A: Datasheet

Algorithm: paravision_007

Developer: Paravision (EverAI)

Submission Date: 2021_02_01

Template size: 4096 bytes

Template time (2.5 percentile): 700 msec

Template time (median): 701 msec

Template time (97.5 percentile): 711 msec

Investigation:

Frontal mugshot ranking 7 (out of 271) -- FNIR(1600000, 0, 1) = 0.0012 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 8 (out of 232) -- FNIR(1600000, 0, 1) = 0.0080 vs. lowest 0.0062 from sensetime_005

Mugshot profile ranking 3 (out of 201) — FNIR(1600000, 0, 1) = 0.0661 vs. lowest 0.0591 from sensetime_005

Immigration visa-border ranking 38 (out of 160) -- FNIR(1600000, 0, 1) = 0.0050 vs. lowest 0.0013 from visionlabs_010

Immigration visa-kiosk ranking 28 (out of 157) -- FNIR(1600000, 0, 1) = 0.1008 vs. lowest 0.0568 from hr_000

Identification:

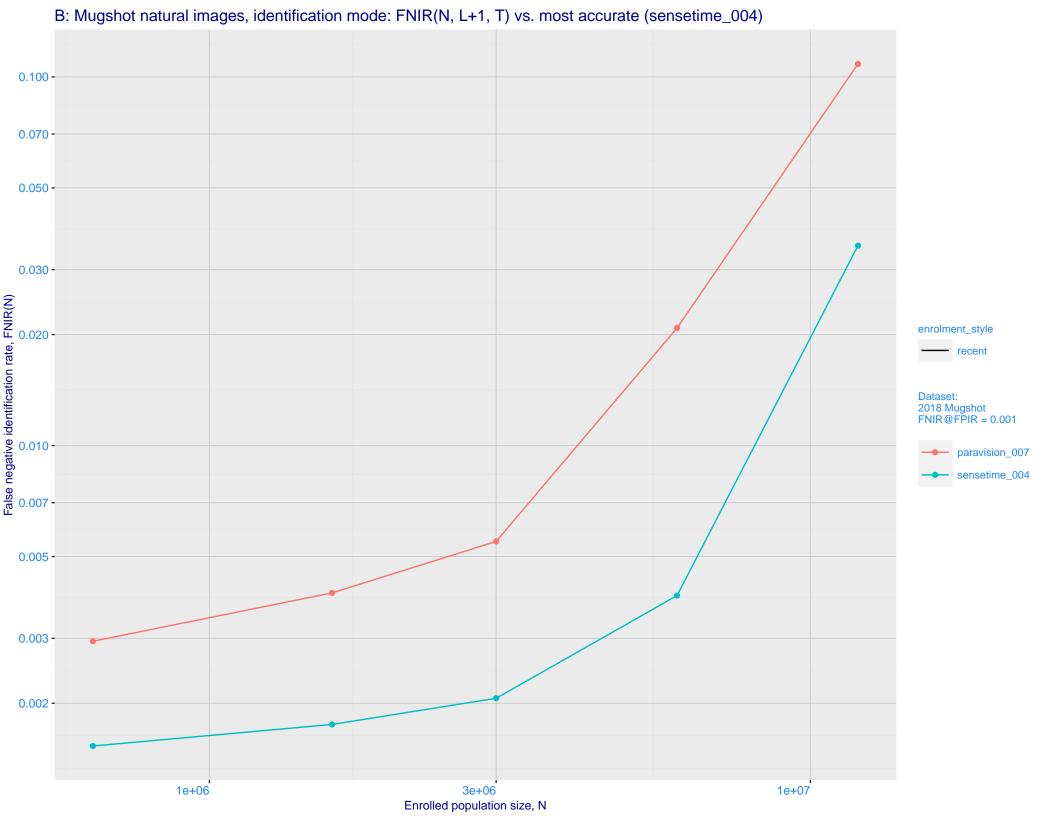
Frontal mugshot ranking 9 (out of 271) -- FNIR(1600000, T, L+1) = 0.0040, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

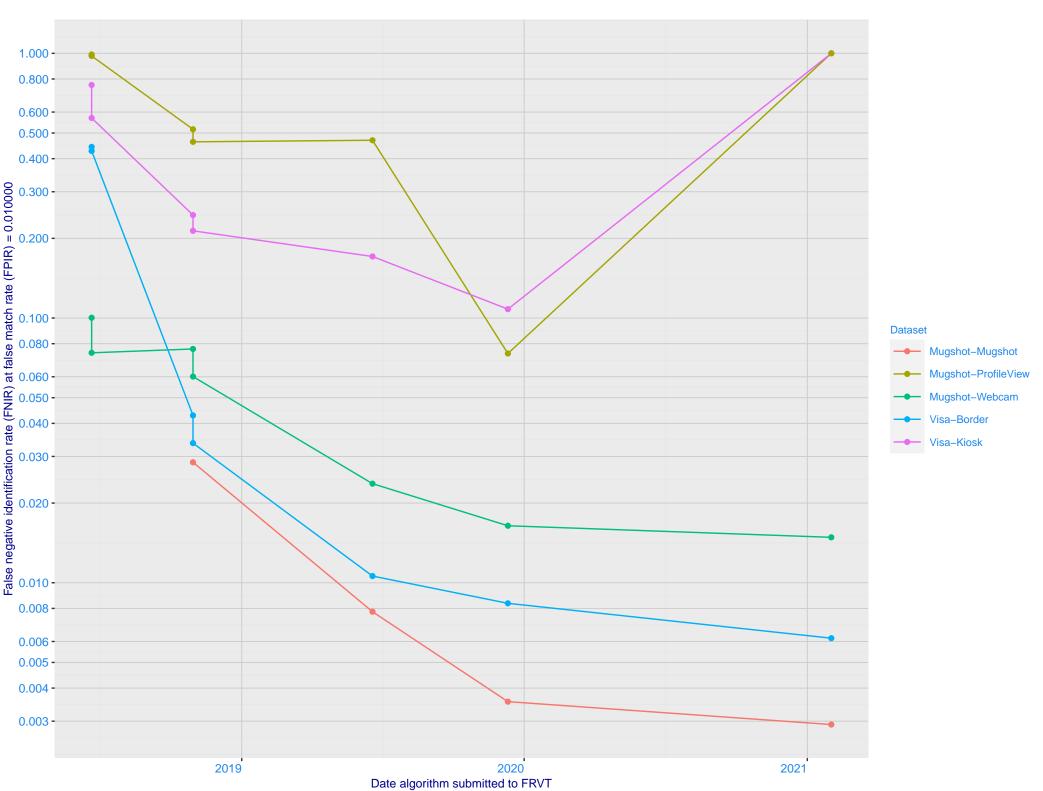
Mugshot webcam ranking 11 (out of 230) -- FNIR(1600000, T, L+1) = 0.0250, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 180 (out of 200) -- FNIR(1600000, T, L+1) = 0.9999, FPIR=0.001000 vs. lowest 0.1331 from hr_000

Immigration visa-border ranking 12 (out of 159) -- FNIR(1600000, T, L+1) = 0.0086, FPIR=0.001000 vs. lowest 0.0047 from idemia_008

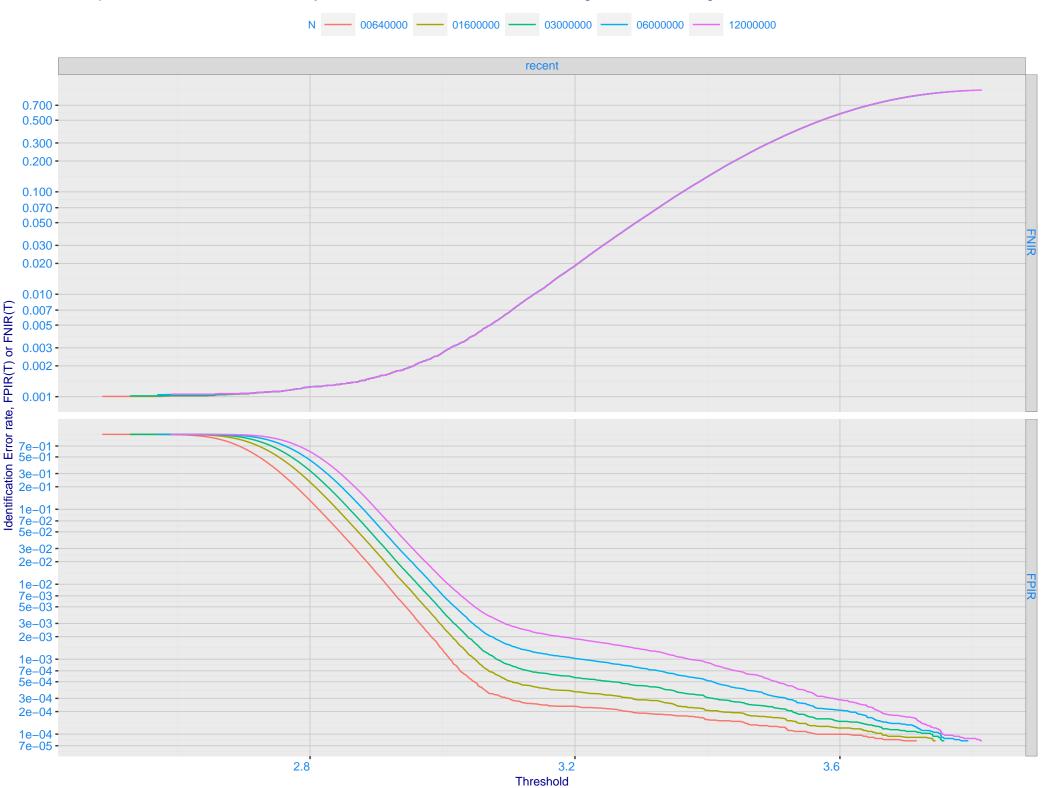
Immigration visa-kiosk ranking 148 (out of 154) -- FNIR(1600000, T, L+1) = 1.0000, FPIR=0.001000 vs. lowest 0.0996 from hr_000



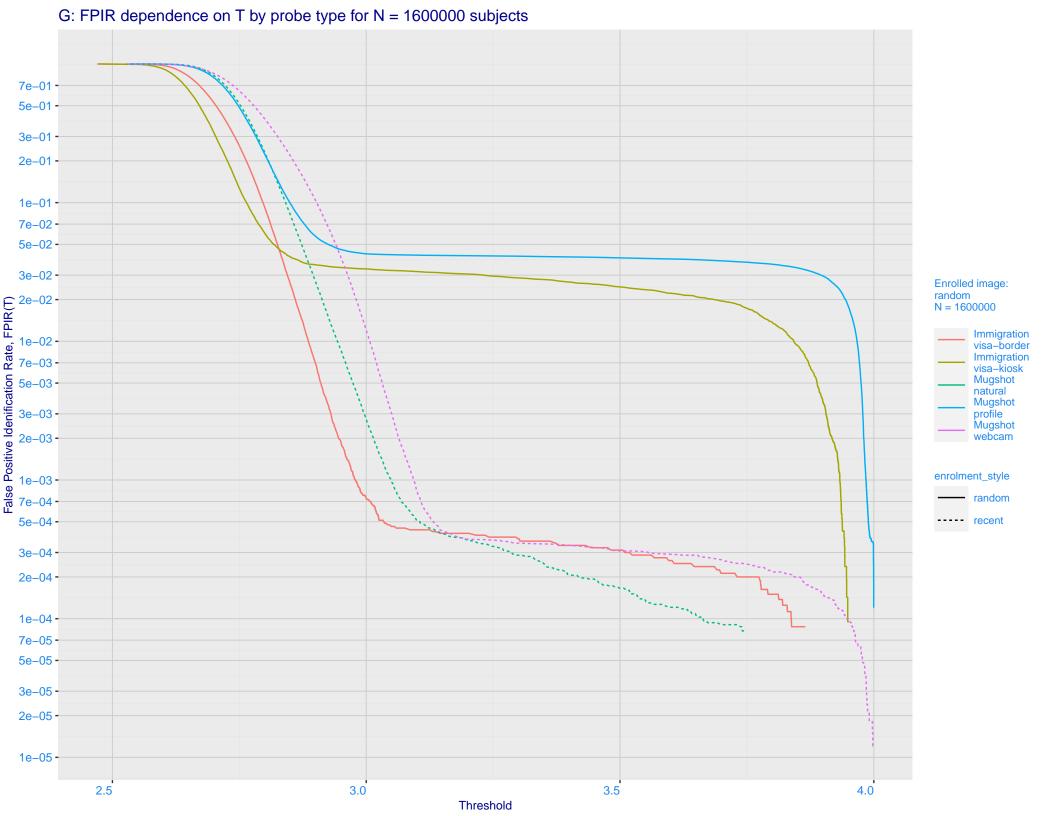


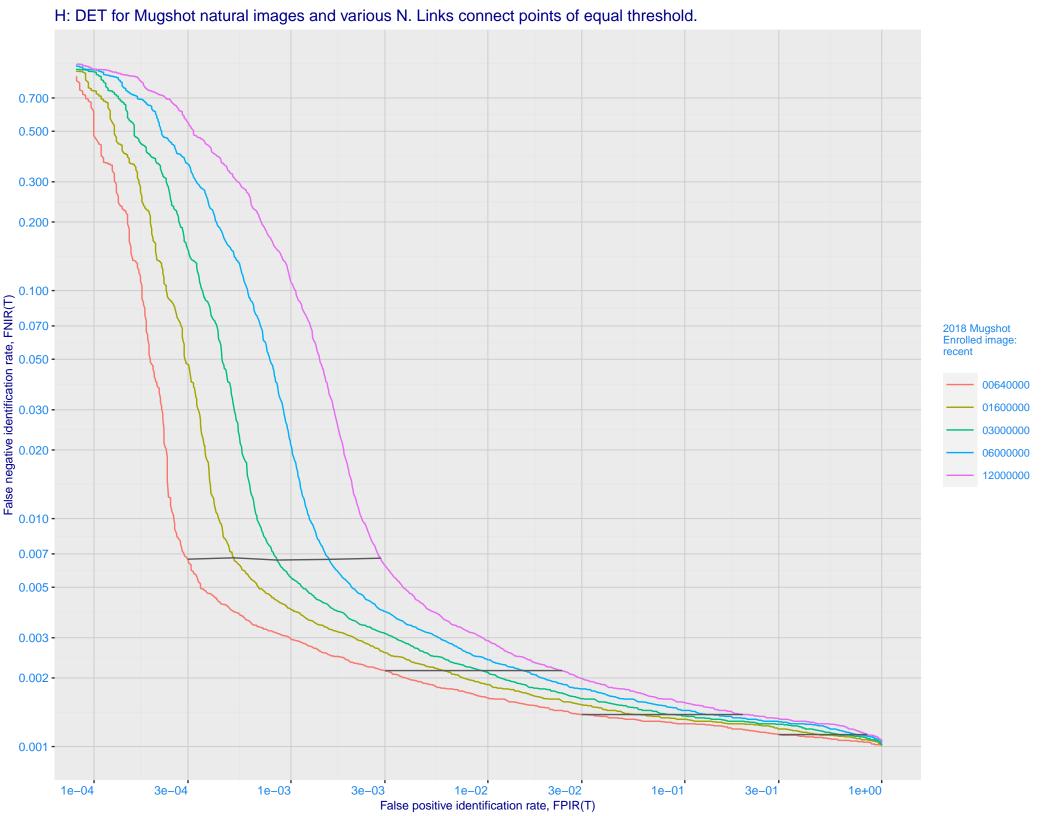
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Immigration **Immigration** Mugshot visa-border visa-kiosk natural 0.700 -0.500 -0.300 -0.200 -0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 - 0.005 - 0.005 - 0.002 - 0.001 - 0.001 - 0.700 - 0.500 - 0.200 enrolment_style 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 -False positive identification rate, FPIR(T)

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

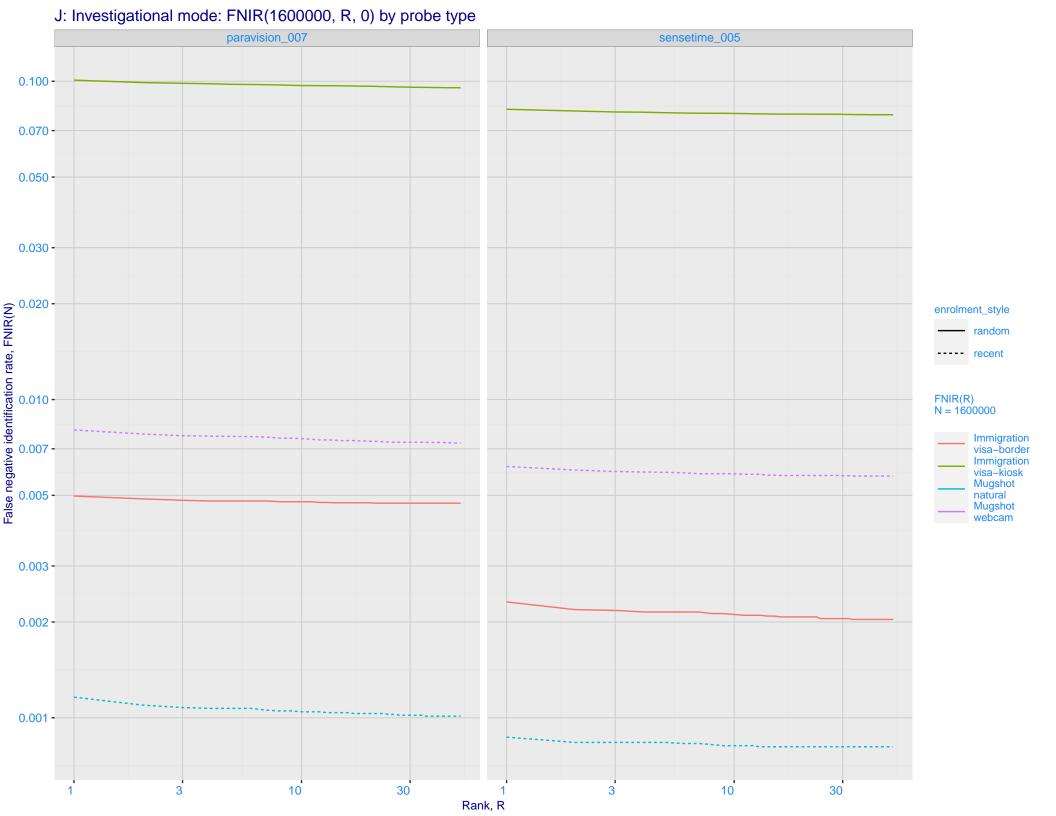


F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 -5e+01 -3e+01 -2e+01 -1e+01 -7e+00 -5e+00 -3e+00 -2e+00 -1e+00 -7e-01 -5e-01 -3e-01 -2e-01 -1e-01 -7e-02 -5e-02 -3e-02 -3e-02 -1e-02 -**Enrolled images:** recent N = 1600000 Mugshot natural Mugshot webcam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

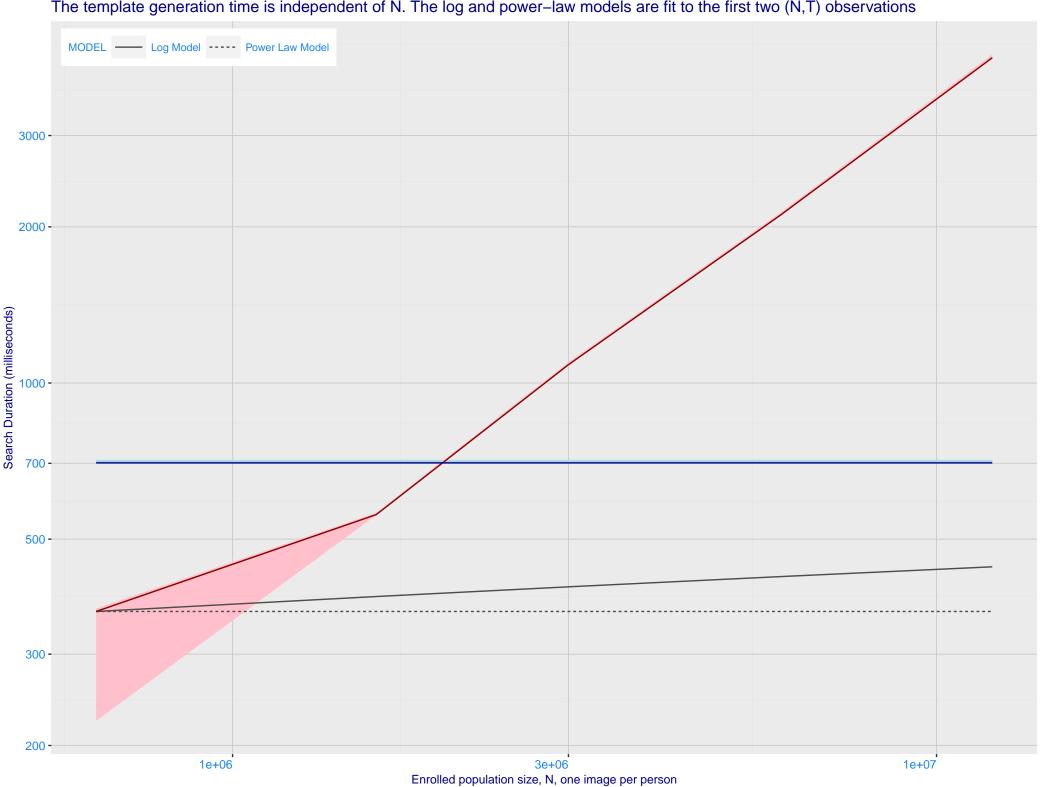




I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005) Immigration Immigration visa-border visa-kiosk 0.100 -0.070 -0.050 -0.030 -0.020 -0.010 -0.007 -0.005 -0.003 - (N) 0.002 - 0.001 - 0.001 - 0.000 - 0. enrolment_style random ---- recent Mugshot Mugshot webcam natural FNIR@Rank = 1 paravision_007 sensetime_005 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

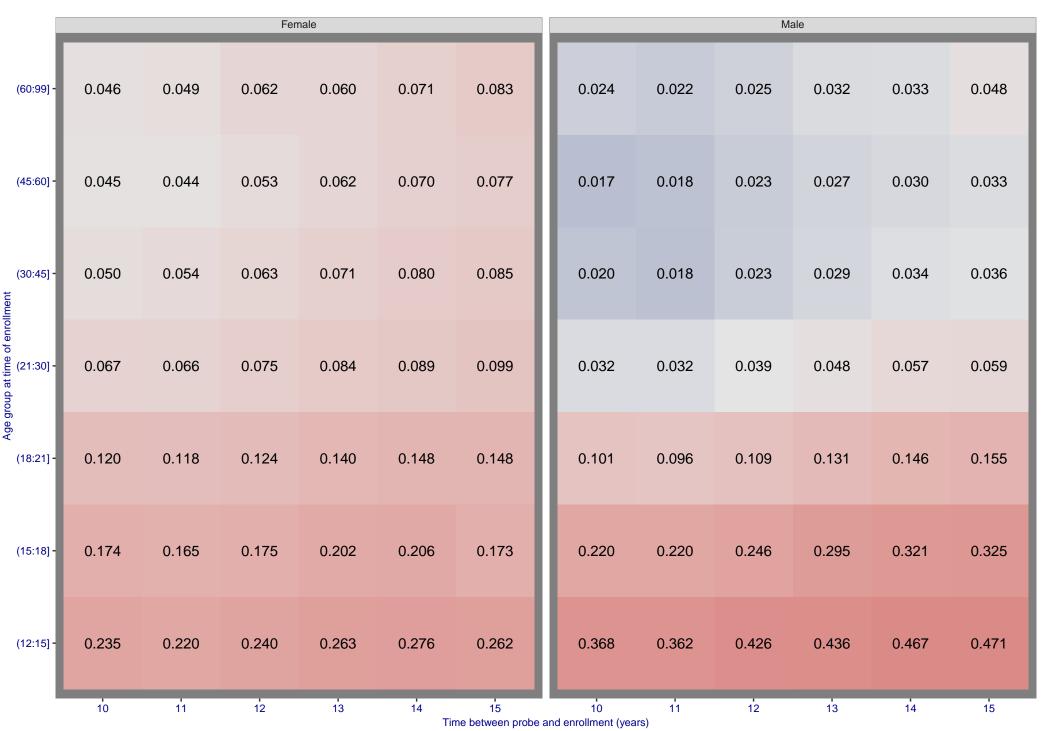


K: Template duration; search duration vs. N. The blue and pink ribbon covers 95 percent of observed measurements. The template generation time is independent of N. The log and power–law models are fit to the first two (N,T) observations



Algorithm: paravision_007, Dataset: Border–Crossing Ageing Threshold: 3.039147 set to achieve FPIR(30–45, Male) = 0.001





Female

Algorithm: paravision_007, Dataset: Border–Crossing Ageing Threshold: 3.039147 set to achive FPIR(30–45, Male) = 0.001 Color encodes log(FPIR) -3 -2 -1 0.0027 0.0015 (60:99] -0.0016 0.0012 (45:60] -0.0014 0.0010 930:45] - Yaba duonb od berson in non-mate property (21:30] - (18:21] -0.0013 0.0009 0.0013 0.0016 0.0018 0.0014 (15:18] -(12:15] -0.0017 0.0014

Sex of person in non-mate probe

Male

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

