A: Datasheet

Algorithm: f8_001

Developer: FarBar Inc

Submission Date: 2019_10_03

Investigation:

Frontal mugshot ranking 155 (out of 279) -- FNIR(1600000, 0, 1) = 0.0120 vs. lowest 0.0009 from sensetime_005

Mugshot profile ranking 82 (out of 210) -- FNIR(1600000, 0, 1) = 0.6689 vs. lowest 0.0587 from xforwardai_002

Immigration visa-border ranking 165 (out of 168) -- FNIR(1600000, 0, 1) = 1.0000 vs. lowest 0.0013 from visionlabs_010

Immigration visa-kiosk ranking 163 (out of 165) -- FNIR(1600000, 0, 1) = 1.0000 vs. lowest 0.0568 from cloudwalk_hr_000

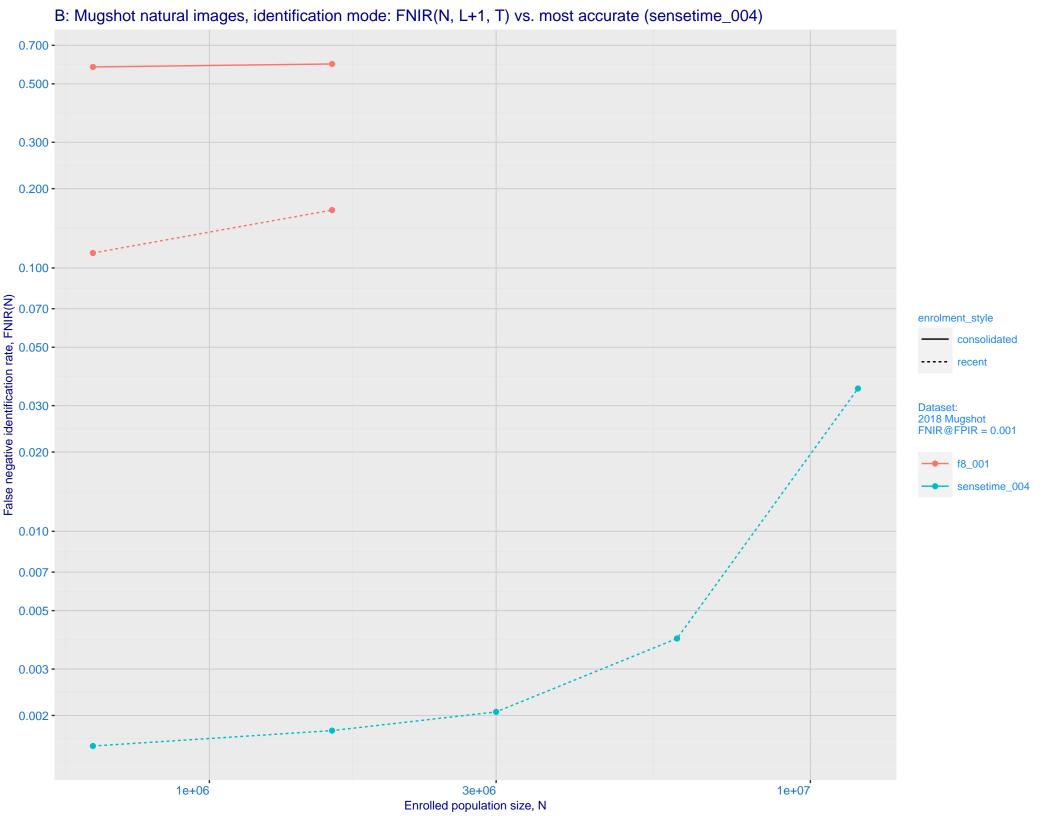
Identification:

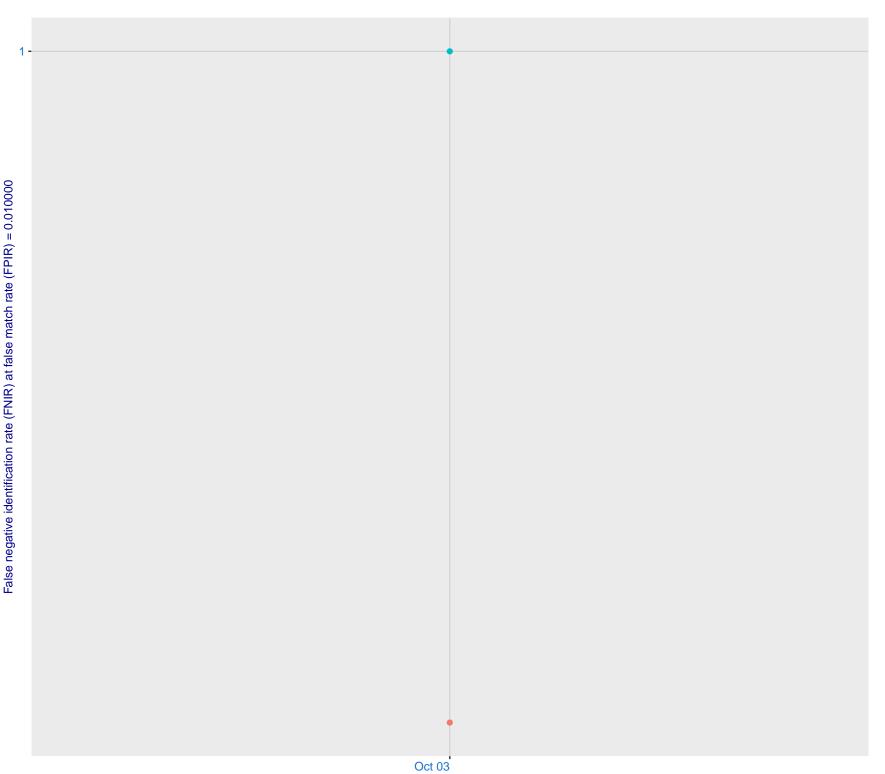
Frontal mugshot ranking 176 (out of 279) -- FNIR(1600000, T, L+1) = 0.1658, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot profile ranking 132 (out of 209) -- FNIR(1600000, T, L+1) = 0.9985, FPIR=0.001000 vs. lowest 0.1331 from cloudwalk_hr_000

Immigration visa-border ranking 162 (out of 167) -- FNIR(1600000, T, L+1) = 1.0000, FPIR=0.001000 vs. lowest 0.0047 from idemia_008

Immigration visa-kiosk ranking 154 (out of 162) -- FNIR(1600000, T, L+1) = 1.0000, FPIR=0.001000 vs. lowest 0.0996 from cloudwalk_hr_000





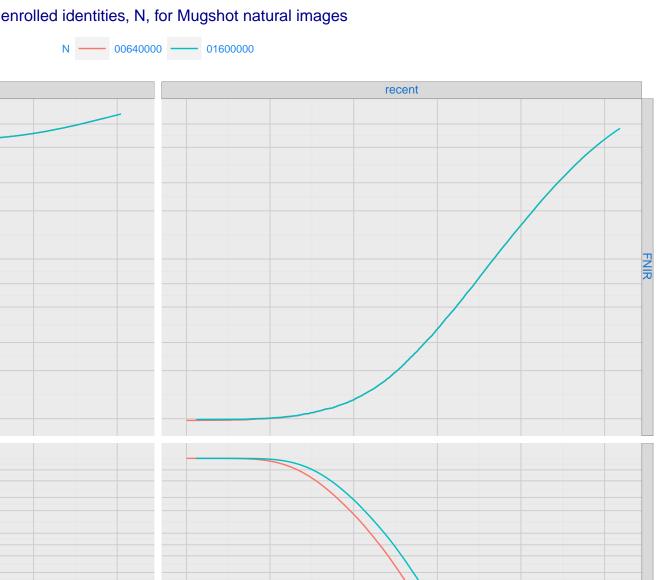
Dataset

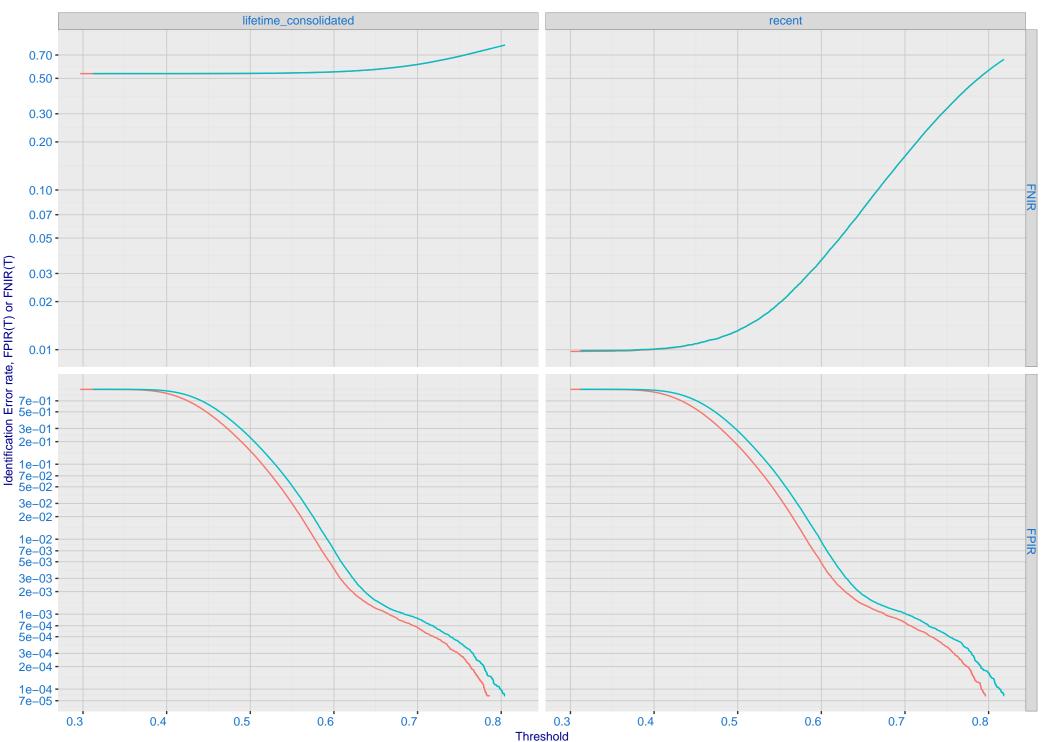
Mugshot–ProfileView

── Visa–Border

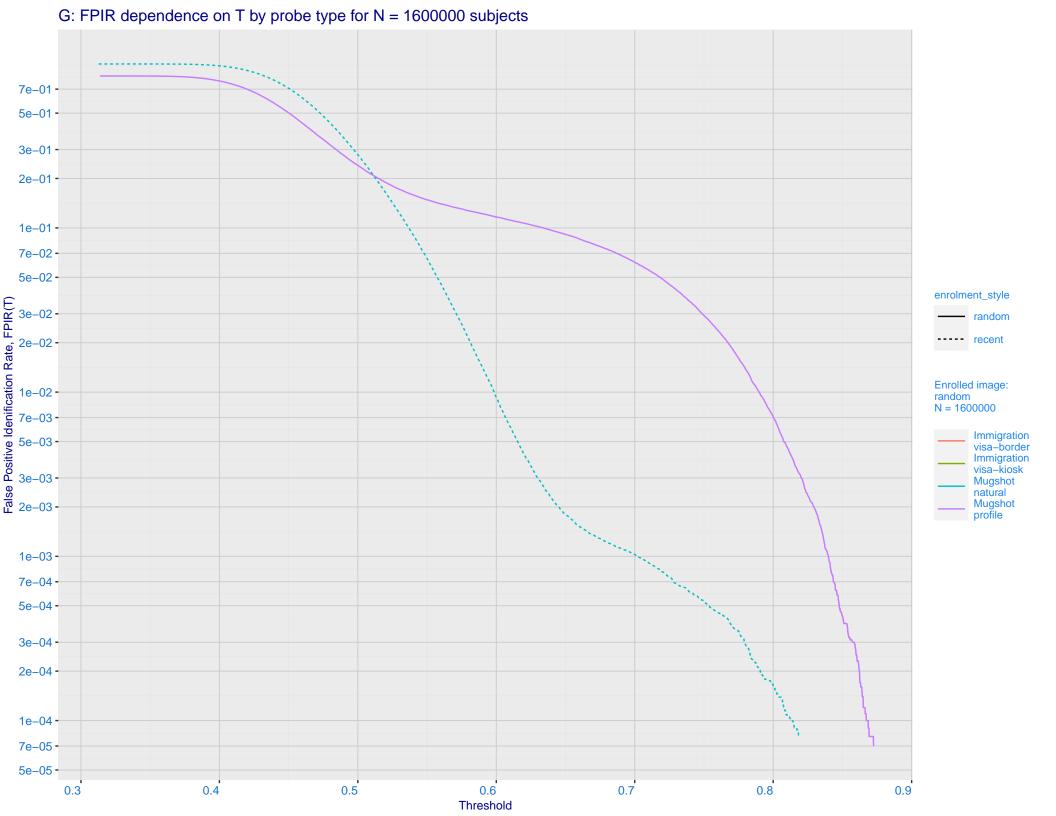
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals **Immigration** Immigration Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 - 0.005 - 0.005 - 0.002 - 0.001 - 0.001 - 0.700 - 0.500 - 0.200 enrolment_style consolidated-ONE-MATE random-ONE-MATE recent-ONE-MATE unconsolidated-ALL-MATES unconsolidated-ANY-MATE 0.100 -0.070 sensetime 004 0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -0.003 -0.002 -0.001 -

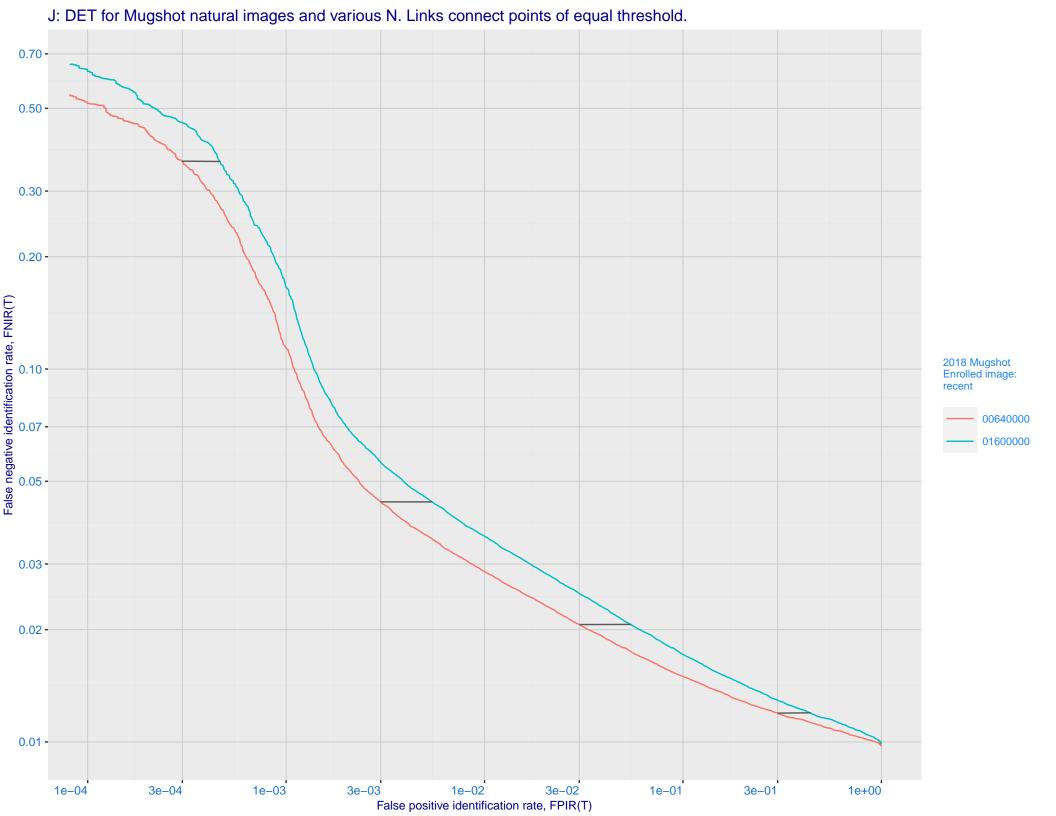
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images



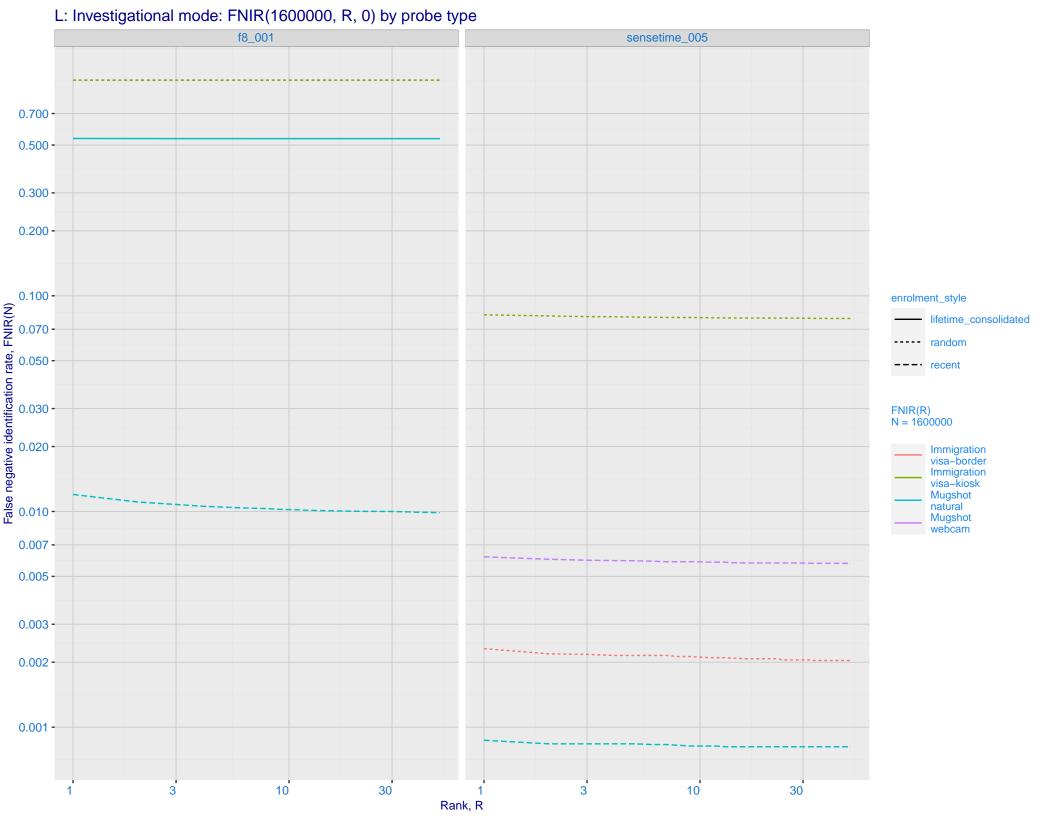


F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 -5e+01 -3e+01 -2e+01 -1e+01 -7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -5e-01 -3e-01 -2e-01 -Selectivity. SET (4) 7e-01 -7e-02 -5e-02 -3e-02 -Enrolled images: recent N = 1600000 Mugshot natural 3e-02 -2e-02 -1e-02 -7e-03 -5e-03 -3e-03 -2e-03 -1e-03 -7e-04 -5e-04 -3e-04 -2e-04 -1e-04 -7e-05 -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 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 - 0.003 - 0.002 - 0.001 - 0.001 - 0.300 - 0.300 - 0.200 FNIR@Rank = 1 -- f8_001 sensetime_005 Mugshot webcam Mugshot natural enrolment_style consolidated ---- random --- recent 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



	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
Search Duration (milliseconds)	
	Enrolled population size, N, one image per person

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



