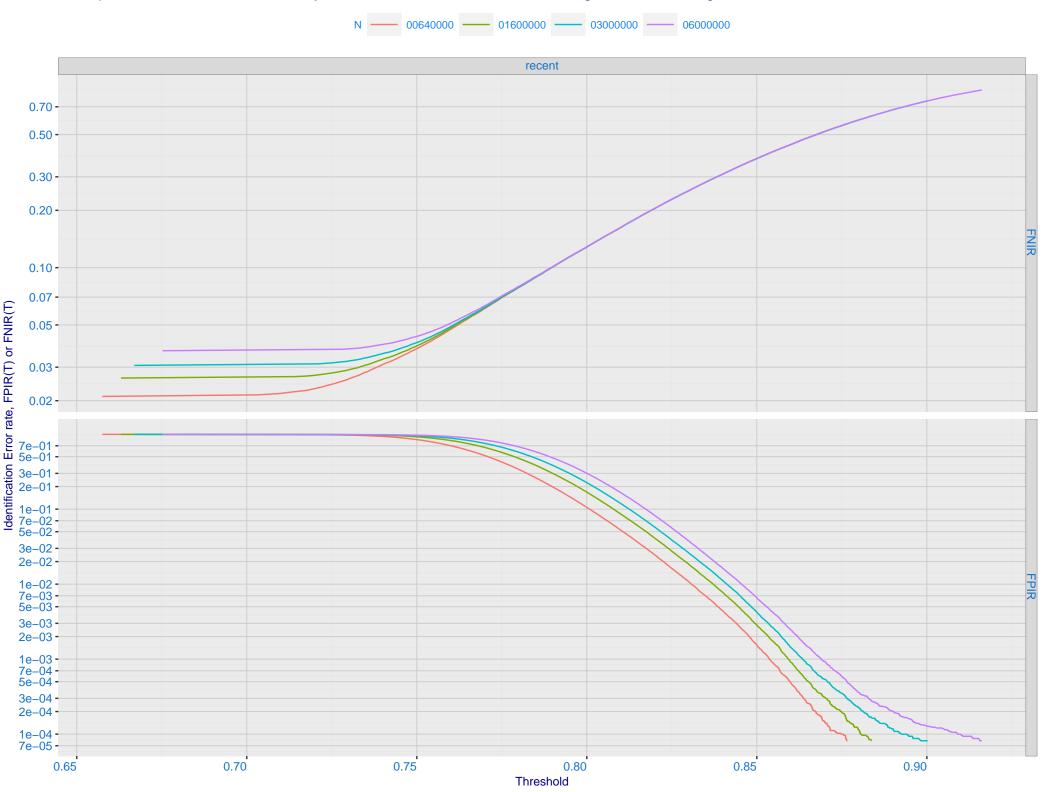




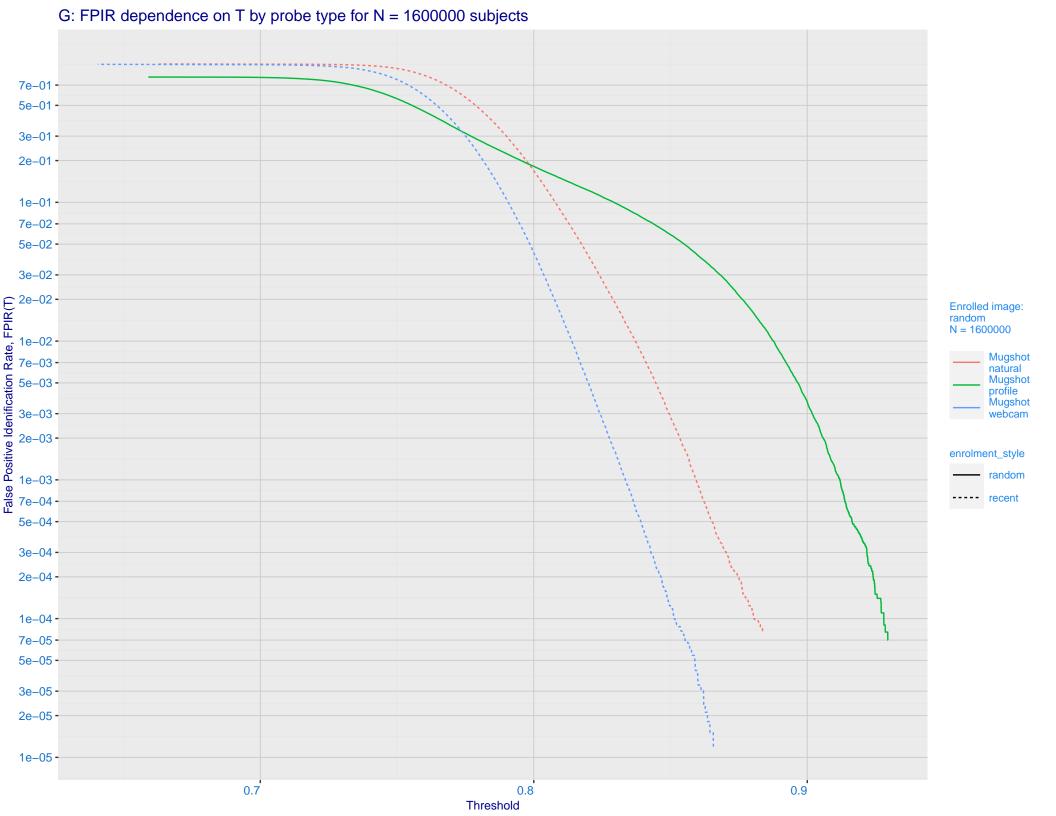
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals **Immigration** Immigration Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 newland 2 0.030 -0.020 -0.010 -0.007 -Ealse negative identification rate, FNIR(T) 0.003 - 0.0001 - 0.700 - 0.500 - 0.200 - 0 enrolment_style random-ONE-MATE recent-ONE-MATE unconsolidated-ALL-MATES unconsolidated-ANY-MATE 0.100 -0.070 sensetime 004 0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -0.002 -0.001 -

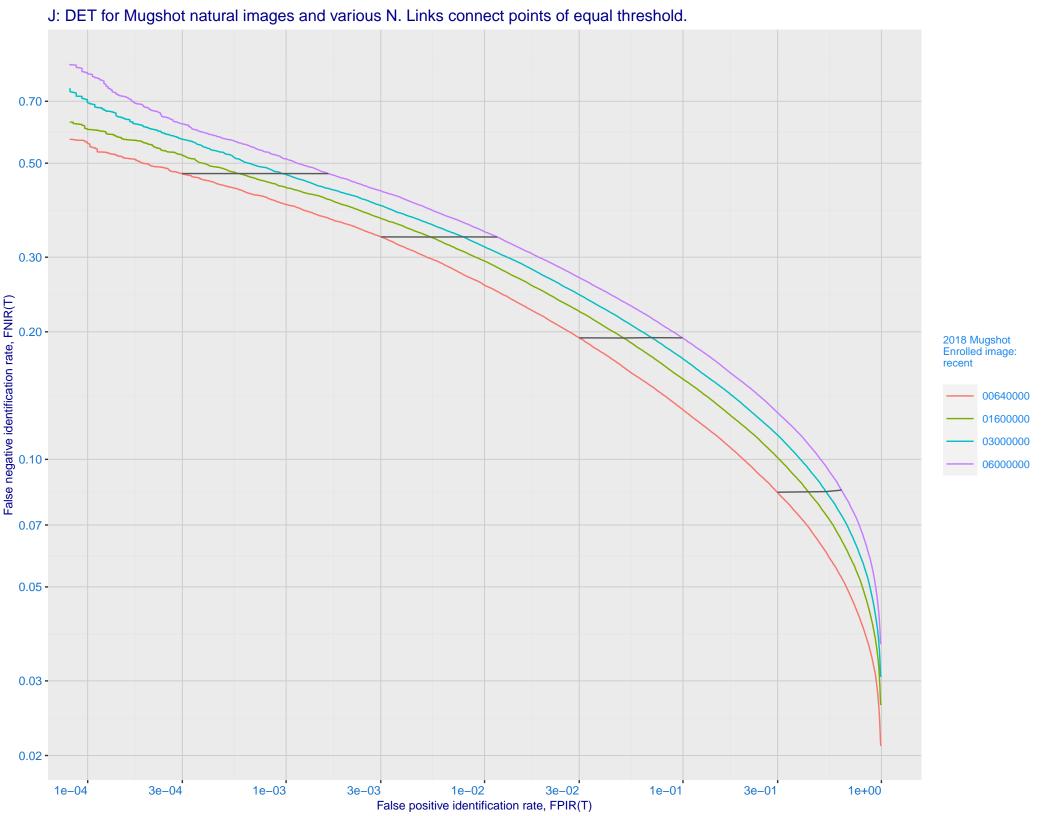
False positive identification rate, FPIR(T)

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

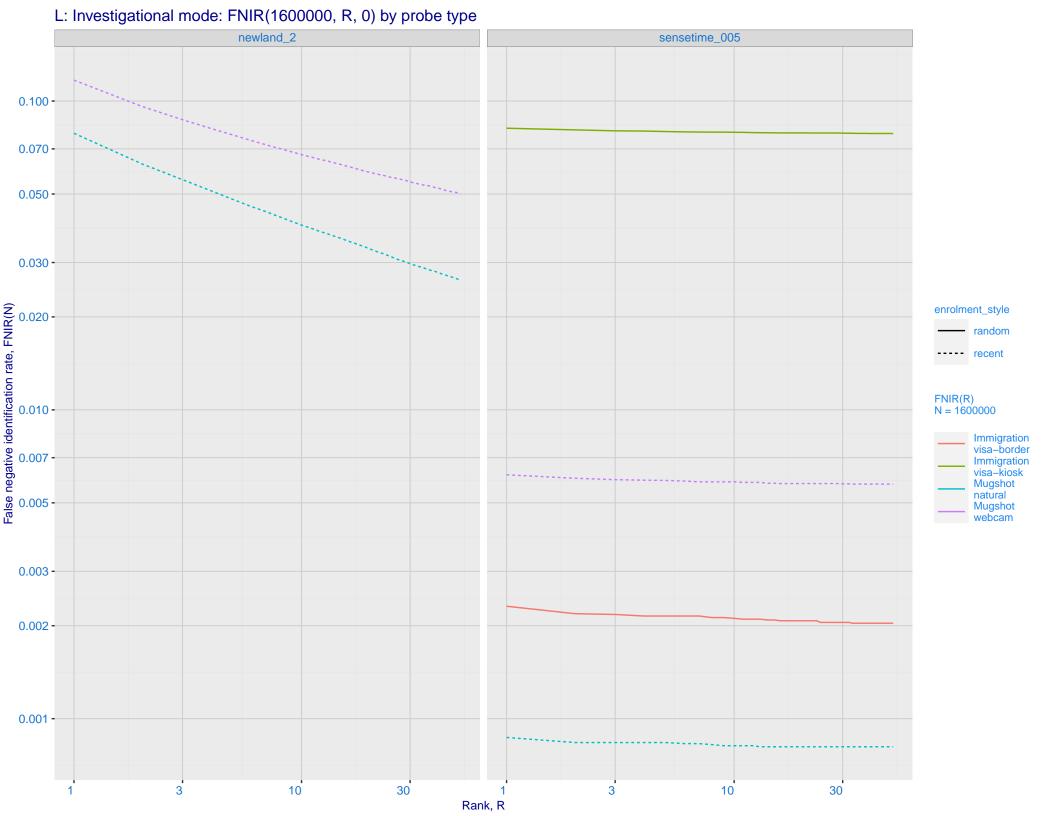


F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 -5e+01 -3e+01 · 2e+01 -1e+01 -7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -5e-01 -3e-01 -2e-01 -1e-01 -7e-02 -5e-02 -3e-02 -3e-02 -1e-02 -**Enrolled images:** recent N = 1600000 Mugshot natural Mugshot webcam 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-03 3e-03 1e-02 3e-02 1e-01 3e-01 False Positive Idenification Rate, FPIR(T)

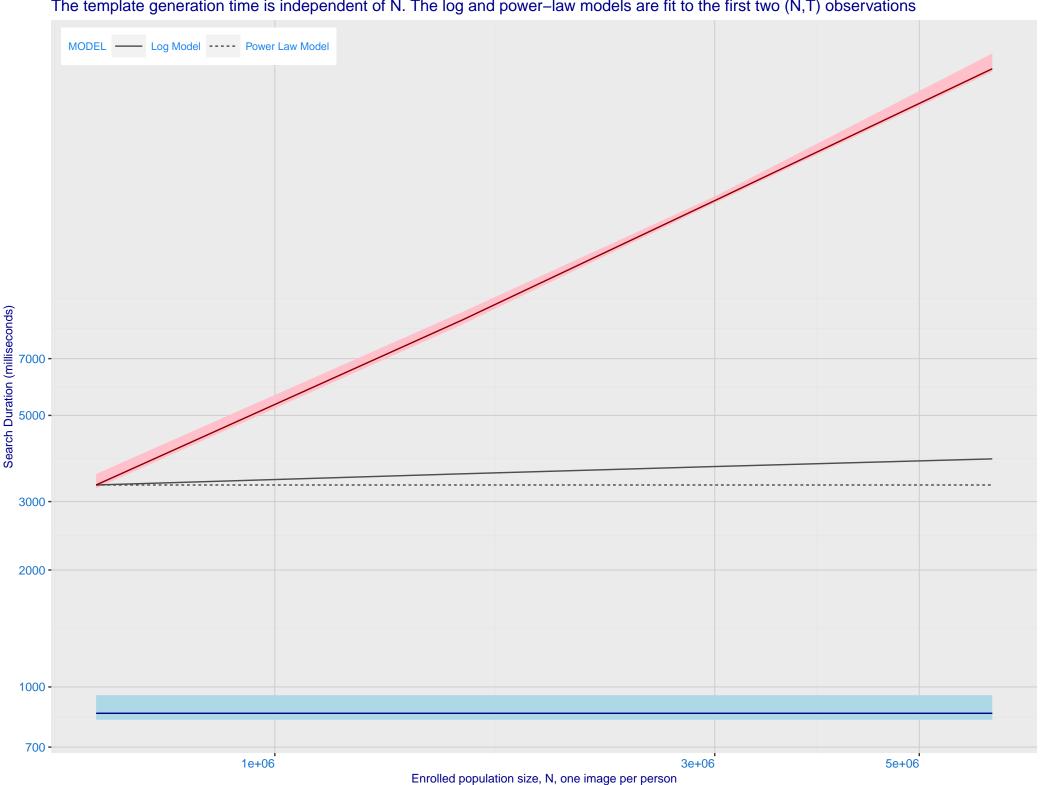




K: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005) Immigration **Immigration** visa-border visa-kiosk 0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -0.003 - 0.002 - 0.001 - 0.001 - 0.000 - 0.000 - 0.050 FNIR@Rank = 1 newland_2 sensetime_005 Mugshot Mugshot webcam natural 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



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



