A: Datasheet

Algorithm: yitu_5

Developer: Shanghai Yitu Technology

Submission Date: 2018_10_30

Template size: 2070 bytes

Template time (2.5 percentile): 852 msec

Template time (median): 853 msec

Template time (97.5 percentile): 928 msec

Investigation:

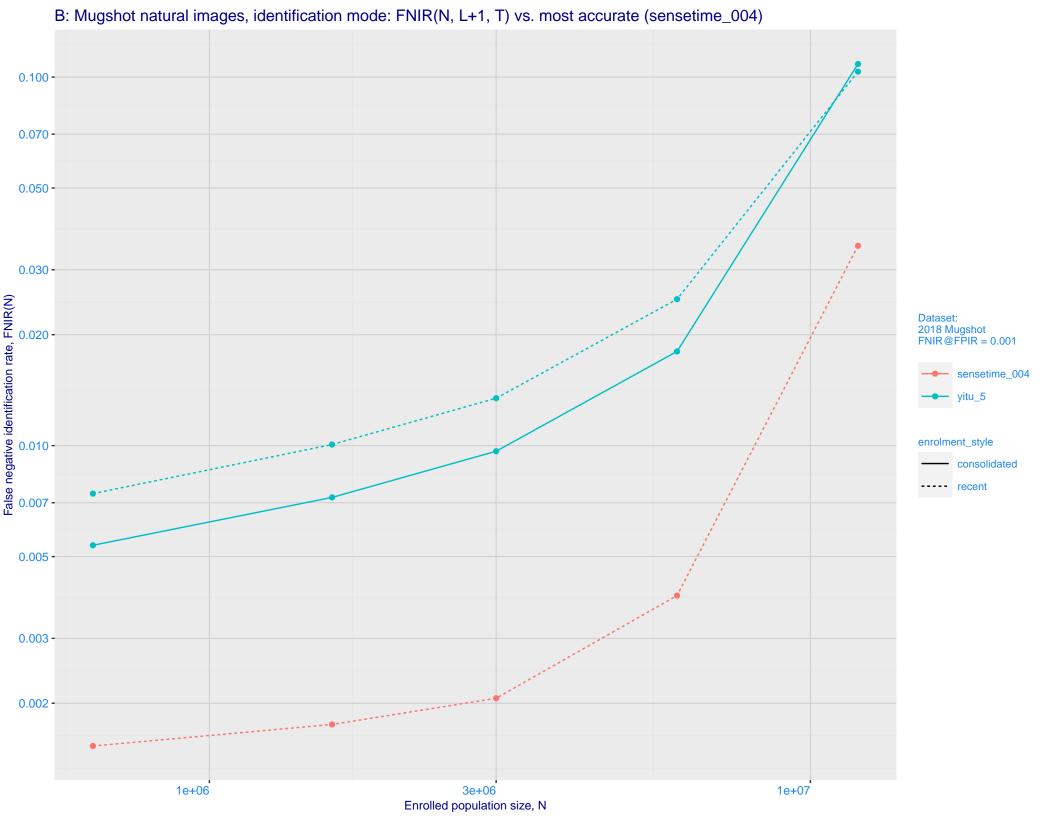
Frontal mugshot ranking 37 (out of 265) -- FNIR(1600000, 0, 1) = 0.0023 vs. lowest 0.0009 from sensetime_005

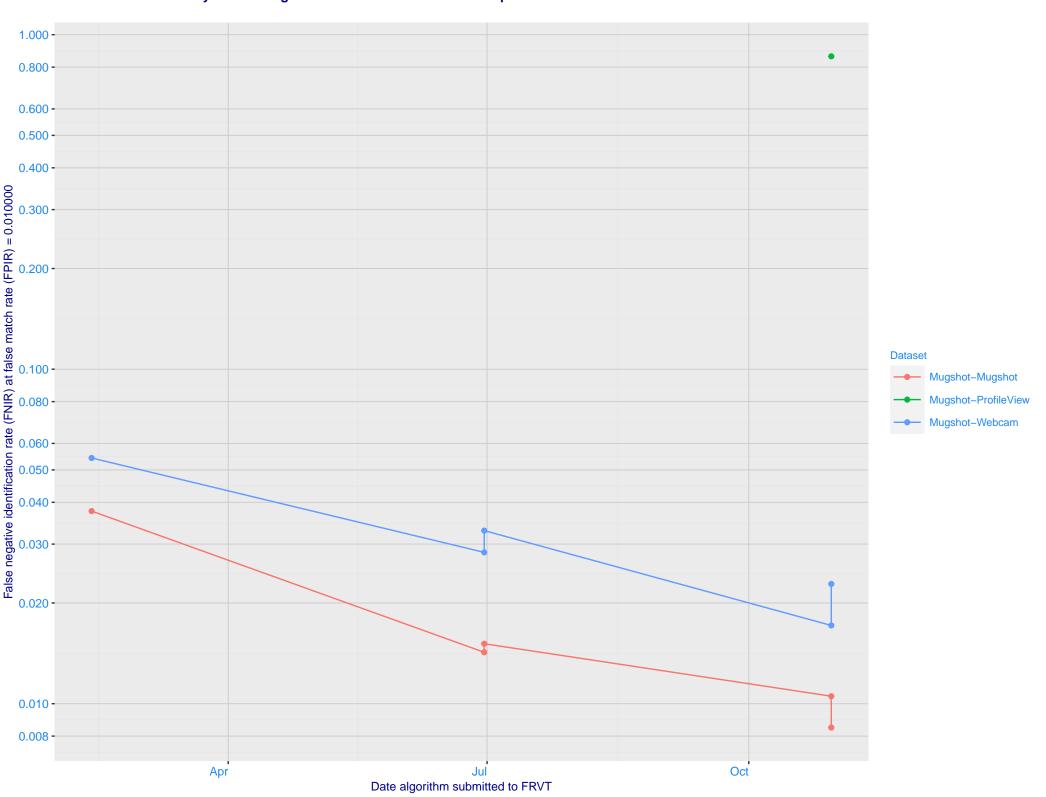
Mugshot webcam ranking 40 (out of 227) -- FNIR(1600000, 0, 1) = 0.0145 vs. lowest 0.0062 from sensetime_005

Identification:

Frontal mugshot ranking 17 (out of 265) -- FNIR(1600000, T, L+1) = 0.0101, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

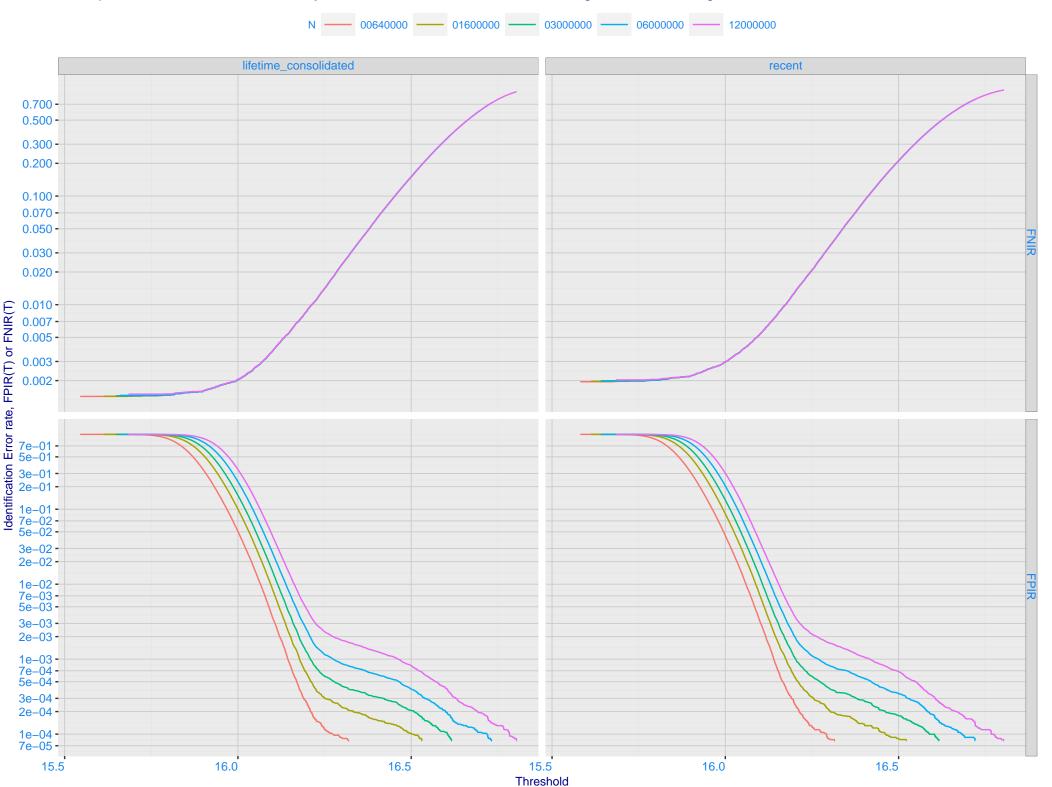
Mugshot webcam ranking 16 (out of 225) -- FNIR(1600000, T, L+1) = 0.0322, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003



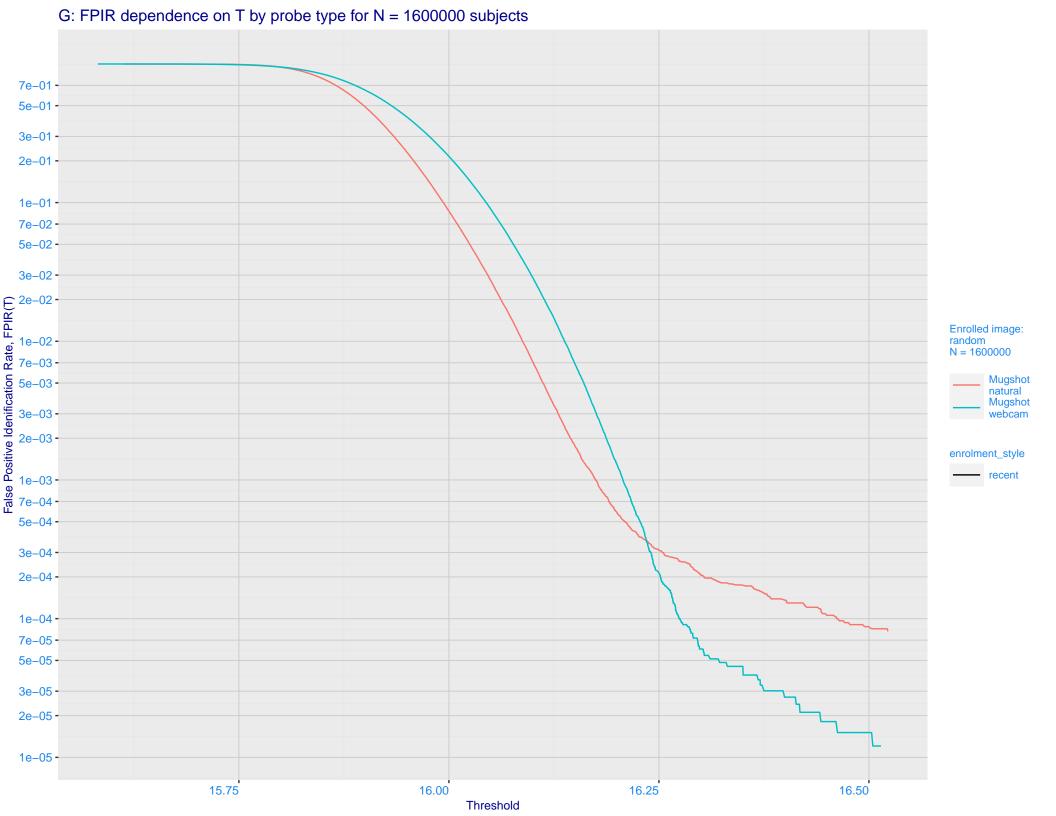


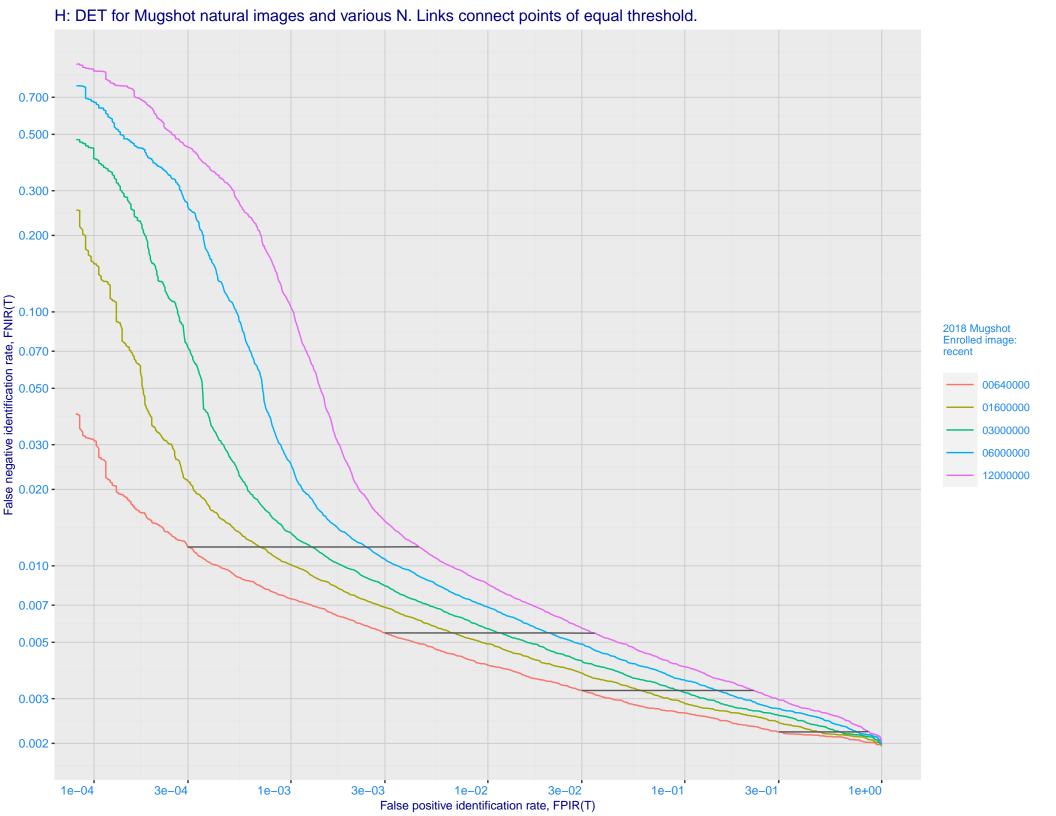
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals **Immigration Immigration** Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -Ealse negative identification rate, FNIR(T) 0.003 - 0.0001 - 0.700 - 0.500 - 0.200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

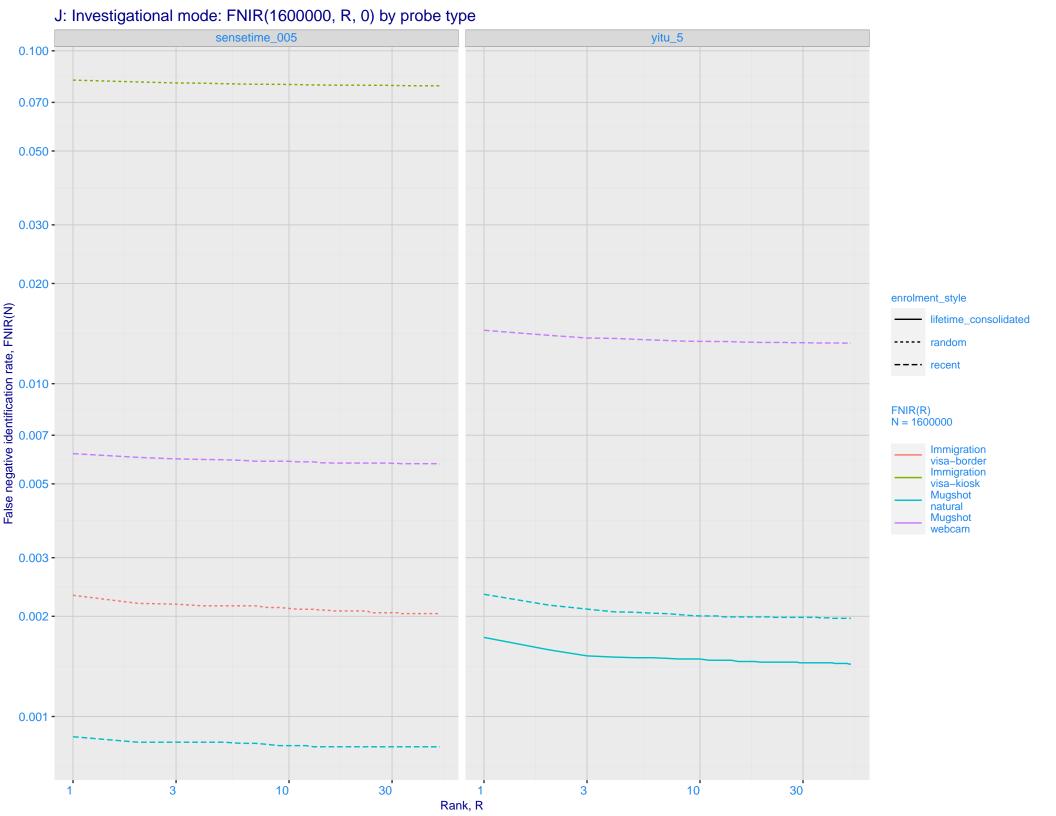


F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 -5e+01 -3e+01 -2e+01 -1e+01 -7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -5e-01 -3e-01 -2e-01 -1e-01 -7e-02 -5e-02 -3e-02 -3e-02 -1e-02 -**Enrolled images:** recent N = 1600000 Mugshot natural Mugshot webcam 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 -3e-02 1e-05 3e-05 1e-04 3e-04 1e-03 3e-03 1e-02 1e-01 3e-01 False Positive Idenification Rate, FPIR(T)

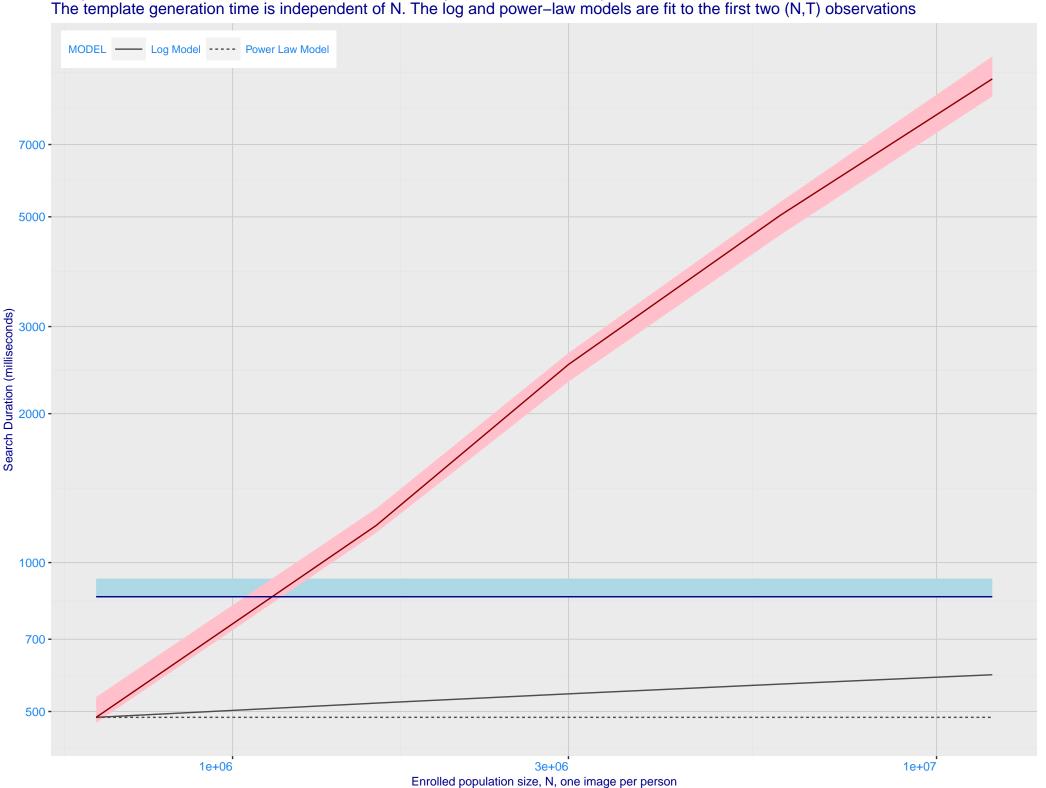


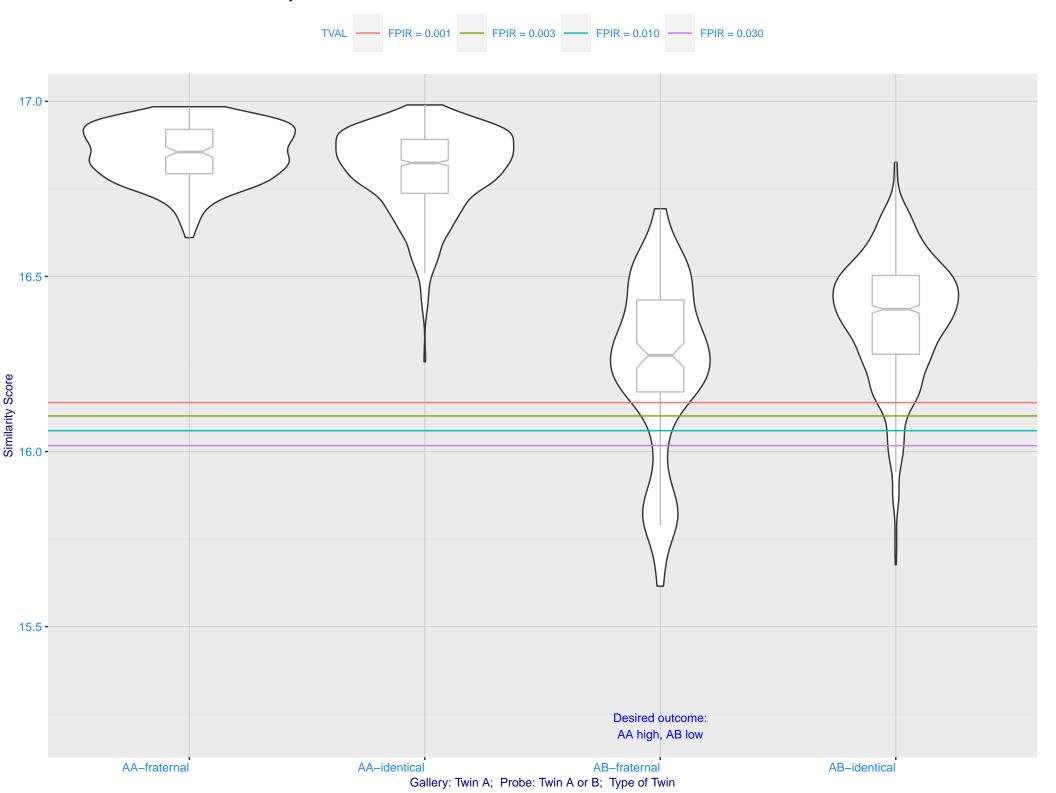


I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005) Immigration **Immigration** visa-border visa-kiosk 0.100 0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -Ealse negative identification rate, FNIR(N) 0.002 - 0.001 - 0.000 - 0.050 - 0.030 - 0. enrolment_style consolidated ---- random --- recent Mugshot webcam Mugshot natural FNIR@Rank = 1 sensetime_005 yitu_5 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



