A: Datasheet

Algorithm: camvi_2

Developer: Camvi Technologies

Submission Date: 2018_02_16

Template size: 1024 bytes

Template time (2.5 percentile): 756 msec

Template time (median): 770 msec

Template time (97.5 percentile): 787 msec

Investigation:

Frontal mugshot ranking 218 (out of 259) -- FNIR(1600000, 0, 1) = 0.1269 vs. lowest 0.0009 from sensetime_005

Mugshot profile ranking 109 (out of 190) -- FNIR(1600000, 0, 1) = 0.9152 vs. lowest 0.0591 from sensetime_005

Immigration visa-border ranking 110 (out of 142) -- FNIR(1600000, 0, 1) = 0.1941 vs. lowest 0.0014 from visionlabs_009

Immigration visa-kiosk ranking 117 (out of 139) — FNIR(1600000, 0, 1) = 0.5041 vs. lowest 0.0694 from cib_000

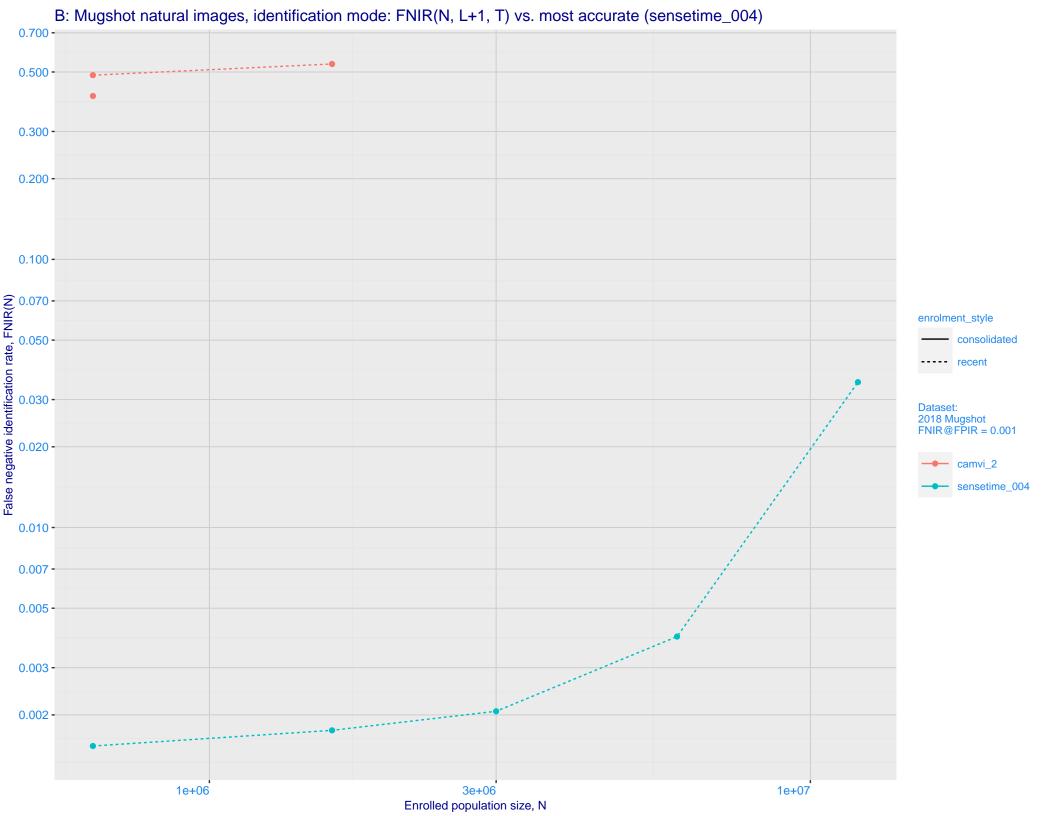
Identification:

Frontal mugshot ranking 217 (out of 259) -- FNIR(1600000, T, L+1) = 0.5356, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

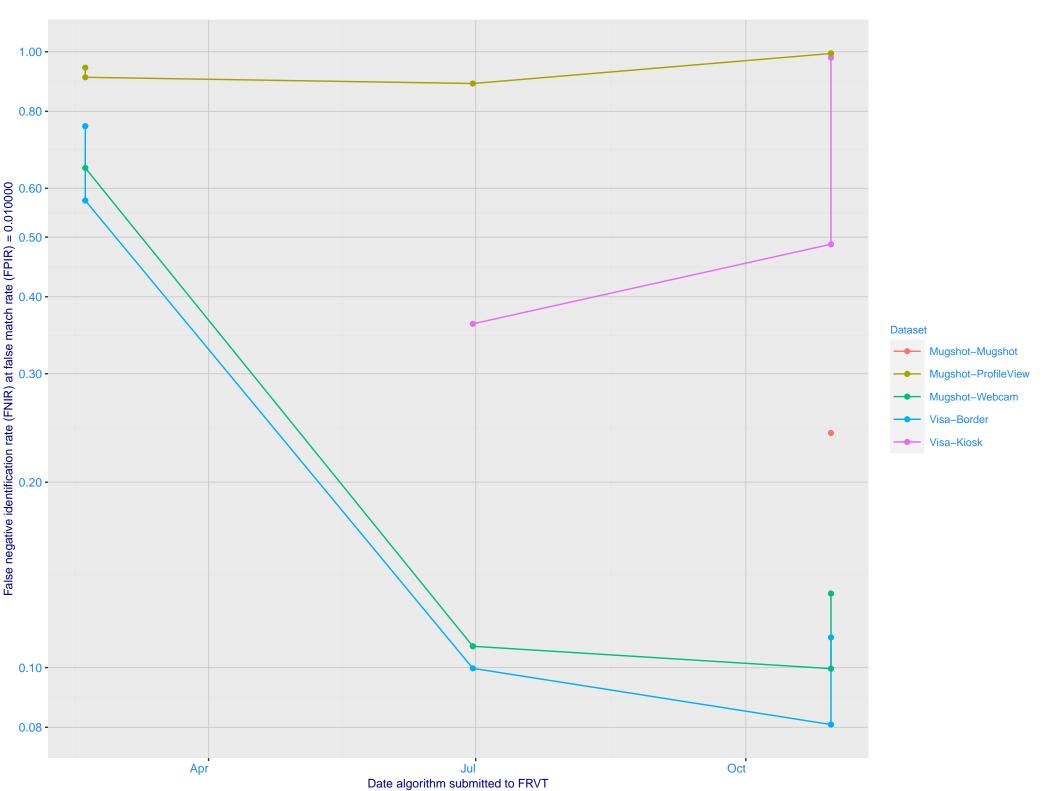
Mugshot profile ranking 70 (out of 189) -- FNIR(1600000, T, L+1) = 0.9892, FPIR=0.001000 vs. lowest 0.1733 from sensetime_005

Immigration visa-border ranking 109 (out of 139) -- FNIR(1600000, T, L+1) = 0.7367, FPIR=0.001000 vs. lowest 0.0059 from sensetime_004

Immigration visa-kiosk ranking 92 (out of 134) -- FNIR(1600000, T, L+1) = 0.8726, FPIR=0.001000 vs. lowest 0.1048 from sensetime_005

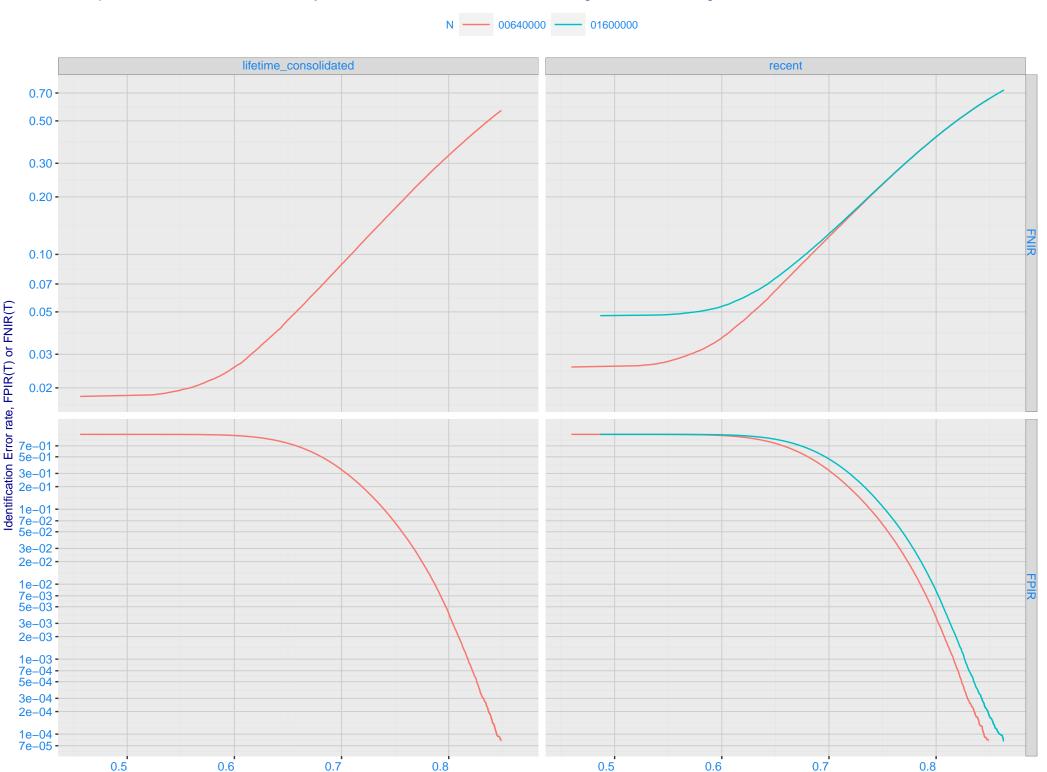


C: Evolution of accuracy for CAMVI algorithms on three datasets 2018 – present



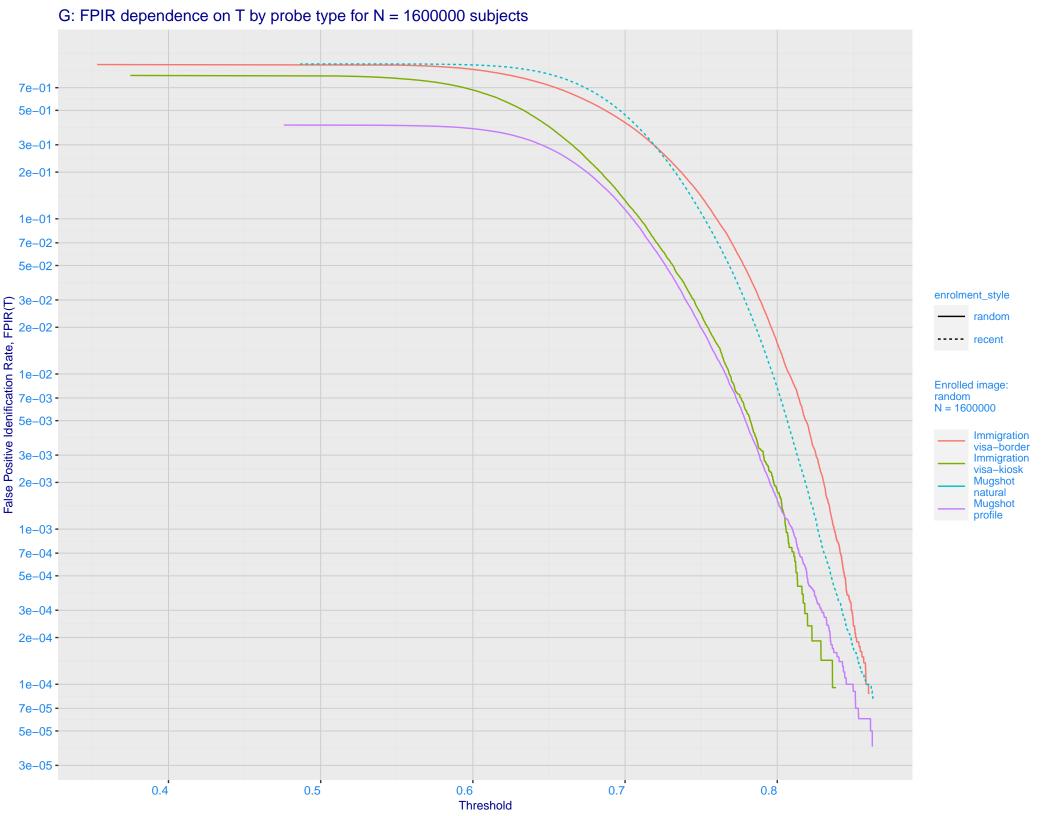
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Immigration Immigration Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 - 0.005 - 0.005 - 0.002 - 0.001 - 0.001 - 0.700 - 0.500 - 0.200 enrolment_style random-ONE-MATE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

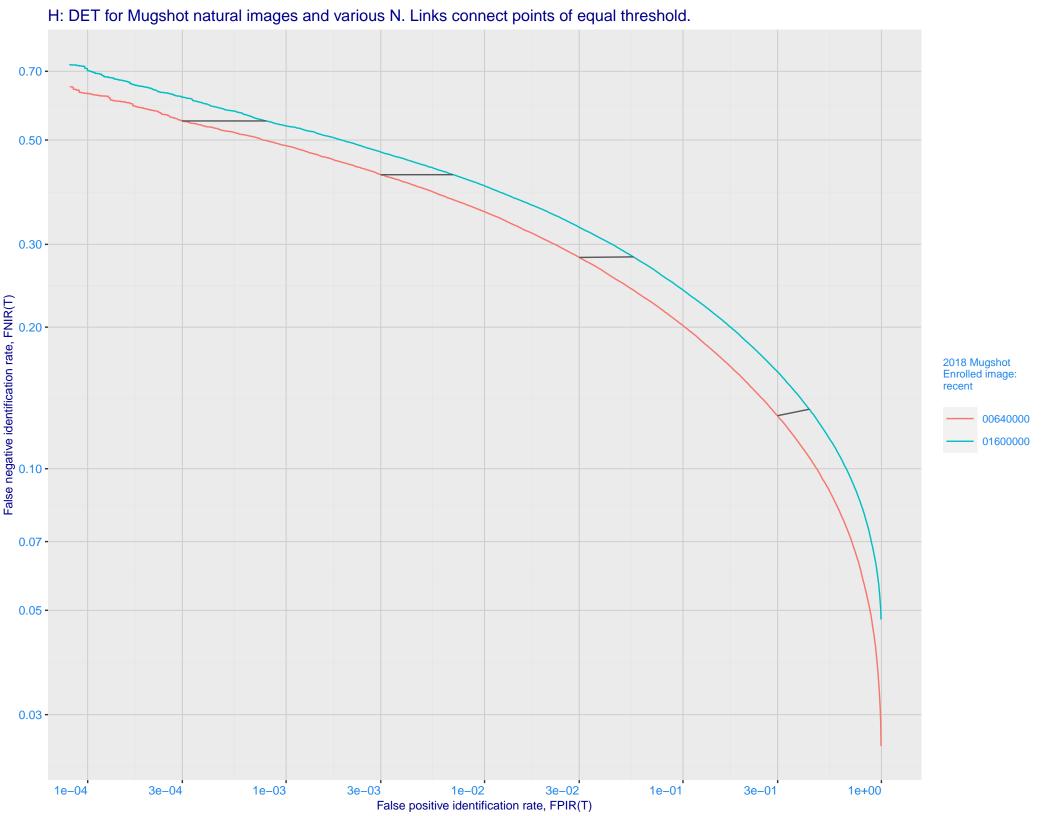
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images



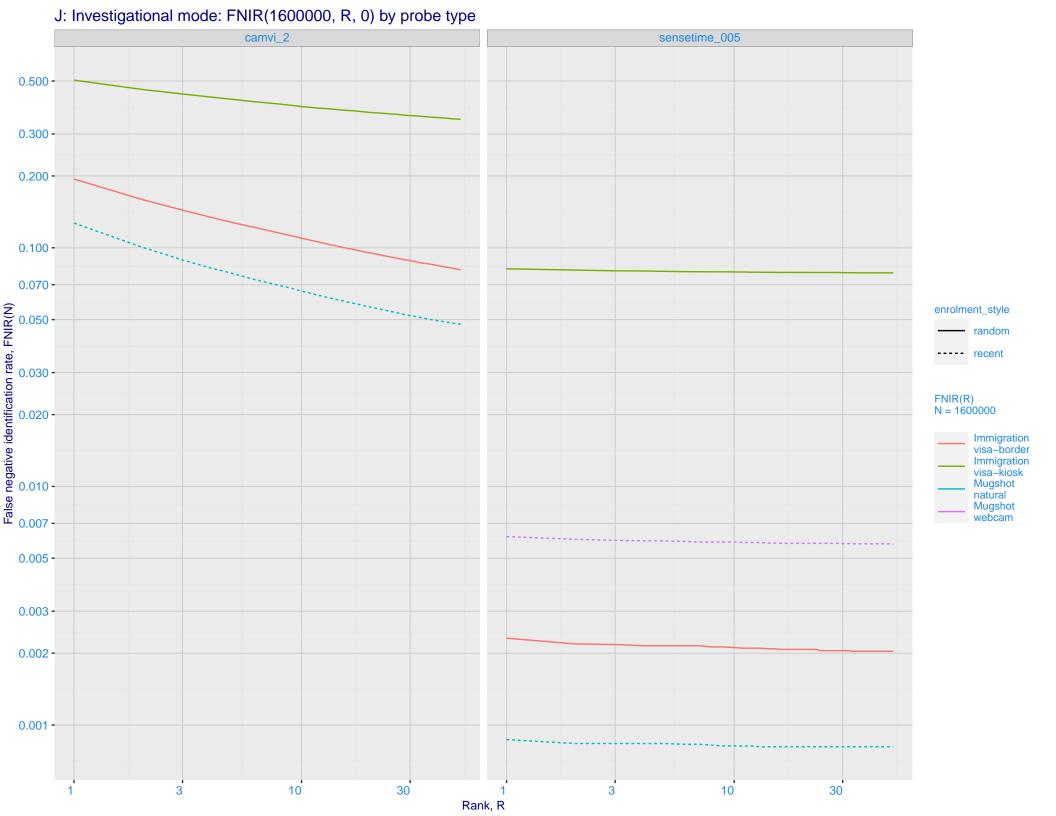
Threshold

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 -SEL 16-01-Enrolled images: recent N = 1600000 Selectivity, 7e-02 - 5e-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)

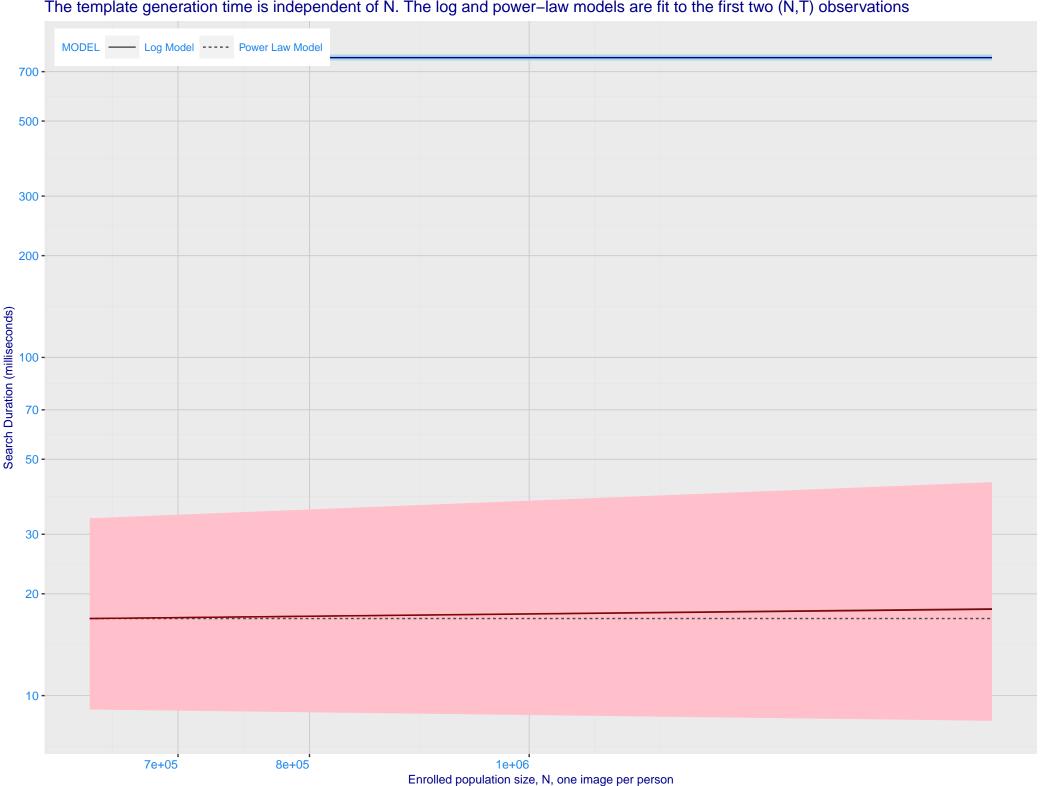




I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005) Immigration **Immigration** visa-border visa-kiosk 0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -Ealse negative identification rate, FNIR(N) 0.003 - 0.001 - 0.500 - 0.200 - 0. enrolment_style consolidated ---- random --- recent Mugshot Mugshot webcam natural FNIR@Rank = 1 -- camvi_2 sensetime_005 0.100 -0.070 -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



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



