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 214 (out of 265) -- FNIR(1600000, 0, 1) = 0.0786 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 182 (out of 227) -- FNIR(1600000, 0, 1) = 0.1169 vs. lowest 0.0062 from sensetime_005

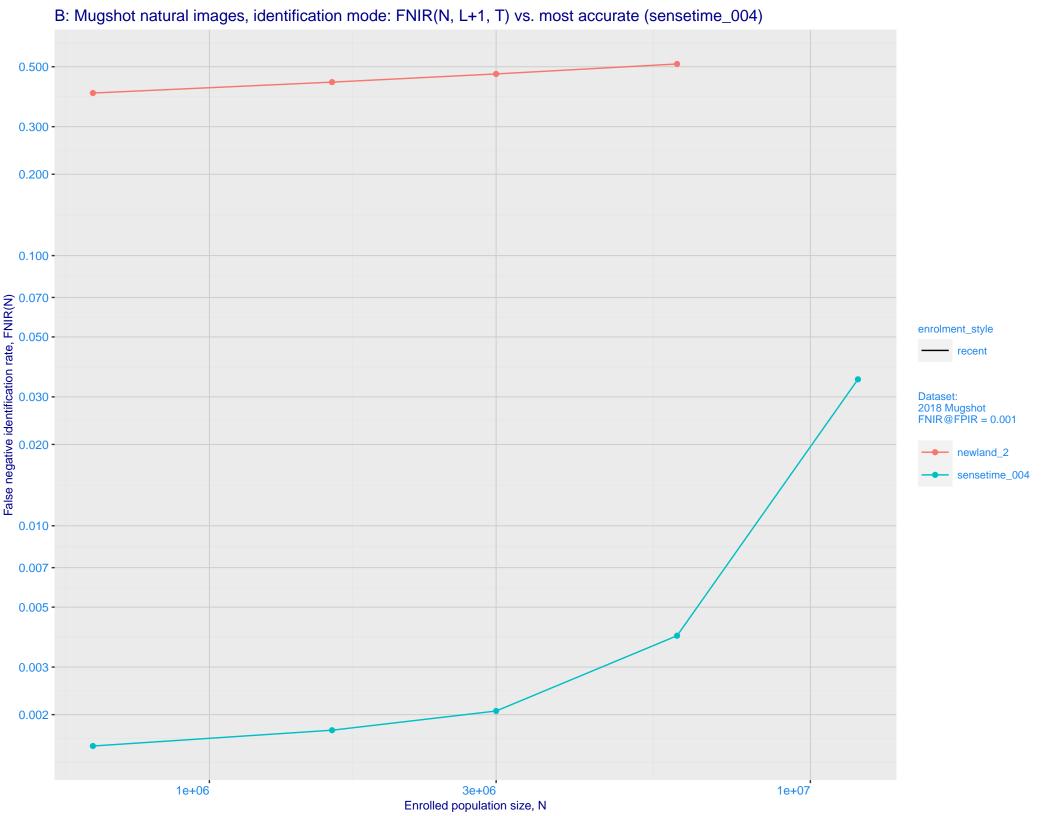
Mugshot profile ranking 129 (out of 196) -- FNIR(1600000, 0, 1) = 0.9360 vs. lowest 0.0591 from sensetime_005

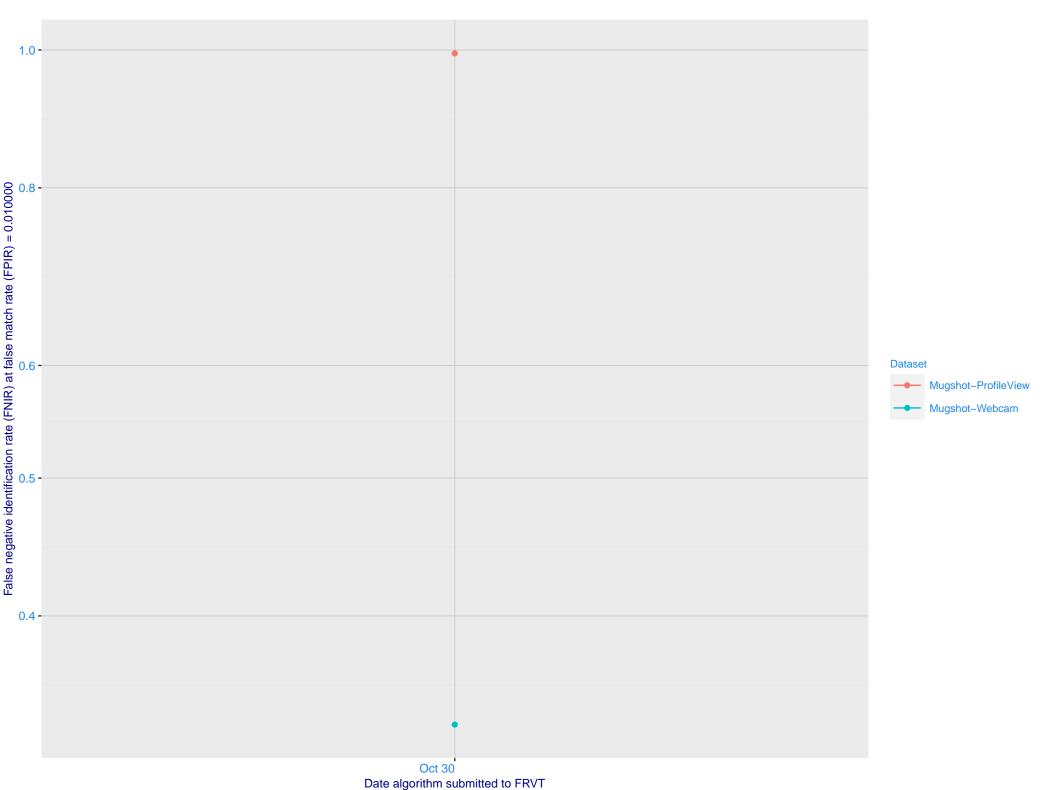
Identification:

Frontal mugshot ranking 213 (out of 265) -- FNIR(1600000, T, L+1) = 0.4385, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot webcam ranking 180 (out of 225) -- FNIR(1600000, T, L+1) = 0.4657, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

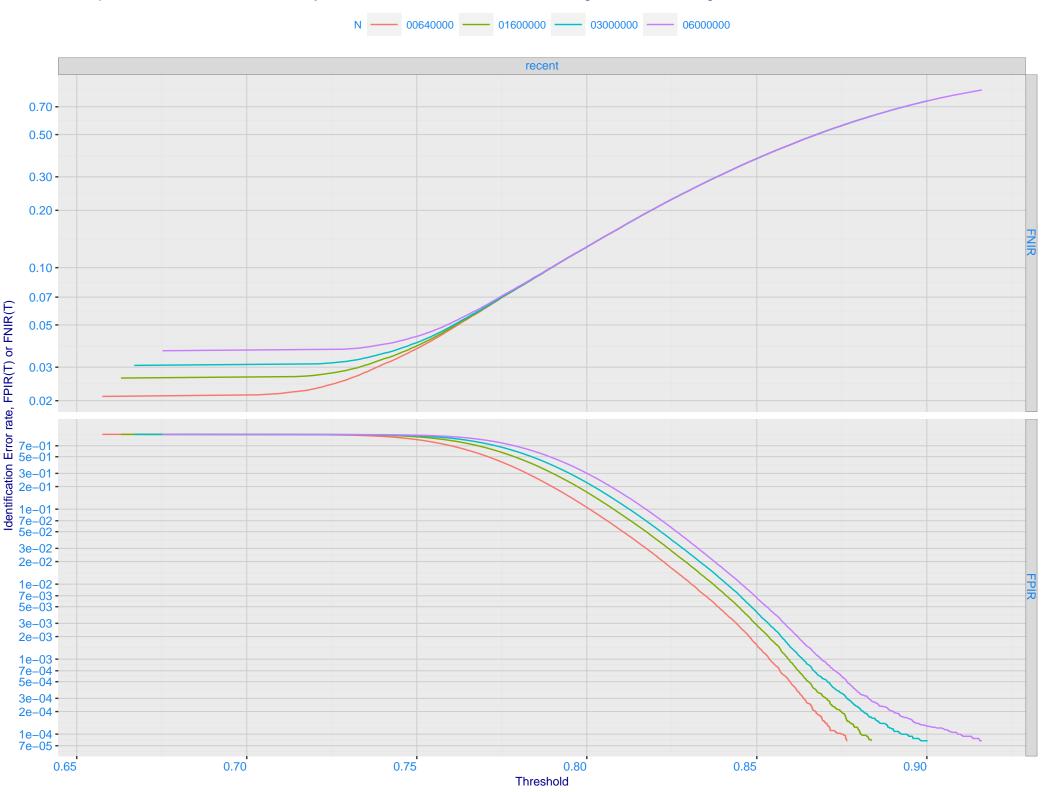
Mugshot profile ranking 134 (out of 195) -- FNIR(1600000, T, L+1) = 0.9991, FPIR=0.001000 vs. lowest 0.1331 from hr_000



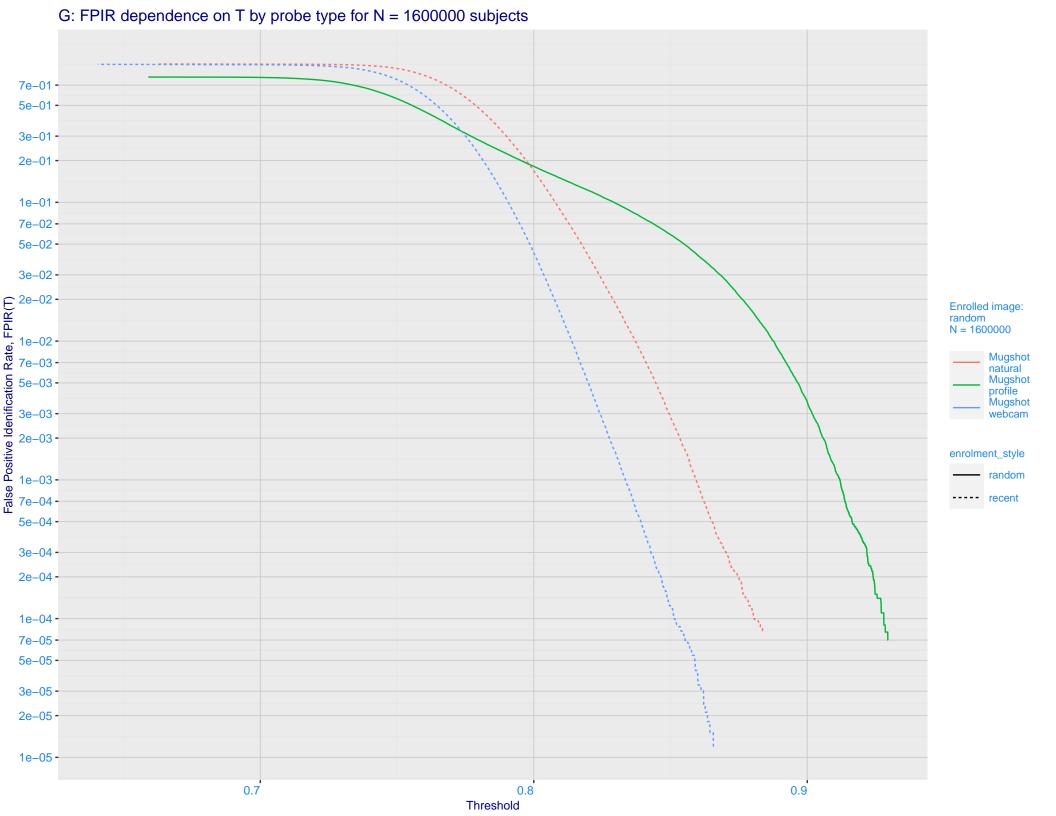


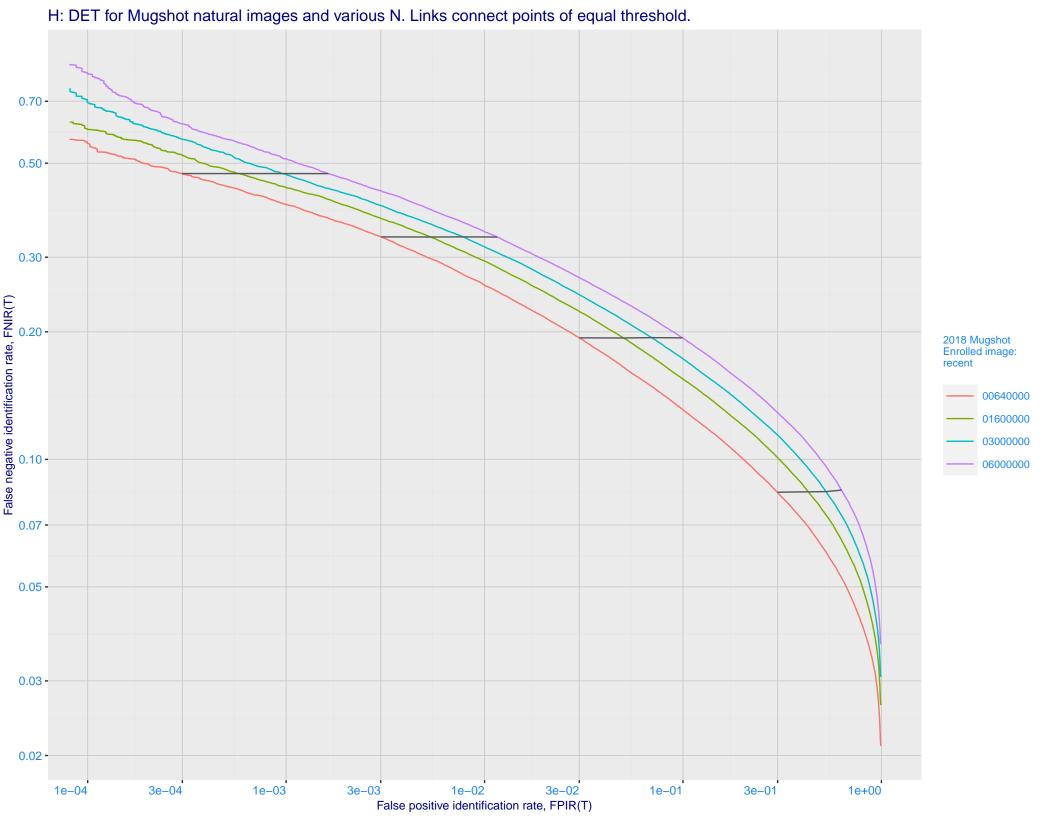
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals **Immigration** Mugshot **Immigration** visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -Ealse negative identification rate, FNIR(T) 0.003 - 0.0001 - 0.0001 - 0.500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

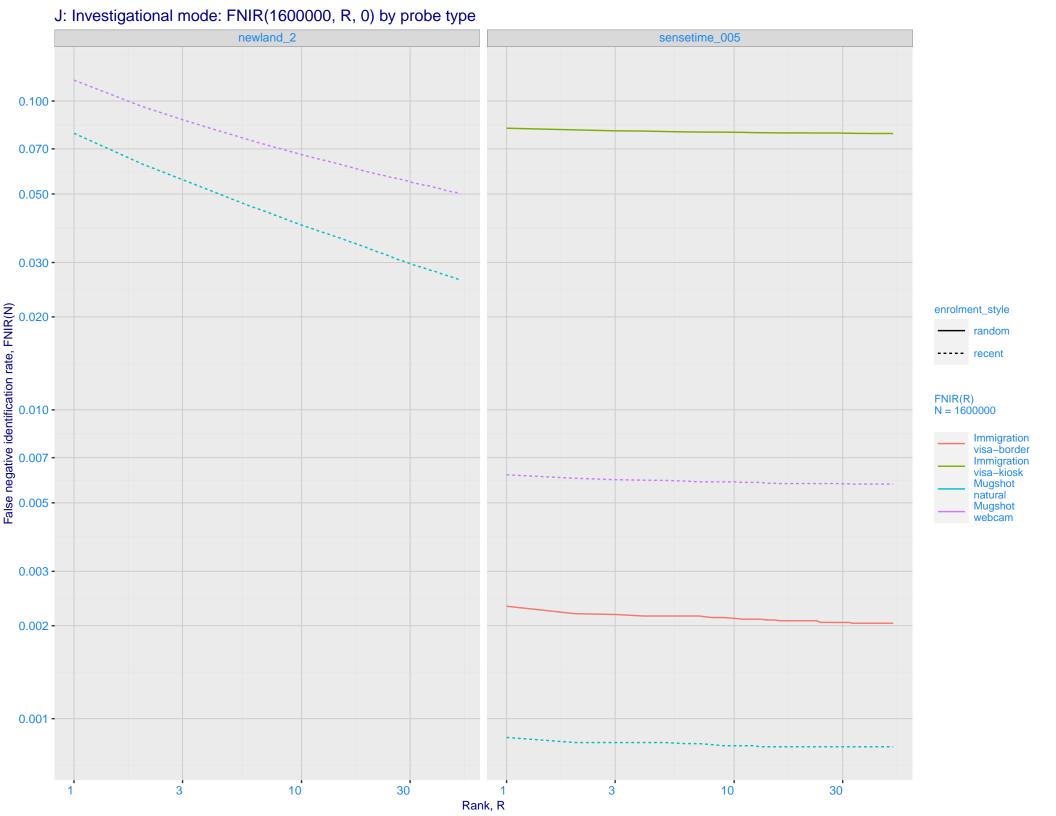


F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 -5e+01 -3e+01 -2e+01 -1e+01 -7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -5e-01 -3e-01 -2e-01 -1e-01 -7e-02 -5e-02 -3e-02 -3e-02 -1e-02 -**Enrolled images:** recent N = 1600000 Mugshot natural Mugshot webcam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

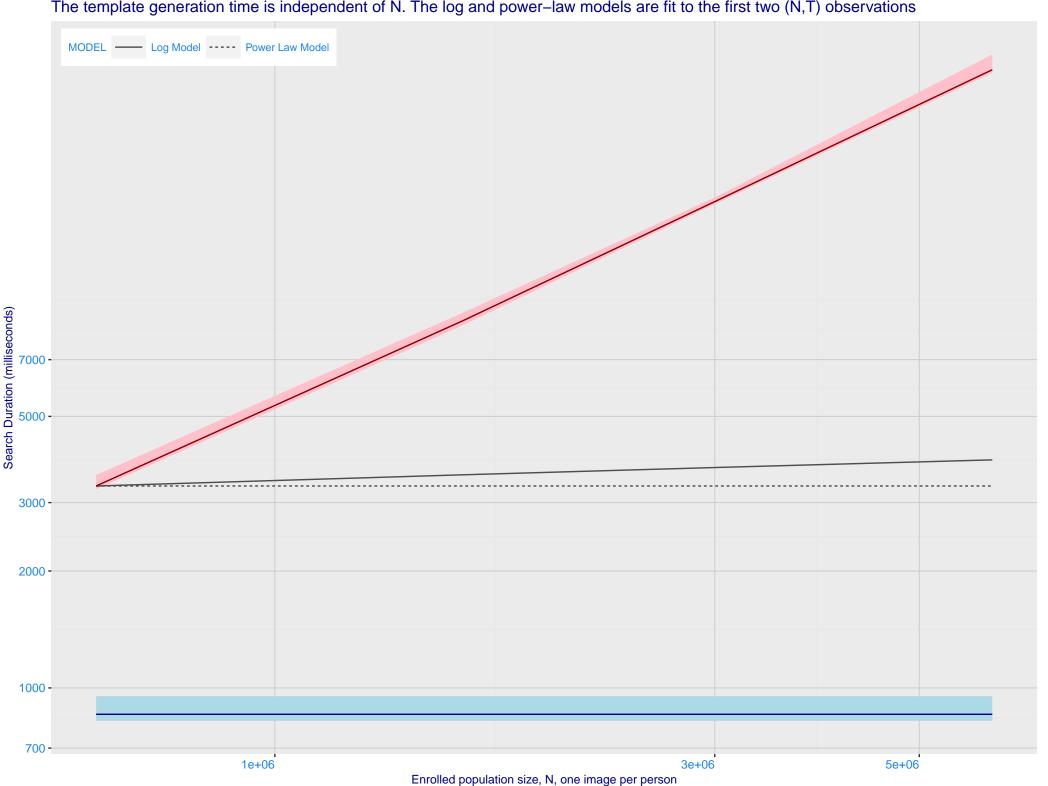




I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005) Immigration **Immigration** visa-border visa-kiosk 0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -0.003 - 0.002 - 0.001 - 0.001 - 0.000 - 0.000 - 0.050 FNIR@Rank = 1 newland_2 sensetime_005 Mugshot webcam Mugshot natural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



