A: Datasheet

Algorithm: gorilla_3

Developer: Gorilla Technology

Submission Date: 2018_10_26

Template size: 2156 bytes

Template time (2.5 percentile): 532 msec

Template time (median): 560 msec

Template time (97.5 percentile): 615 msec

Investigation:

Frontal mugshot ranking 185 (out of 265) -- FNIR(1600000, 0, 1) = 0.0361 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 164 (out of 227) -- FNIR(1600000, 0, 1) = 0.0700 vs. lowest 0.0062 from sensetime_005

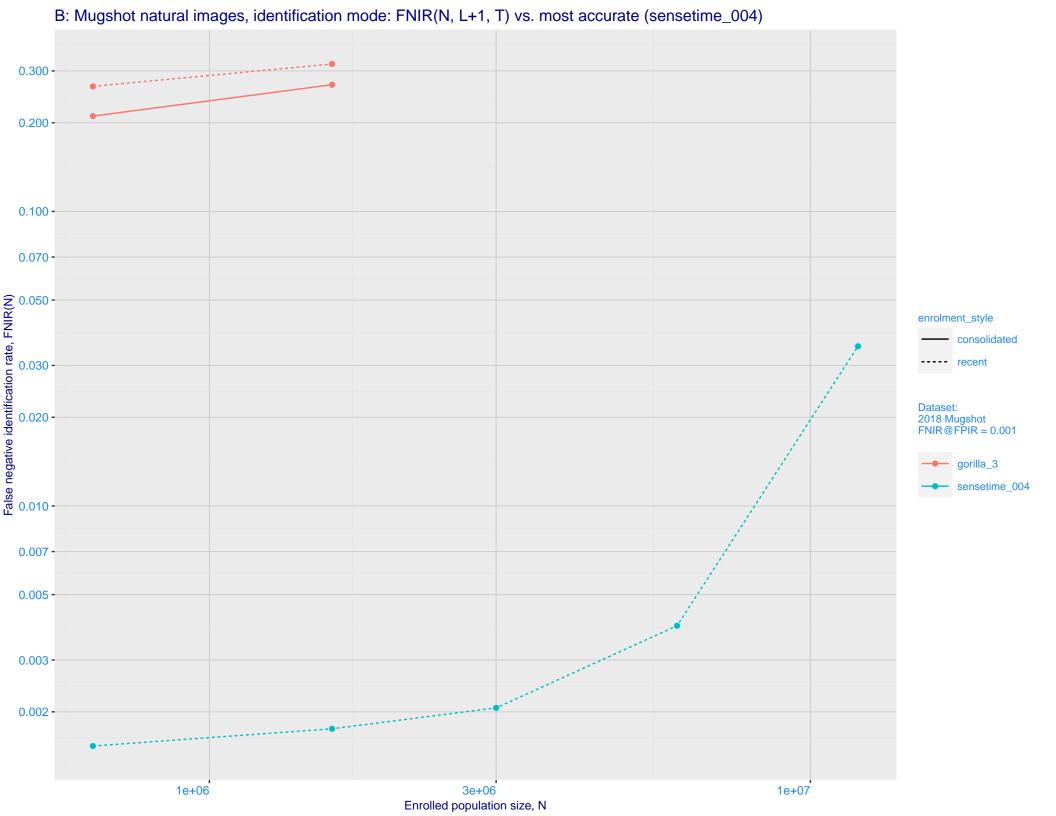
Mugshot profile ranking 101 (out of 196) -- FNIR(1600000, 0, 1) = 0.8205 vs. lowest 0.0591 from sensetime_005

Identification:

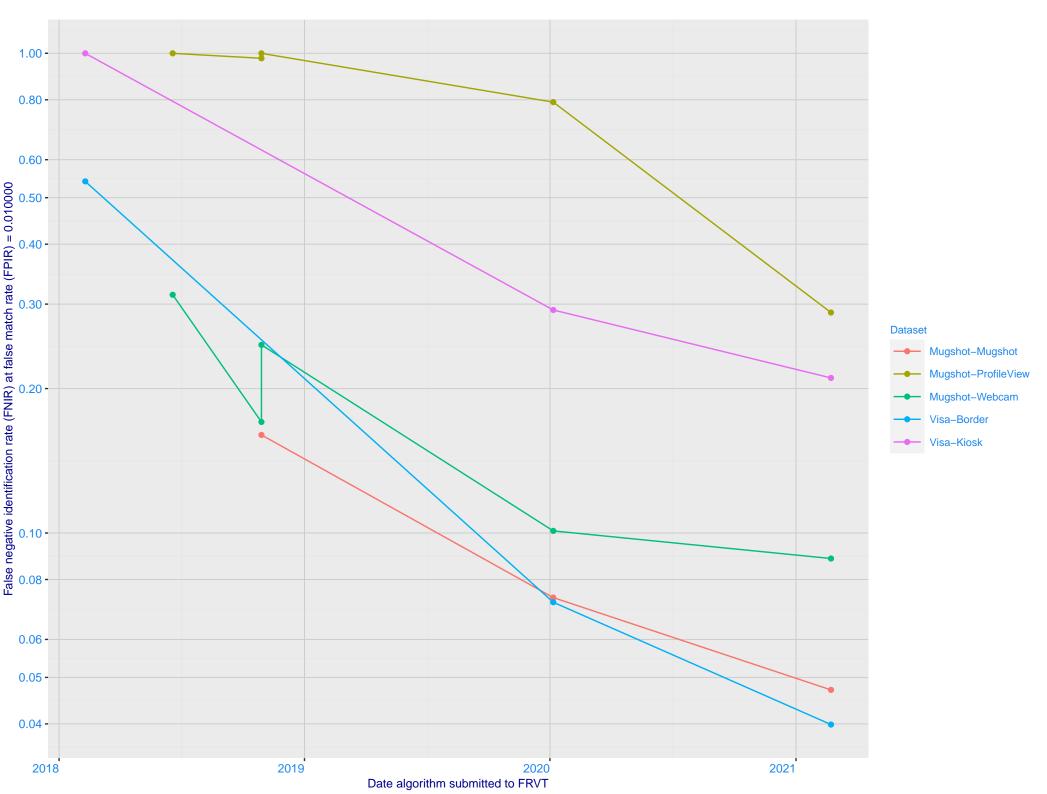
Frontal mugshot ranking 198 (out of 265) -- FNIR(1600000, T, L+1) = 0.3167, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot webcam ranking 177 (out of 225) -- FNIR(1600000, T, L+1) = 0.4342, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 192 (out of 195) -- FNIR(1600000, T, L+1) = 1.0000, FPIR=0.001000 vs. lowest 0.1331 from hr_000

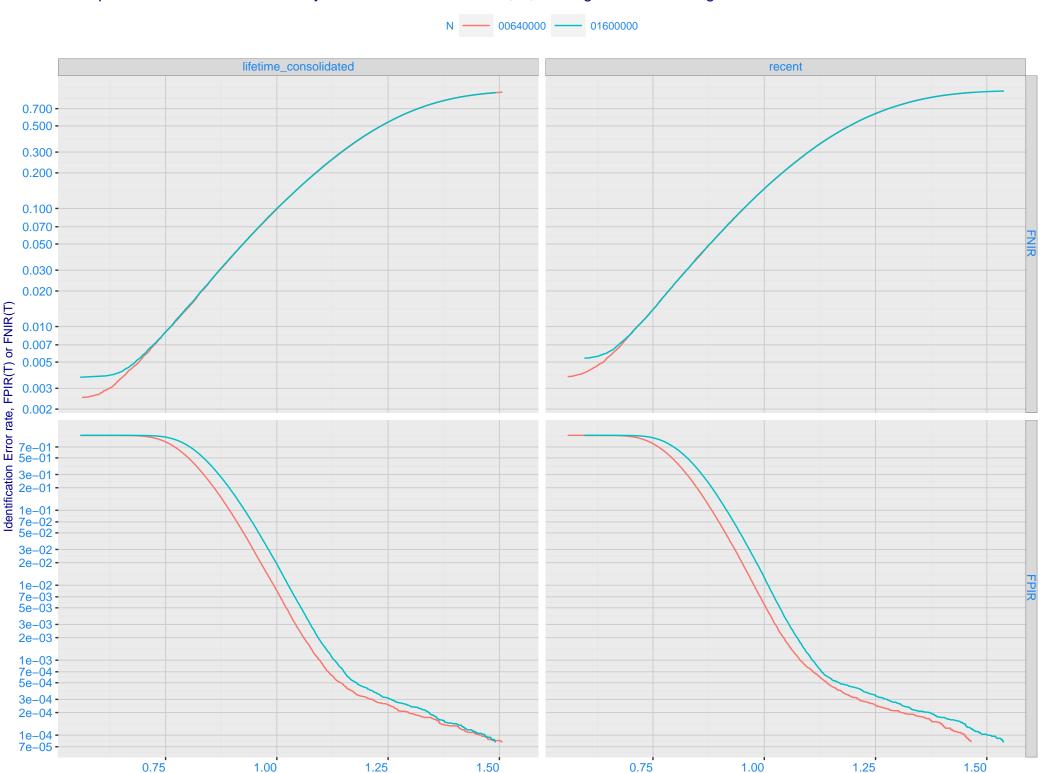


C: Evolution of accuracy for GORILLA algorithms on three datasets 2018 – present



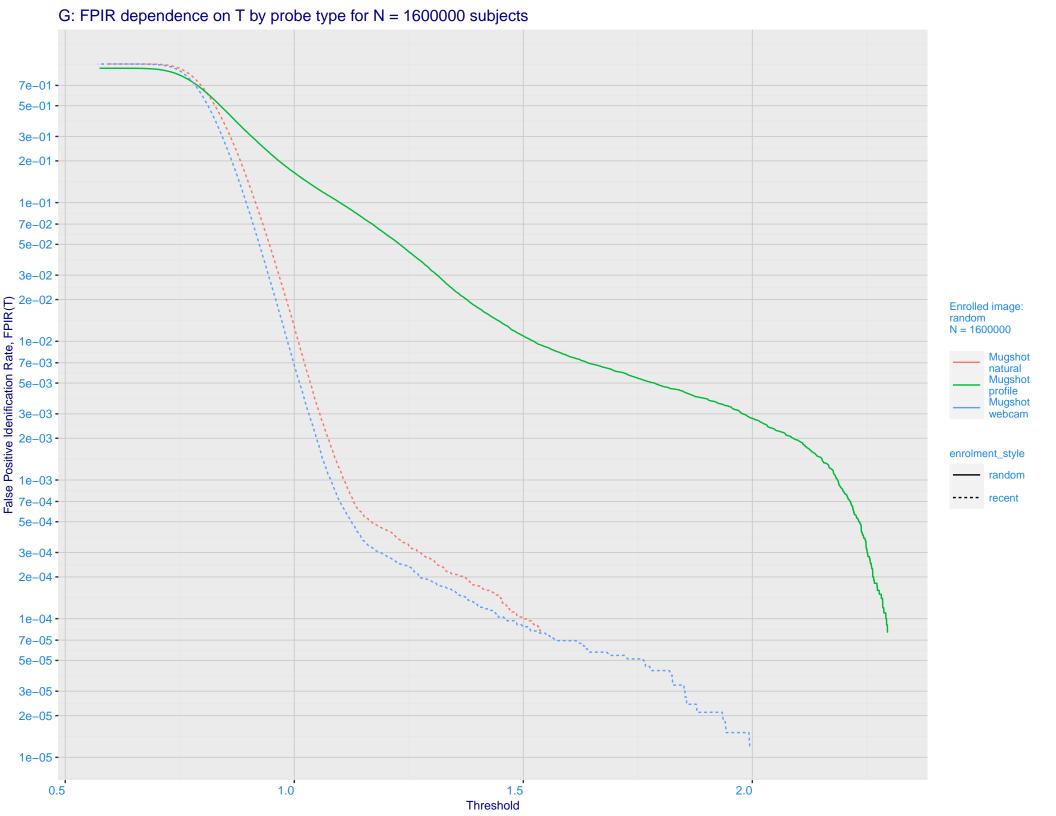
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals **Immigration** Mugshot **Immigration** visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 - 0.005 - 0.005 - 0.002 - 0.001 - 0.001 - 0.700 - 0.500 - 0.200 enrolment_style consolidated-ONE-MATE 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 -

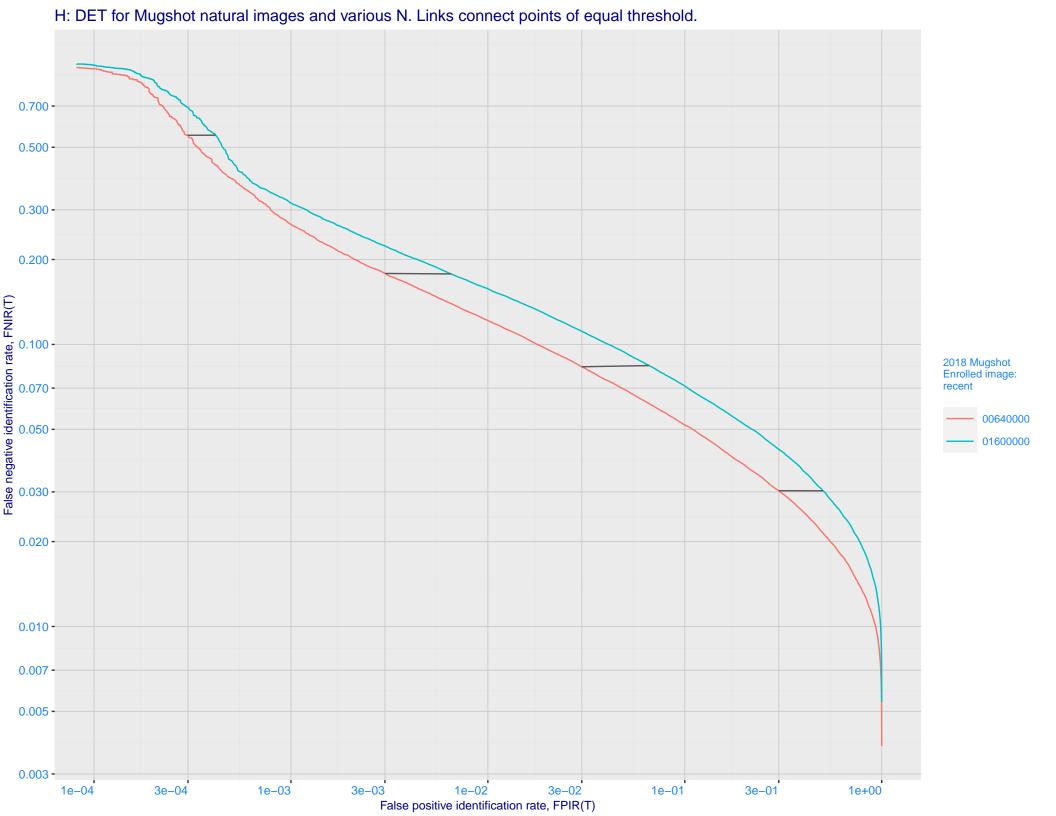
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images



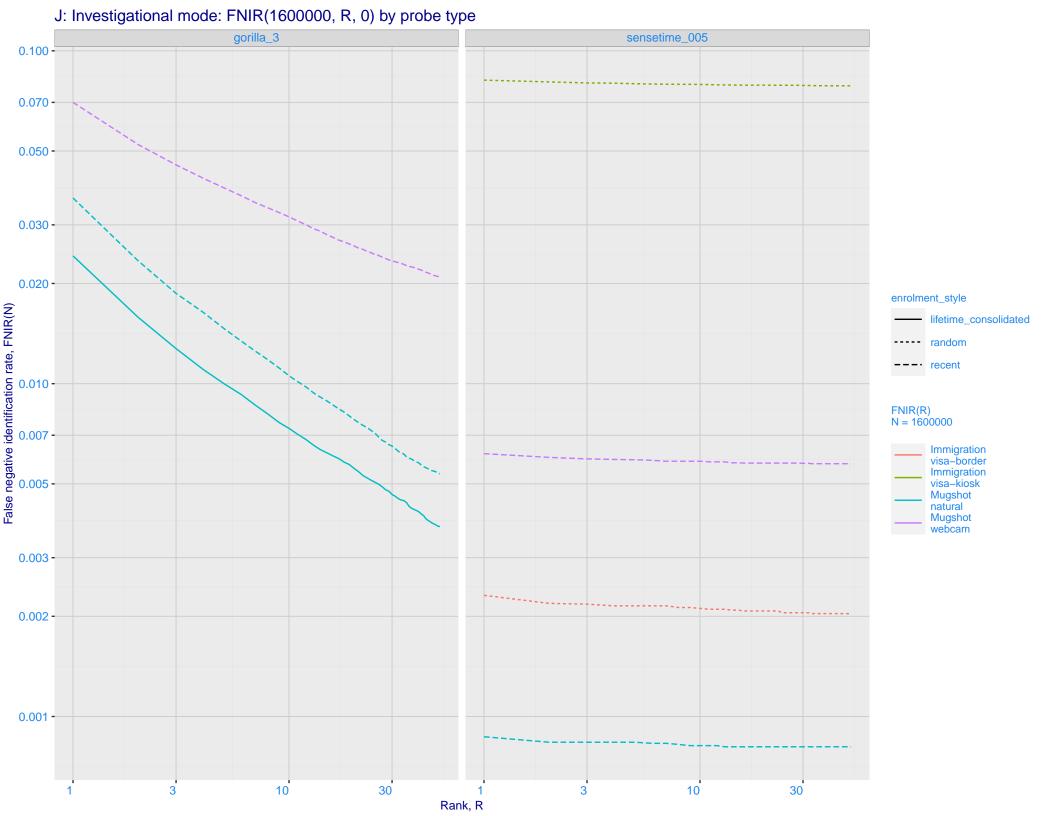
Threshold

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 -1e-01 -Selectivity. SEL(T) 5e-02 - 5e-02 - 5e-02 - 1e-02 - 1 **Enrolled images:** recent N = 1600000 Mugshot natural Mugshot webcam 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 -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)

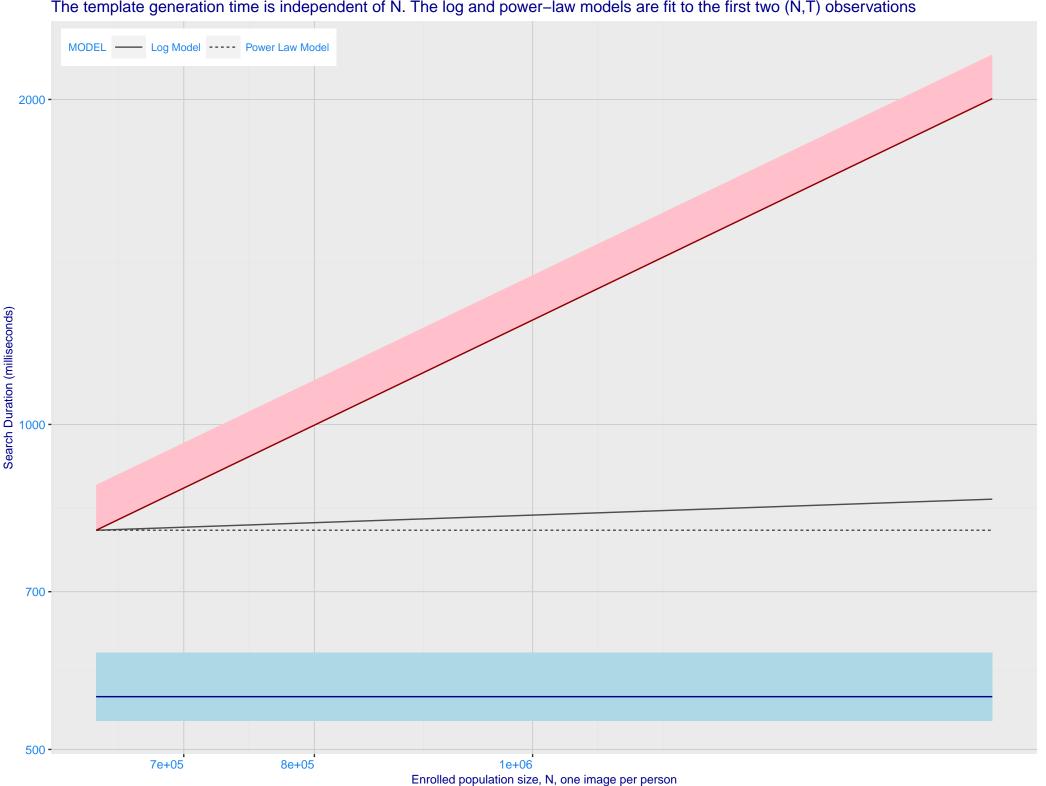




I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005) Immigration **Immigration** visa-border visa-kiosk 0.100 0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -Ealse negative identification rate, FNIR(N) 0.002 - 0.001 - 0.000 - 0.050 - 0.030 - 0. enrolment_style consolidated ---- random --- recent Mugshot webcam Mugshot natural FNIR@Rank = 1 gorilla_3 sensetime_005 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



