A: Datasheet

Algorithm: rankone_1

Developer: Rank One Computing

Submission Date: 2018_02_15

Template size: 324 bytes

Template time (2.5 percentile): 134 msec

Template time (median): 136 msec

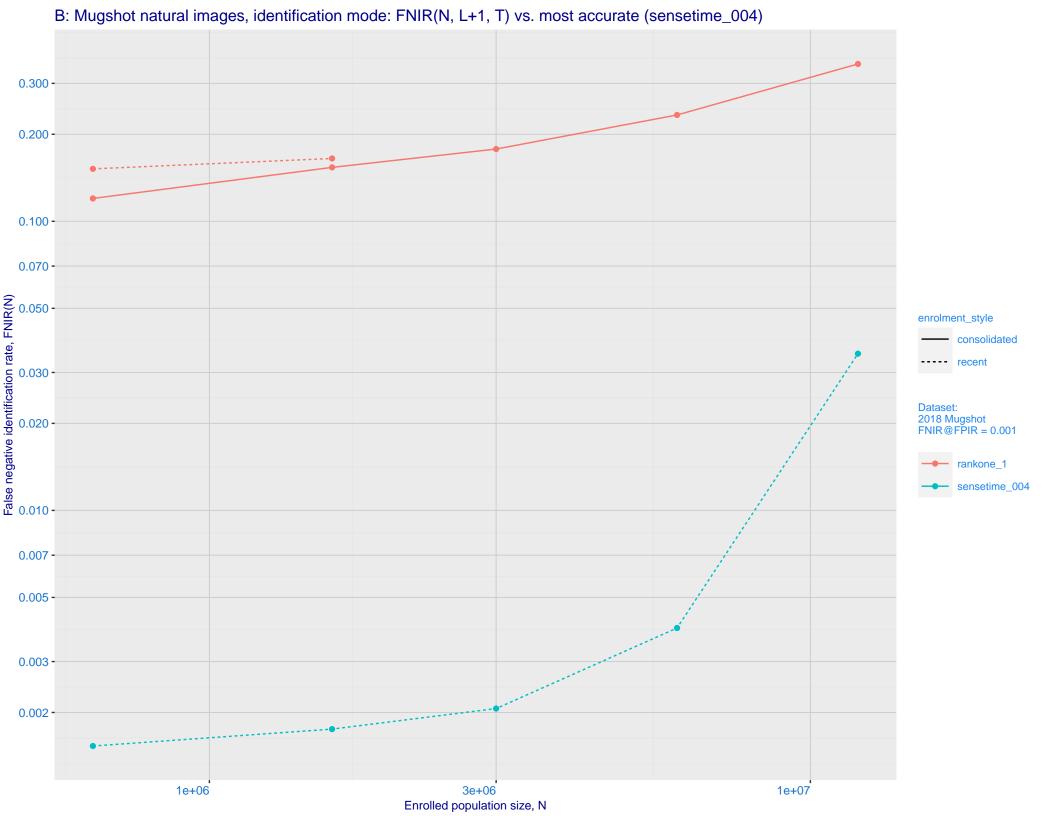
Template time (97.5 percentile): 143 msec

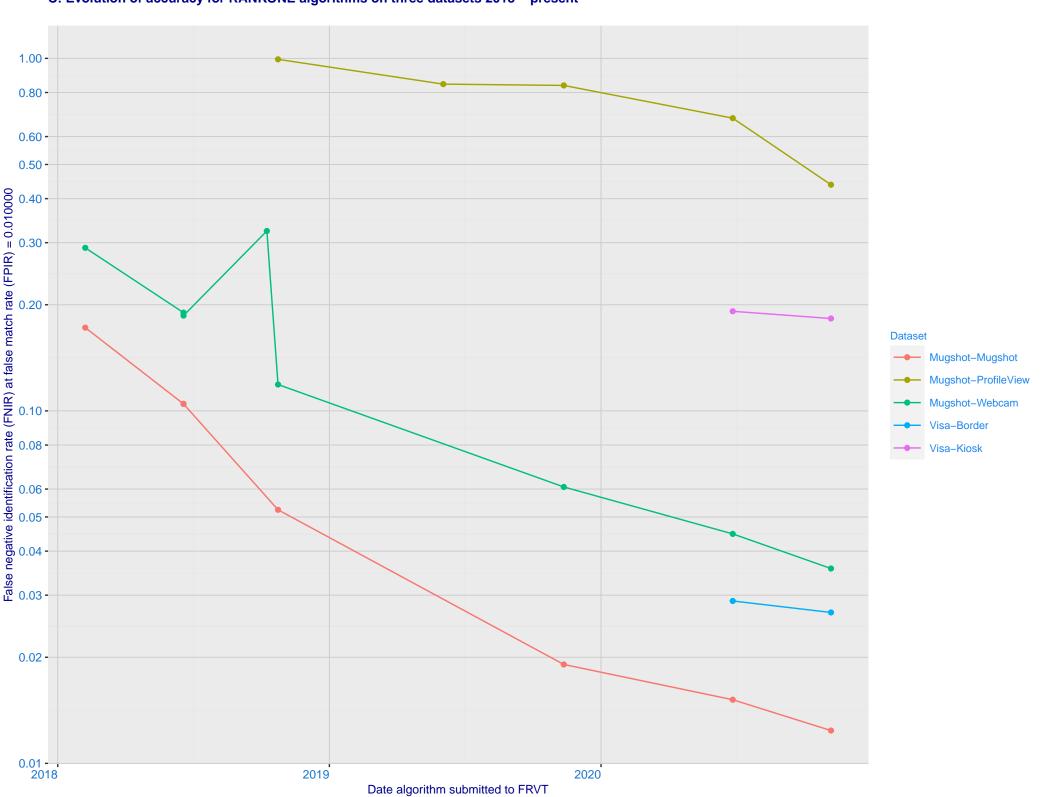
Investigation:

Frontal mugshot ranking 182 (out of 279) — FNIR(1600000, 0, 1) = 0.0221 vs. lowest 0.0009 from sensetime_005

Identification:

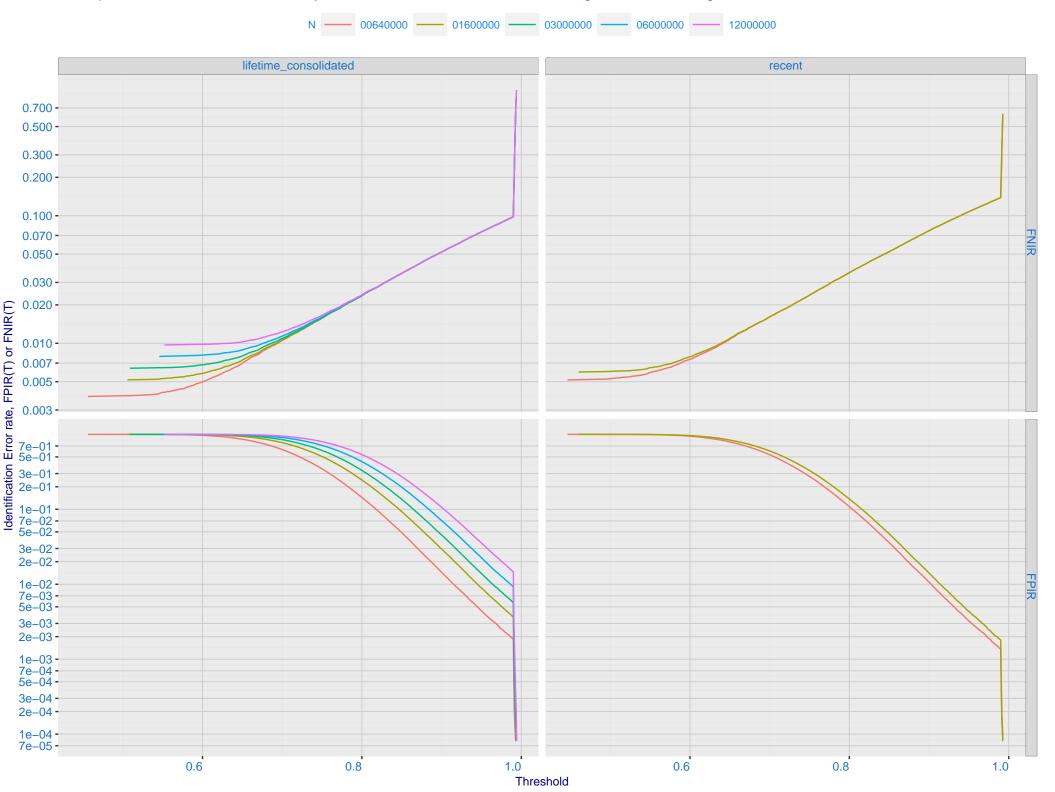
Frontal mugshot ranking 175 (out of 279) -- FNIR(1600000, T, L+1) = 0.1650, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004



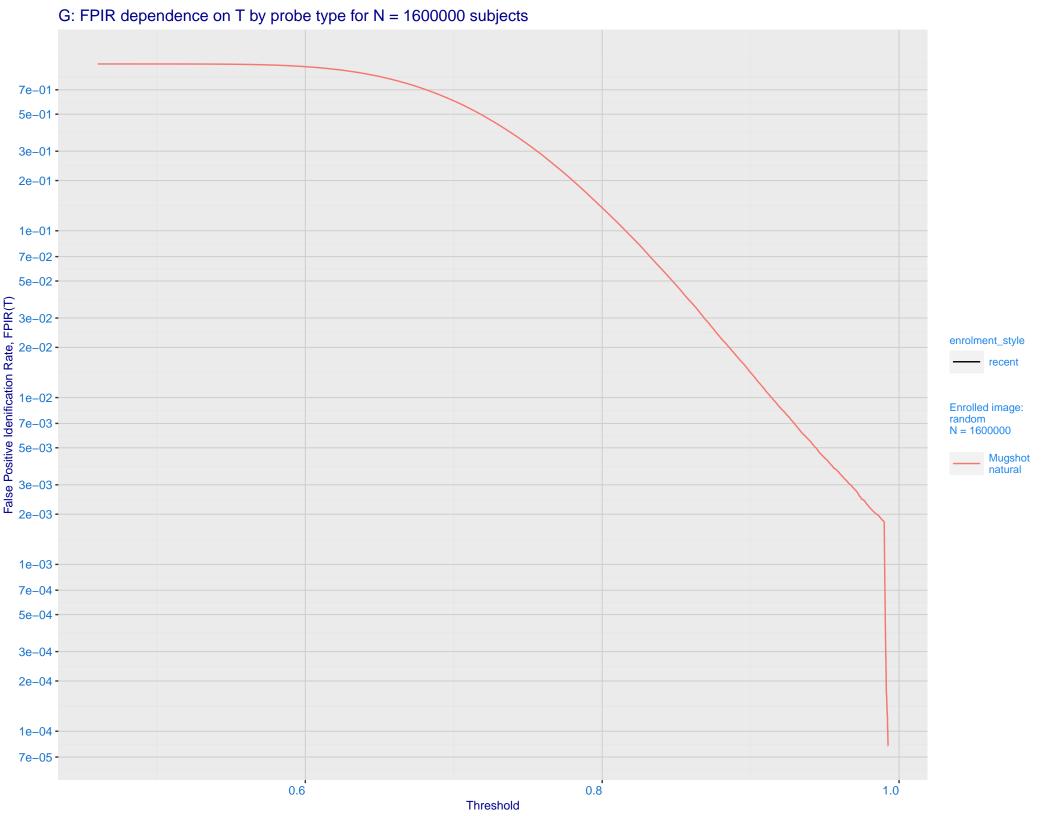


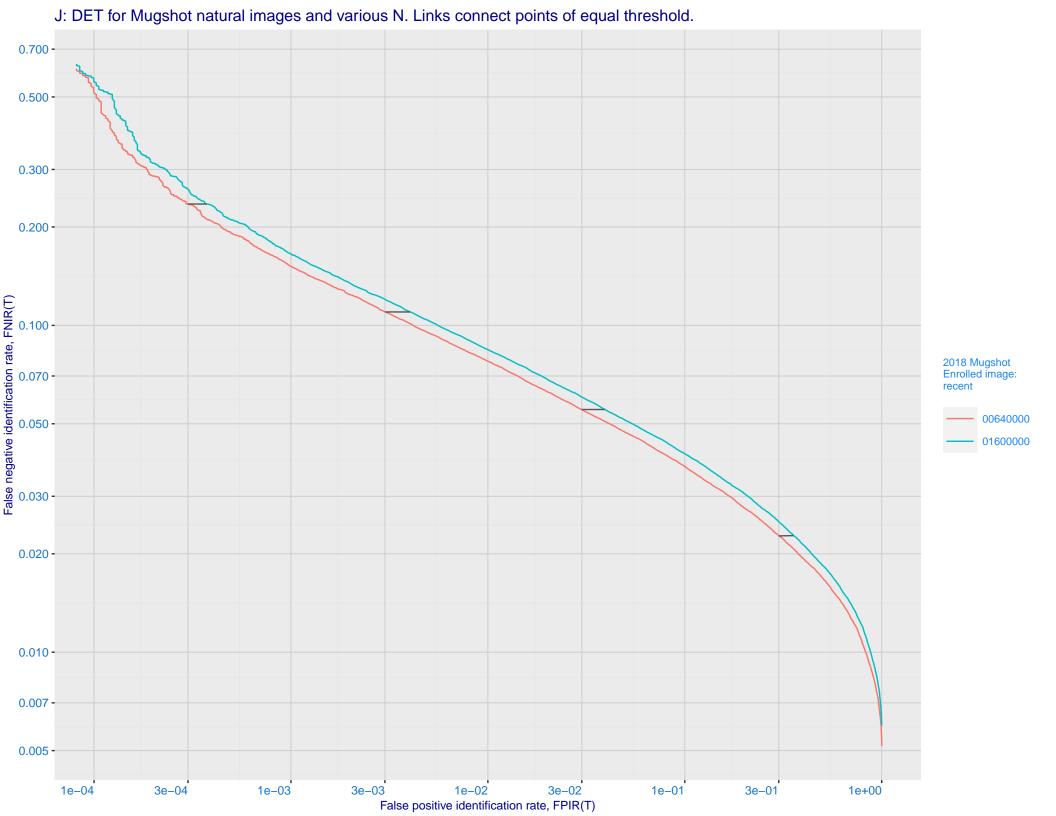
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Immigration Immigration Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 rankone_ 0.030 -0.020 -0.010 -0.007 -Ealse negative identification rate, FNIR(T) 0.003 - 0.000 - 0.000 - 0.500 - 0.200 - 0. enrolment_style consolidated-ONE-MATE 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 -

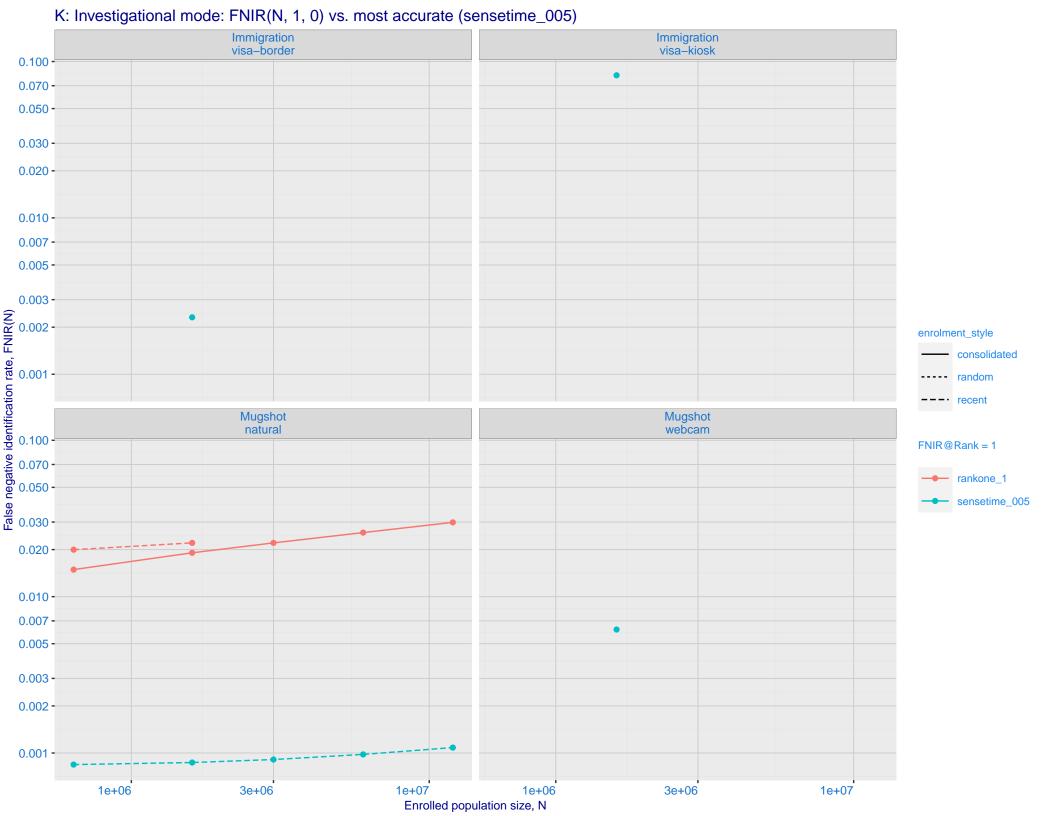
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images

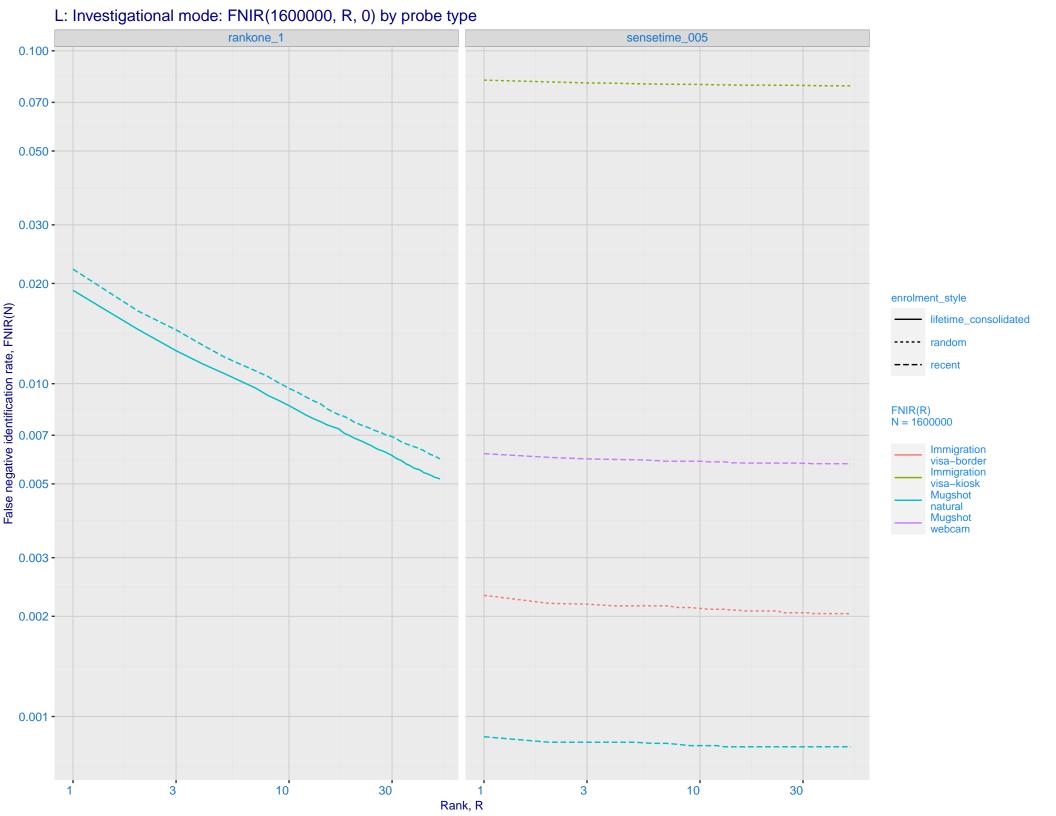


F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 -5e+01 -3e+01 -2e+01 -1e+01 -7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -5e-01 -Selectivity, SEL(T) 3e-01 -2e-01 -1e-01 -7e-02 -Enrolled images: recent N = 1600000 Mugshot natural 7e-02 -5e-02 -3e-02 -2e-02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









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 - Log Model ---- Power Law Model Search Duration (milliseconds)

1e+06

Enrolled population size, N, one image per person

7e+05

8e+05

Q: Identification FNIR(N, T, L+1) and Investigational FNIR(N, 0, R) under ageing



