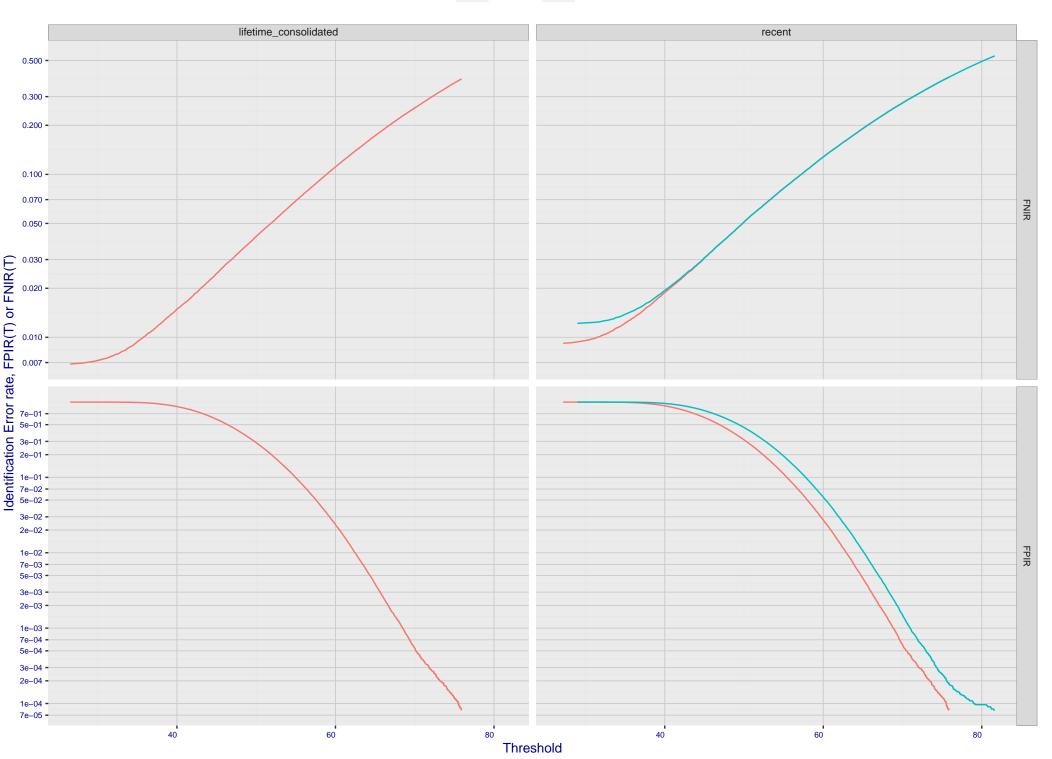
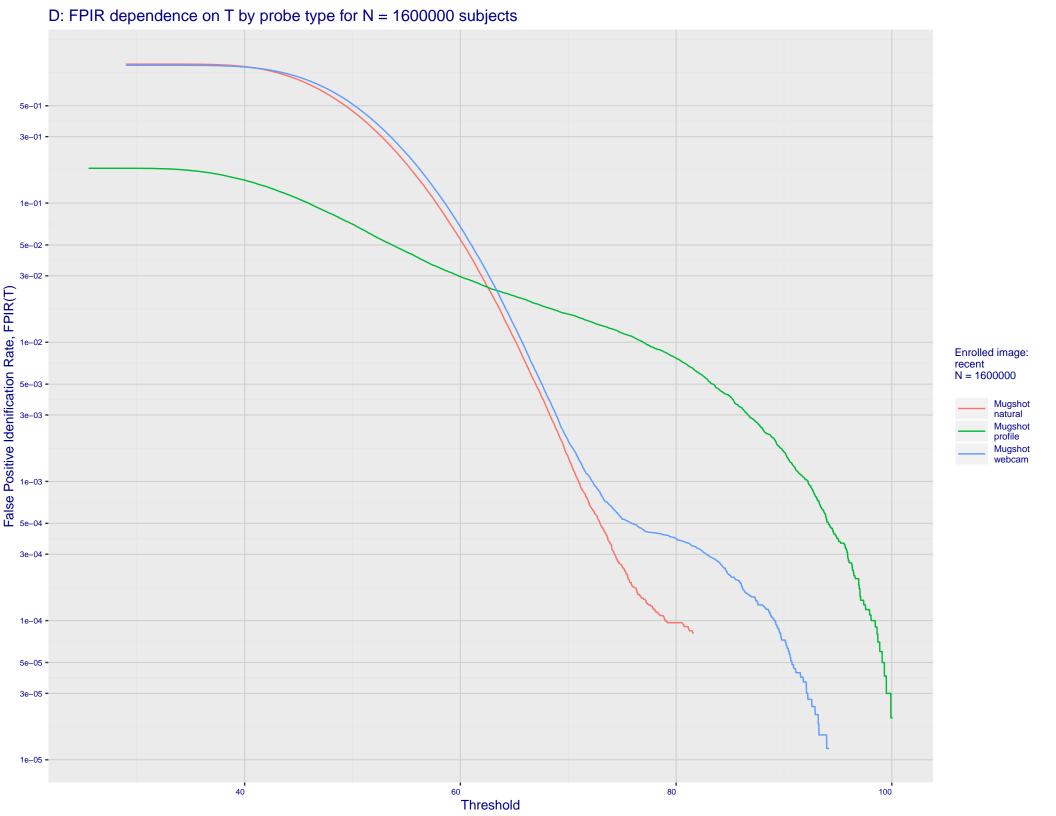
A: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals Immigration Immigration Mugshot visa-border visa-kiosk natural 0.70 -0.50 -0.30 -False negative identification rate, FNIR(T) enrolment_style random-ONE-MATE recent-ONE-MATE 0.03 -0.02 -1e-04 3e-04 1e-03 3e-03 1e-02 3e-02 1e-01 3e-01 1e+00 1e-04 3e-04 1e-03 3e-03 1e-02 3e-02 1e-01 3e-01 1e+00 1e-04 3e-04 1e-03 3e-03 1e-02 3e-02 1e-01 3e-01 1e+00 False positive identification rate, FPIR(T)

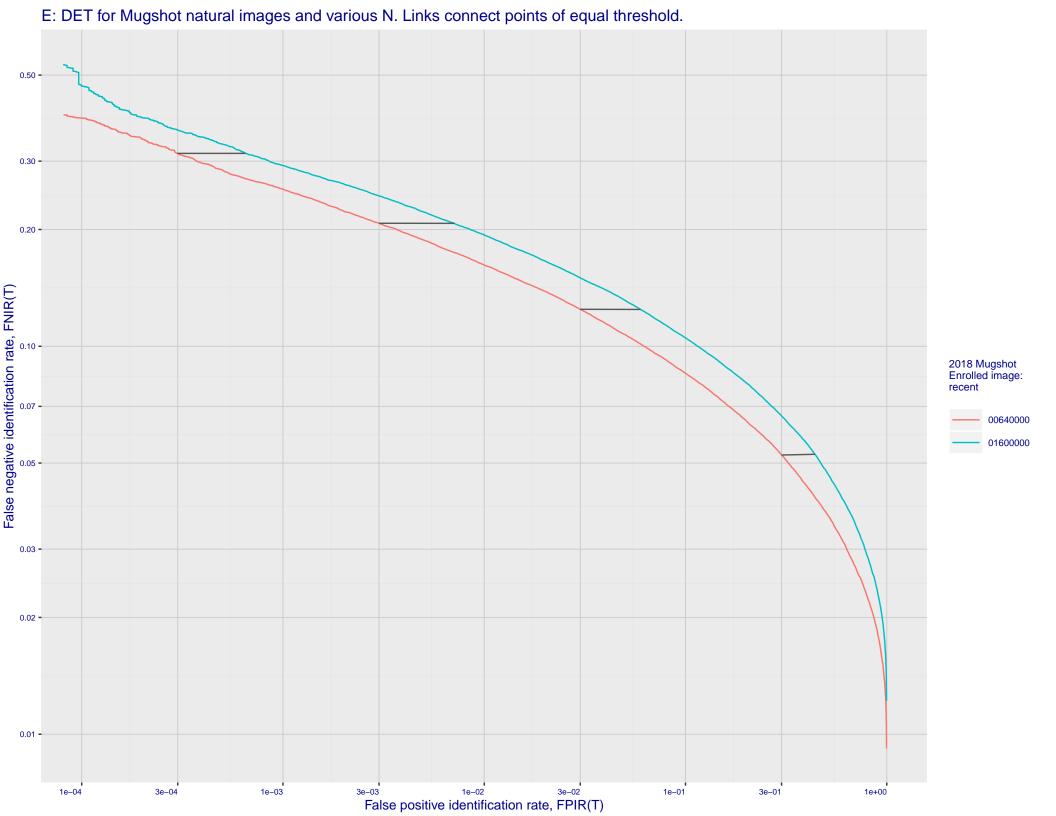
B: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images

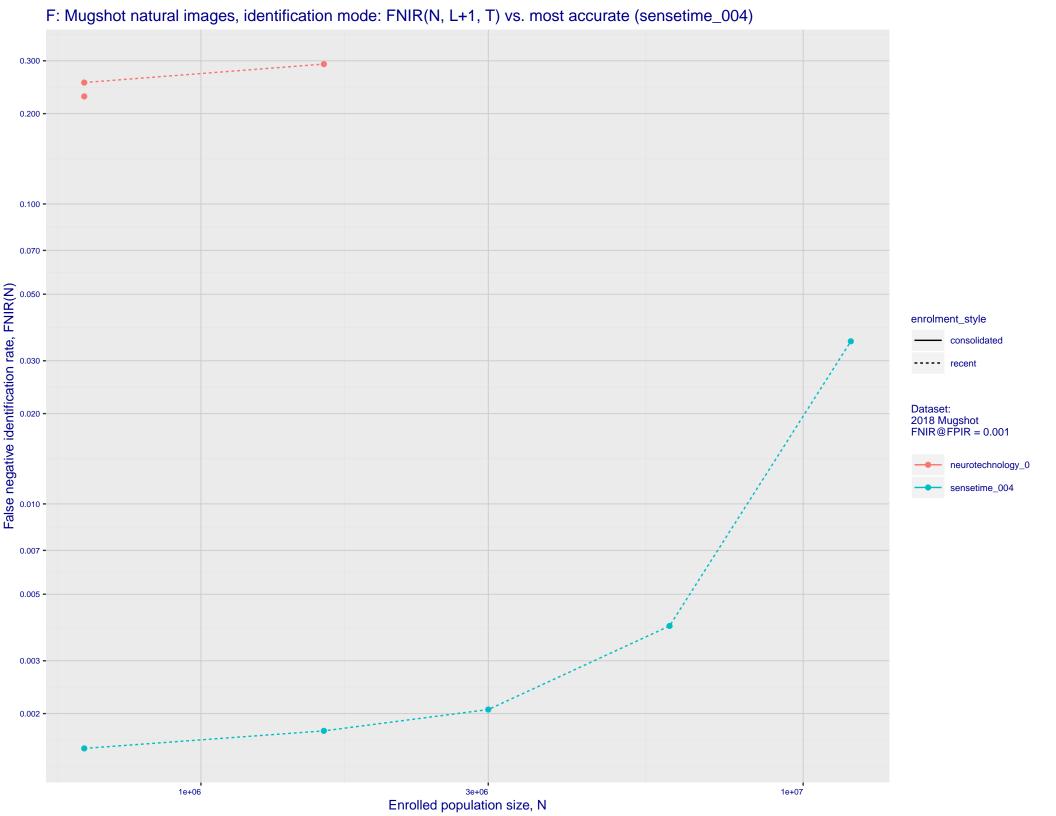




C: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate 7e+01 -5e+01 3e+01 · 2e+01 -1e+01 -7e+00 -5e+00 -3e+00 · 2e+00 -1e+00 -7e-01 -5e-01 -3e-01 -2e-01 -7e-02 - 7e-02 Enrolled images: recent N = 1600000 Mugshot natural Mugshot profile Mugshot webcam 7e-03 -5e-03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

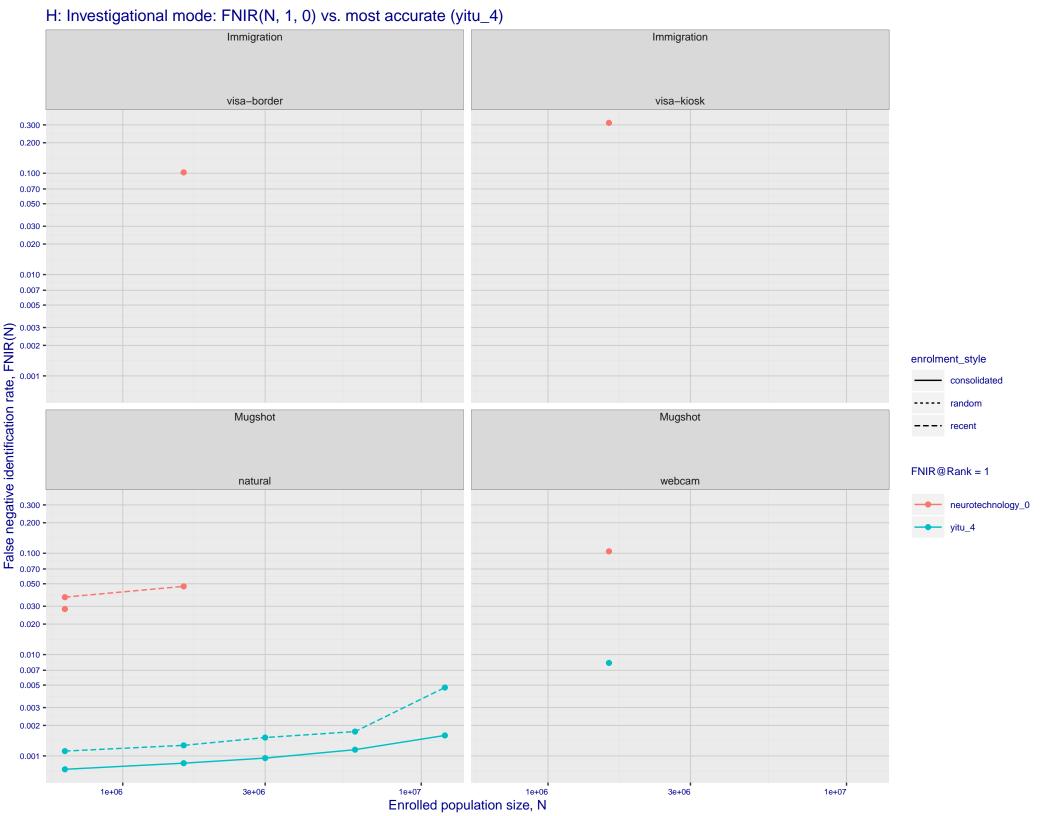


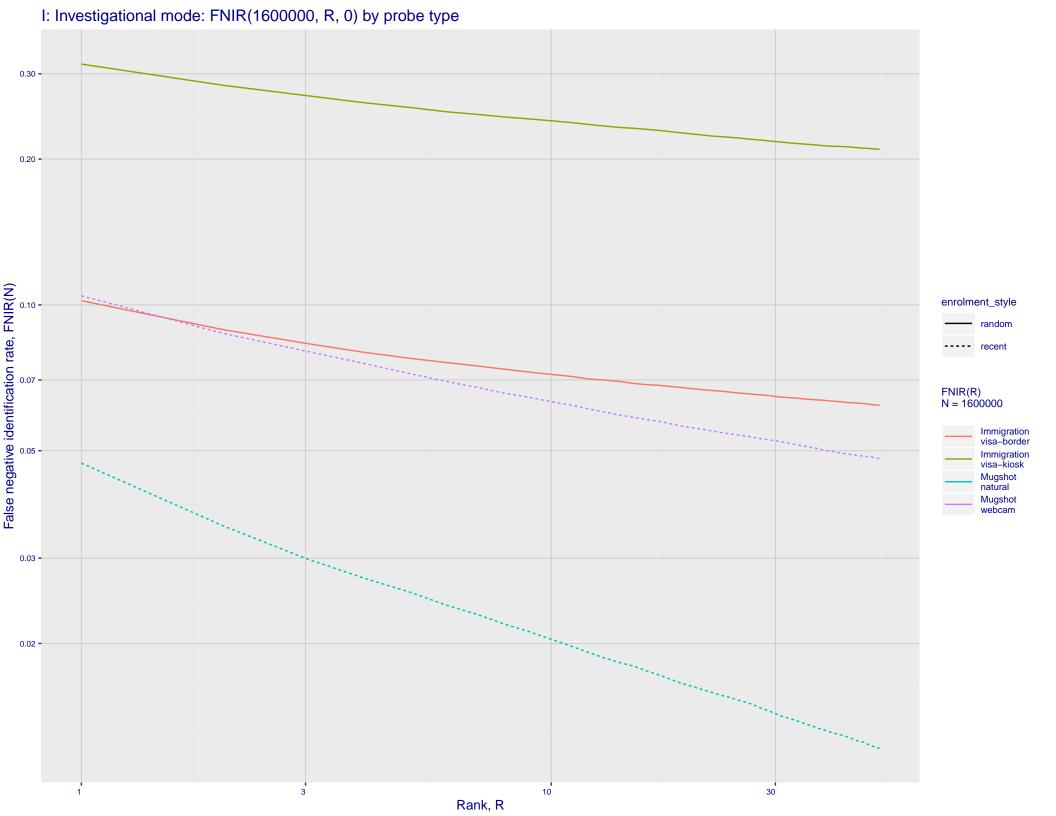




G: Datasheet

```
Algorithm: neurotechnology_0
Developer: Neurotechnology
Submission Date: 2018_02_16
Template size: 5214 bytes
Template time (2.5 percentile): 671 msec
Template time (median): 693 msec
Template time (97.5 percentile): 778 msec
Frontal mugshot investigation rank 189 — FNIR(1600000, 0, 1) = 0.0471 vs. lowest 0.0010 from sensetime_004
natural investigation rank 167 -- FNIR(1600000, 0, 1) = 0.1045 vs. lowest 0.0067 from sensetime_003
natural investigation rank 294 -- FNIR(1600000, 0, 1) = 0.9589 vs. lowest 0.0492 from paravision_005
natural investigation rank 294 -- FNIR(1600000, 0, 1) = 0.9589 vs. lowest 0.0492 from paravision_005
natural investigation rank 82 -- FNIR(1600000, 0, 1) = 0.1020 vs. lowest 0.0014 from visionlabs_009
natural investigation rank 85 -- FNIR(1600000, 0, 1) = 0.3142 vs. lowest 0.0694 from cib_000
Frontal mugshot identification rank 180 -- FNIR(1600000, T, L+1) = 0.2925 vs. lowest 0.0018 from sensetime_004
natural identification rank 166 -- FNIR(1600000, T, L+1) = 0.4654 vs. lowest 0.0122 from sensetime_003
natural identification rank 127 -- FNIR(1600000, T, L+1) = 0.9986 vs. lowest 0.1020 from sensetime_004
natural identification rank 77 -- FNIR(1600000, T, L+1) = 0.4498 vs. lowest 0.0059 from sensetime_004
natural identification rank 65 -- FNIR(1600000, T, L+1) = 0.7449 vs. lowest 0.1129 from visionlabs_009
```





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 3000 -2000 -1000 -700 -1e+06 8e+05 Enrolled population size, N, one image per person

Search Duration (milliseconds)