## A: Datasheet

Algorithm: siat\_0

Developer: Shenzhen Inst Adv Integrated Tech CAS

Submission Date: 2018\_02\_14

Template size: 1096 bytes

Template time (2.5 percentile): 349 msec

Template time (median): 351 msec

Template time (97.5 percentile): 369 msec

Investigation:

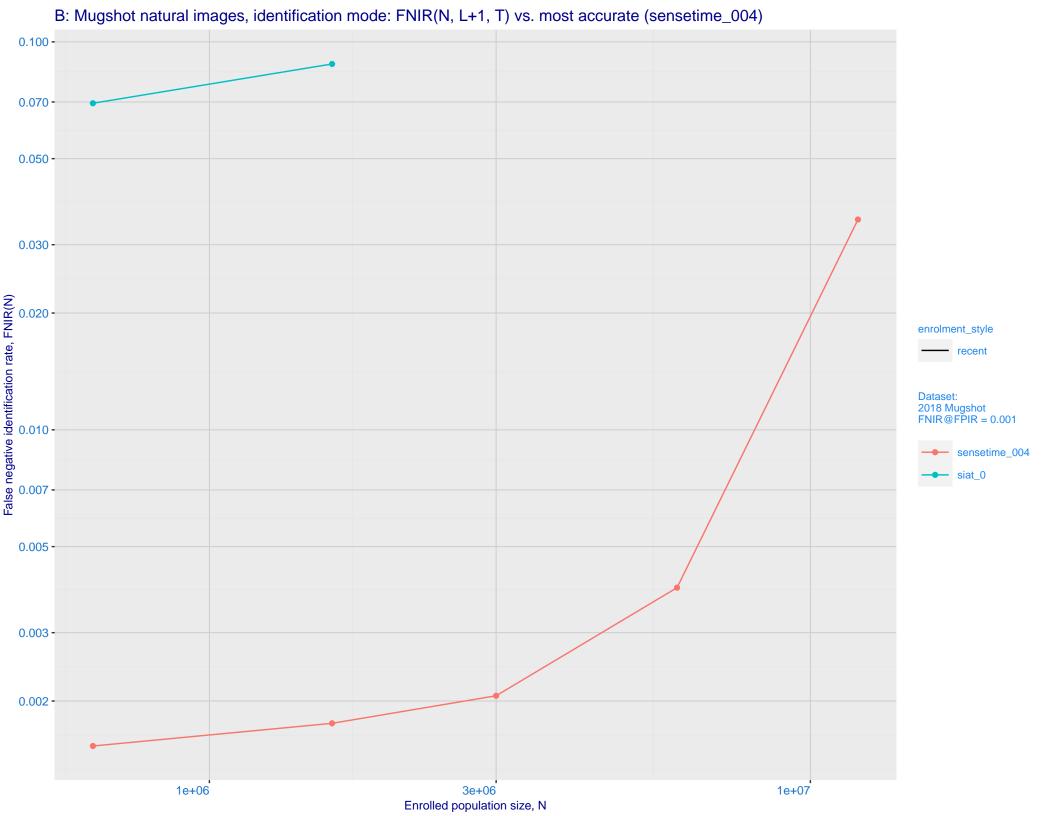
Frontal mugshot ranking 119 (out of 279) -- FNIR(1600000, 0, 1) = 0.0079 vs. lowest 0.0009 from sensetime\_005

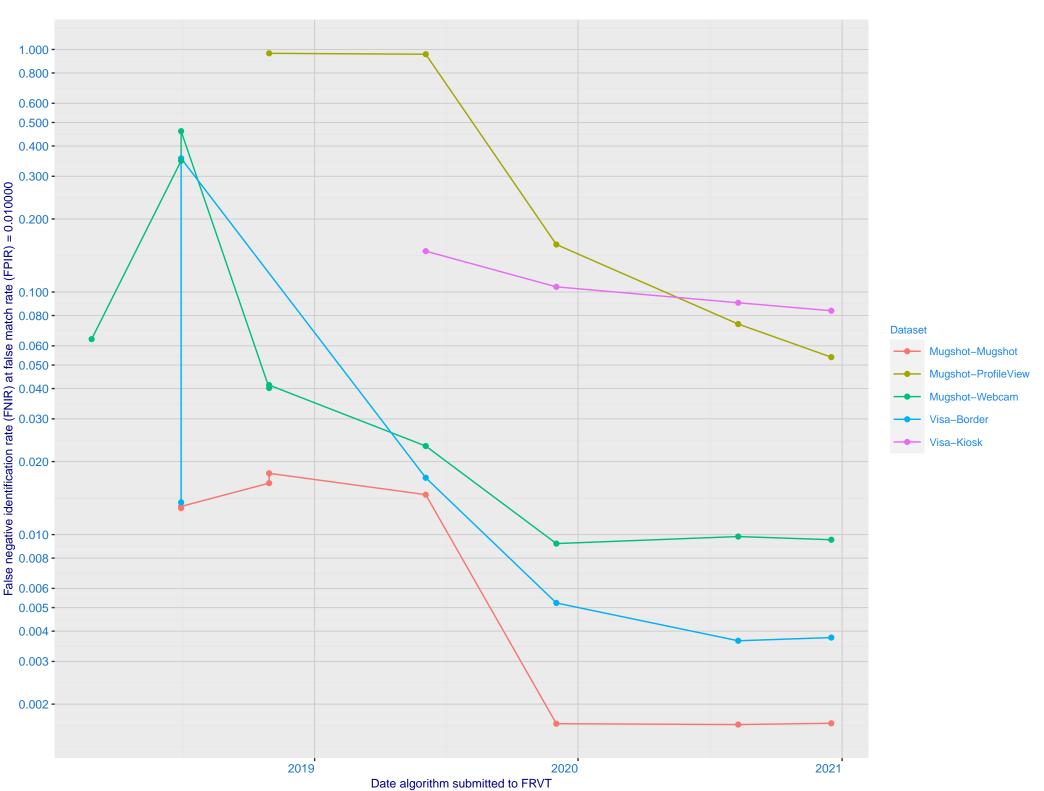
Mugshot webcam ranking 90 (out of 241) -- FNIR(1600000, 0, 1) = 0.0207 vs. lowest 0.0062 from sensetime\_005

Identification:

Frontal mugshot ranking 137 (out of 279) -- FNIR(1600000, T, L+1) = 0.0877, FPIR=0.001000 vs. lowest 0.0018 from sensetime\_004

Mugshot webcam ranking 81 (out of 236) -- FNIR(1600000, T, L+1) = 0.1073, FPIR=0.001000 vs. lowest 0.0122 from sensetime\_003

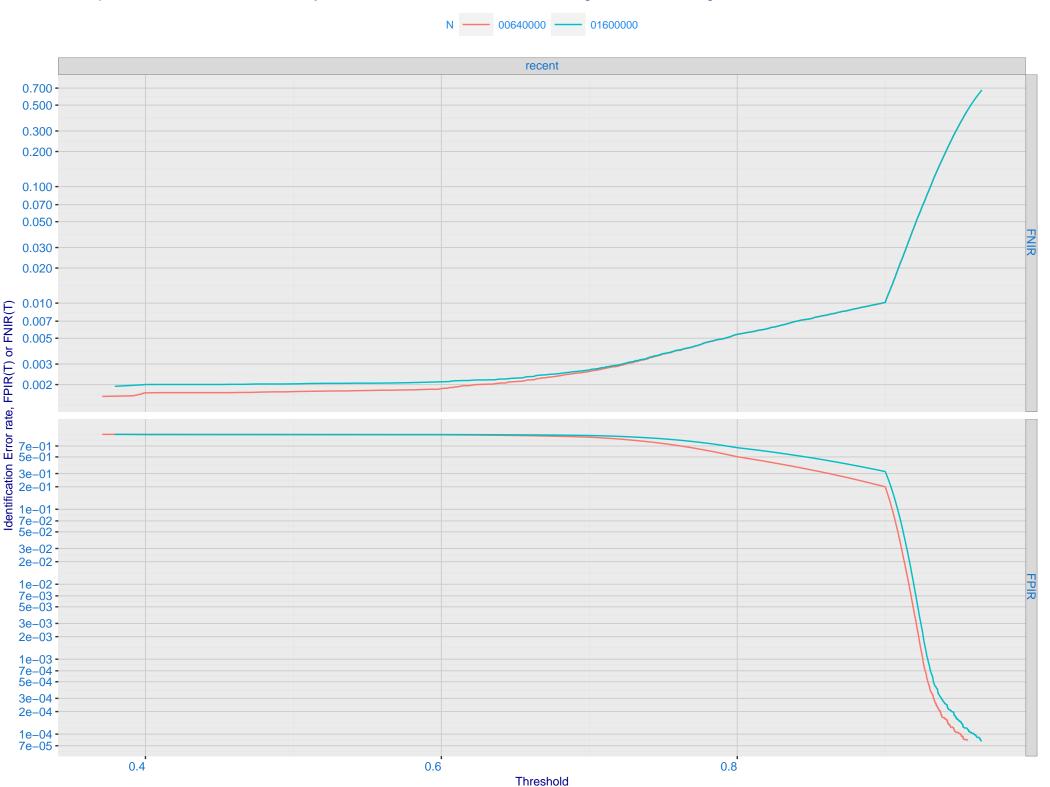




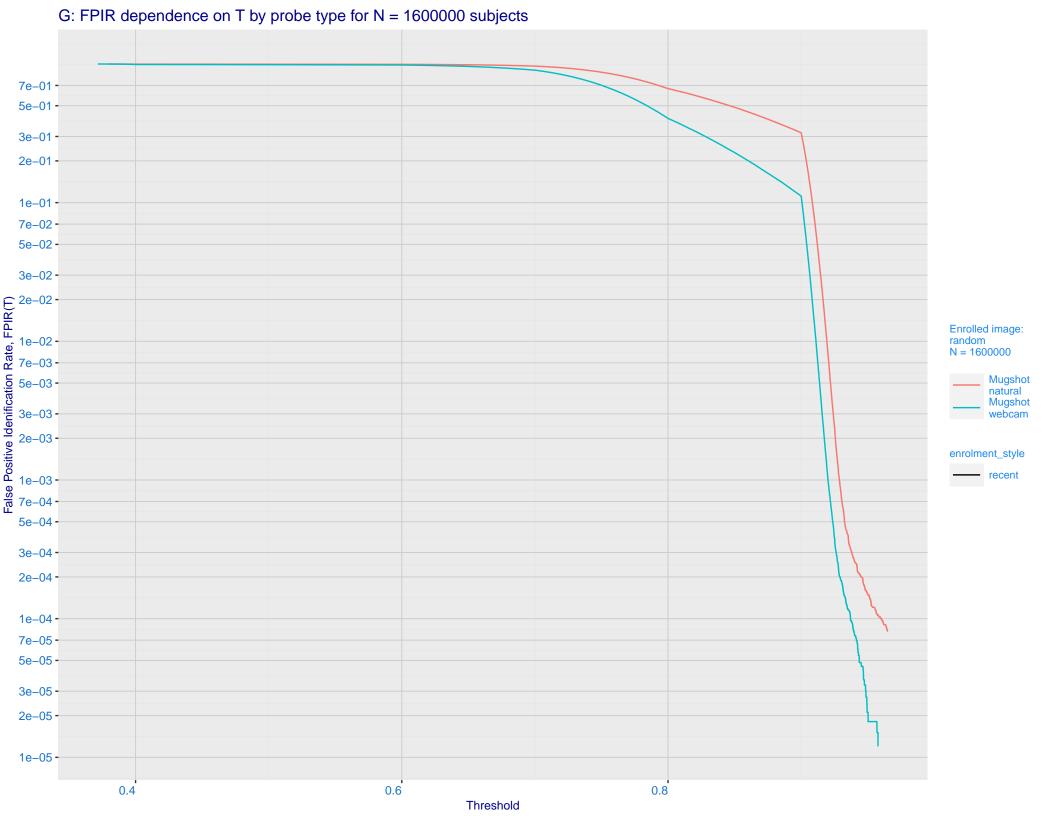
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Immigration Immigration Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 sensetime 004 0.030 -0.020 -0.010 -0.007 -Ealse negative identification rate, FNIR(T) 0.003 - 0.000 - 0.500 - 0.500 - 0.200 - 0.100 - 0. enrolment\_style random-ONE-MATE recent-ONE-MATE 0.070 -0.050 siat 0 0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -0.002 -0.001 -

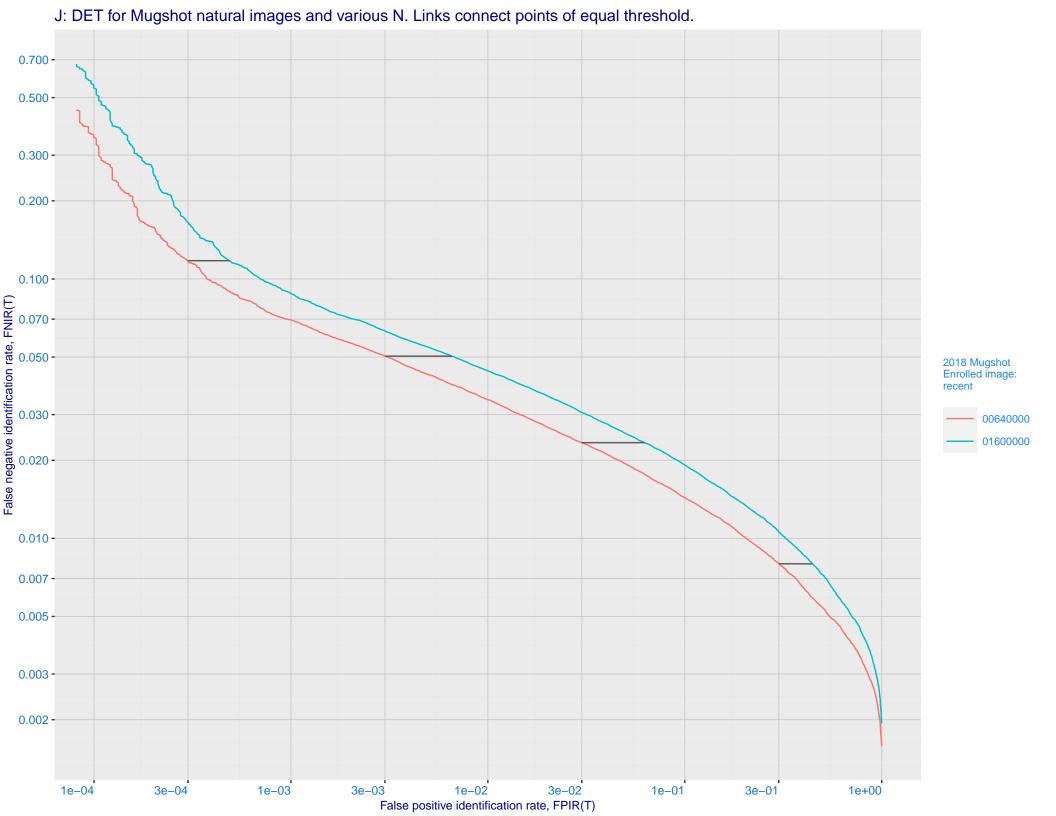
False positive identification rate, FPIR(T)

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

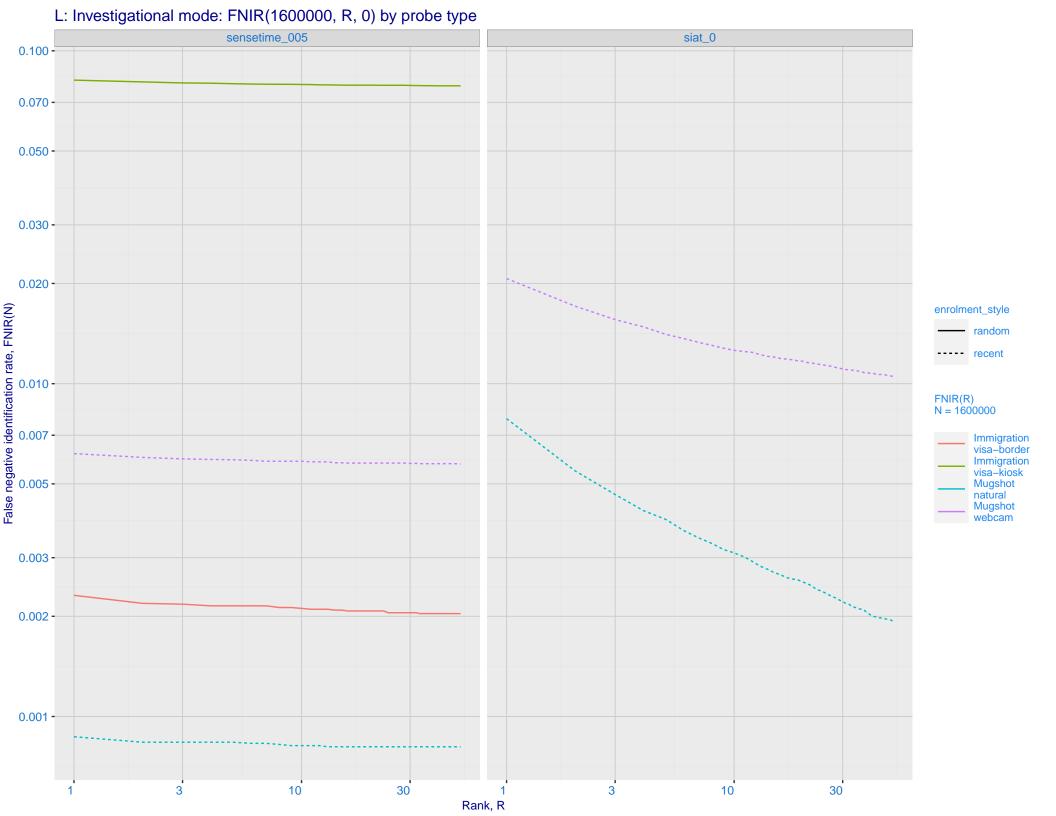


F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 -5e+01 -3e+01 -2e+01 -1e+01 -7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -5e-01 -3e-01 -2e-01 -1e-01 -7e-02 -5e-02 -3e-02 -3e-02 -1e-02 -**Enrolled images:** recent N = 1600000 Mugshot natural Mugshot webcam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

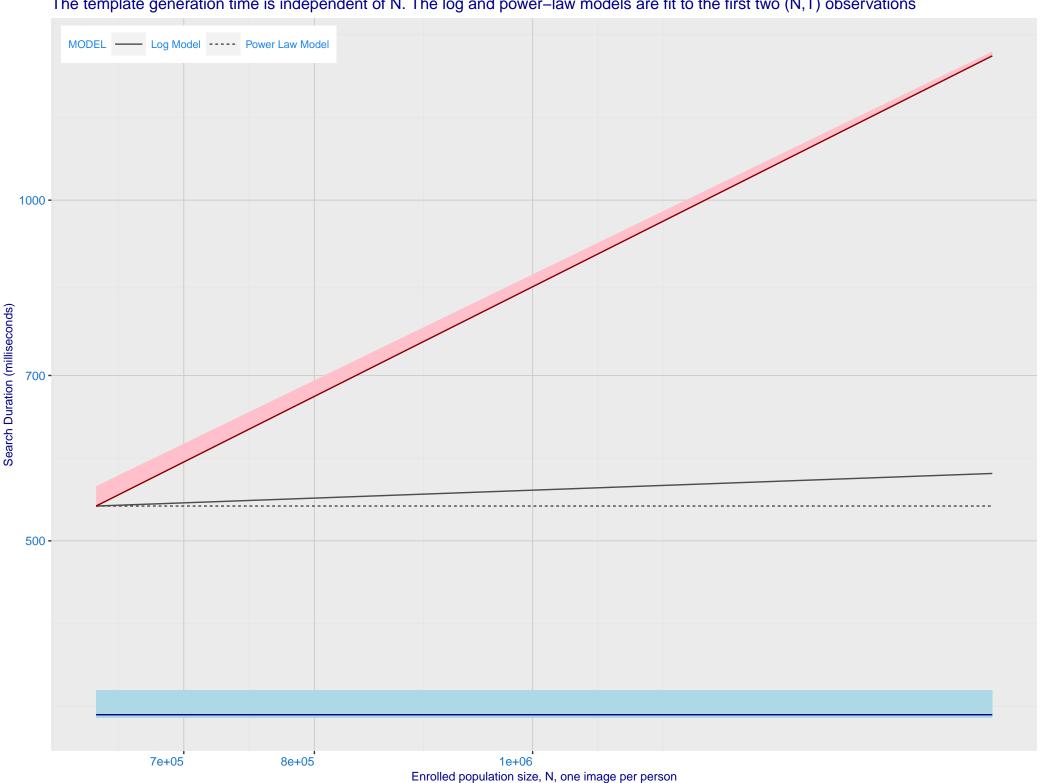




K: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime\_005) Immigration **Immigration** visa-border visa-kiosk 0.100 0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -Ealse negative identification rate, FNIR(N) 0.002 - 0.001 - 0.000 - 0.050 - 0.030 - 0. enrolment\_style - random ---- recent Mugshot Mugshot webcam natural FNIR@Rank = 1 sensetime\_005 siat\_0 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



