A: Datasheet

Algorithm: intsysmsu_000

Developer: Lomonosov Moscow State University

Submission Date: 2019_08_19

Template size: 2048 bytes

Template time (2.5 percentile): 611 msec

Template time (median): 615 msec

Template time (97.5 percentile): 1057 msec

Investigation:

Frontal mugshot ranking 227 (out of 265) –– FNIR(1600000, 0, 1) = 0.1457 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 94 (out of 227) –– FNIR(1600000, 0, 1) = 0.0234 vs. lowest 0.0062 from sensetime_005

Mugshot profile ranking 59 (out of 196) –– FNIR(1600000, 0, 1) = 0.5624 vs. lowest 0.0591 from sensetime_005

Immigration visa–border ranking 100 (out of 148) –– FNIR(1600000, 0, 1) = 0.0717 vs. lowest 0.0013 from visionlabs_010

Immigration visa–kiosk ranking 51 (out of 145) –– FNIR(1600000, 0, 1) = 0.1317 vs. lowest 0.0568 from hr_000

Identification:

Frontal mugshot ranking 260 (out of 265) –– FNIR(1600000, T, L+1) = 0.9983, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004
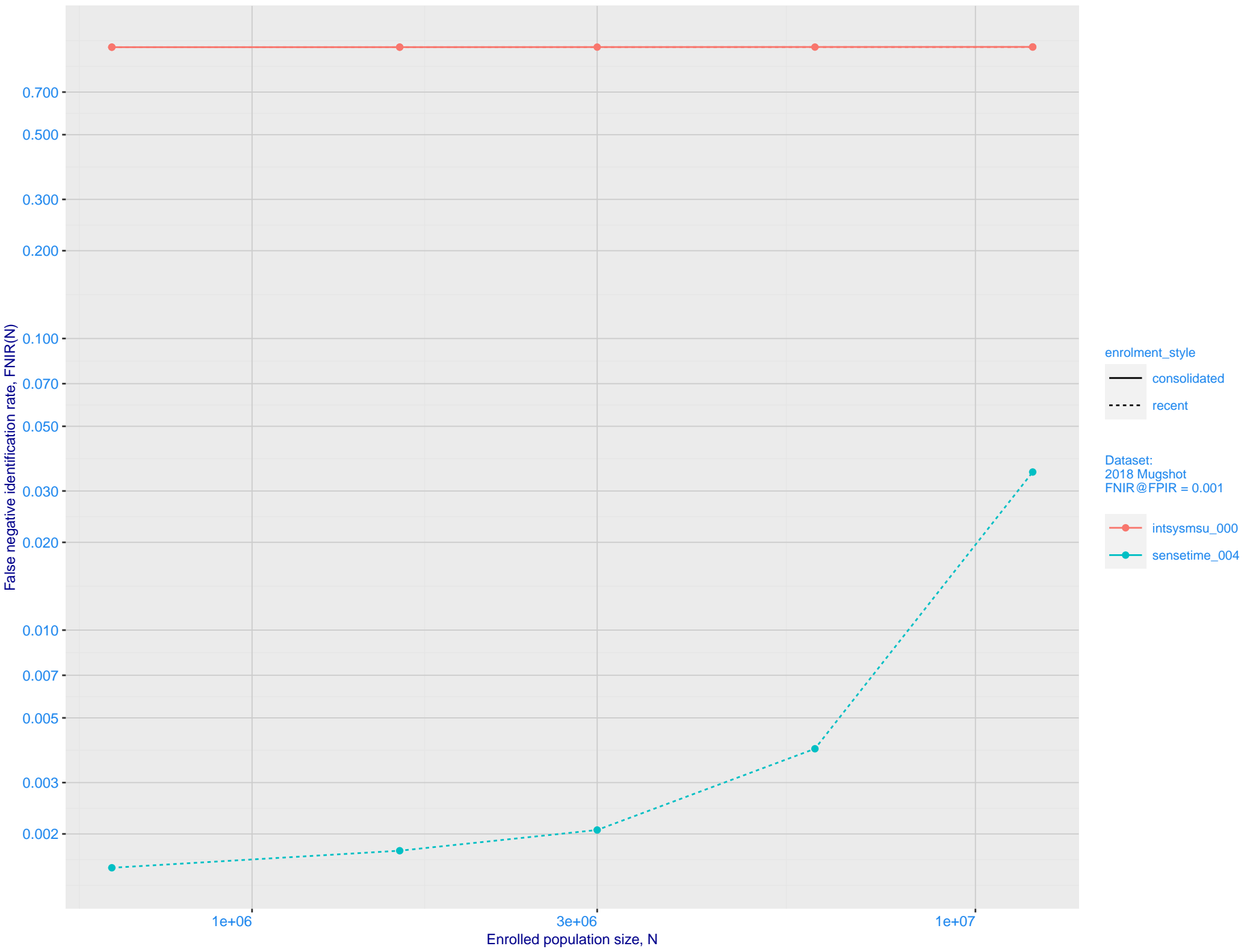
Mugshot webcam ranking 220 (out of 225) –– FNIR(1600000, T, L+1) = 0.9997, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 152 (out of 195) –– FNIR(1600000, T, L+1) = 0.9996, FPIR=0.001000 vs. lowest 0.1331 from hr_000

Immigration visa–border ranking 135 (out of 146) –– FNIR(1600000, T, L+1) = 0.9988, FPIR=0.001000 vs. lowest 0.0049 from hr_000
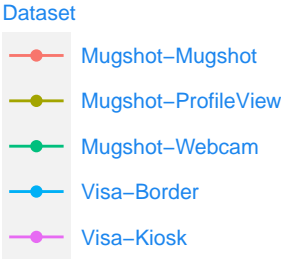
Immigration visa–kiosk ranking 130 (out of 141) –– FNIR(1600000, T, L+1) = 0.9990, FPIR=0.001000 vs. lowest 0.0996 from hr_000

B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)
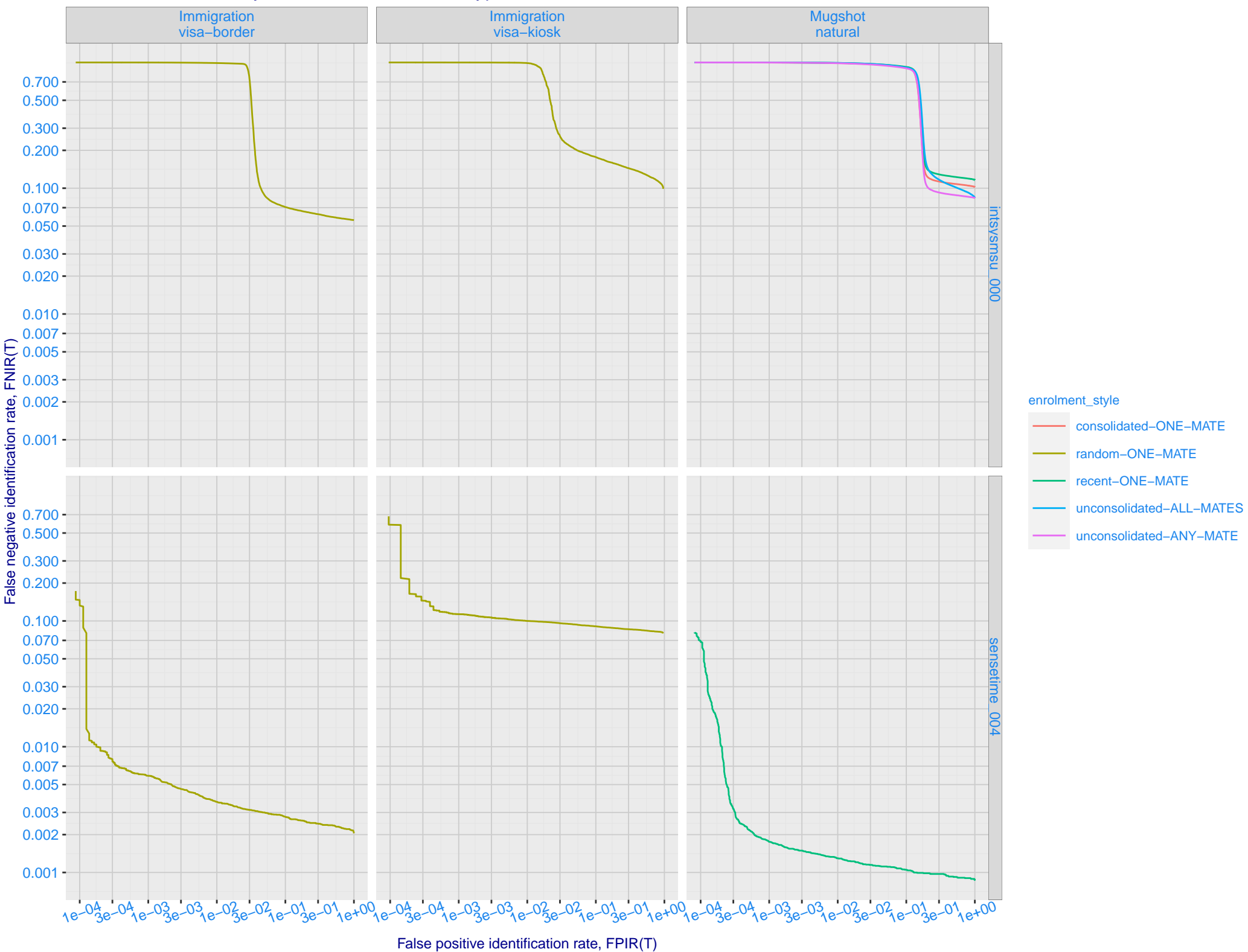
C: Evolution of accuracy for INTSYSMSU algorithms on three datasets 2018 – present

False negative identification rate (FNIR) at false match rate (FPIR) = 0.010000

Dataset

— Mugshot–Mugshot
— Mugshot–ProfileView
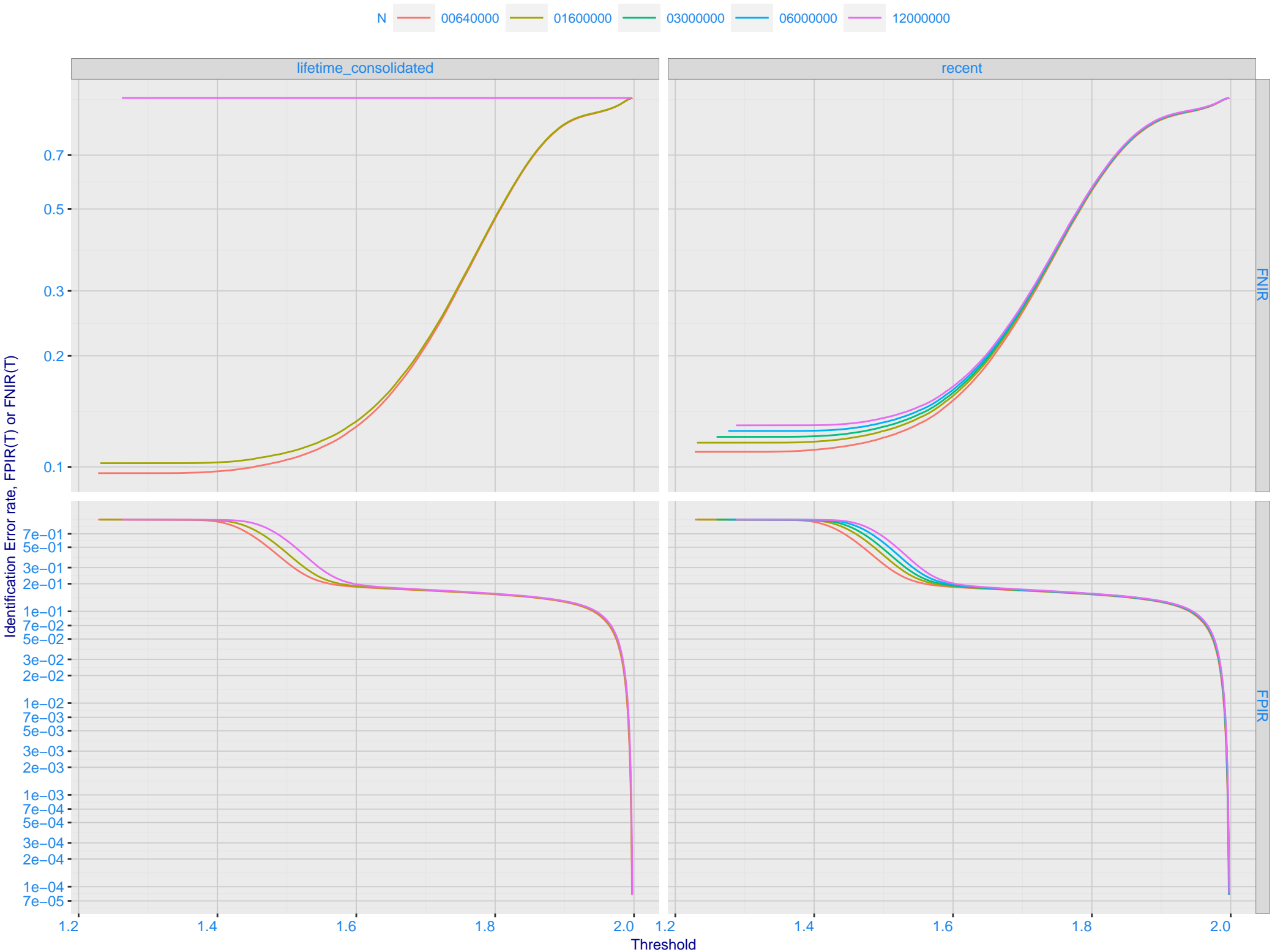— Mugshot–Webcam
— Visa–Border
— Visa–Kiosk

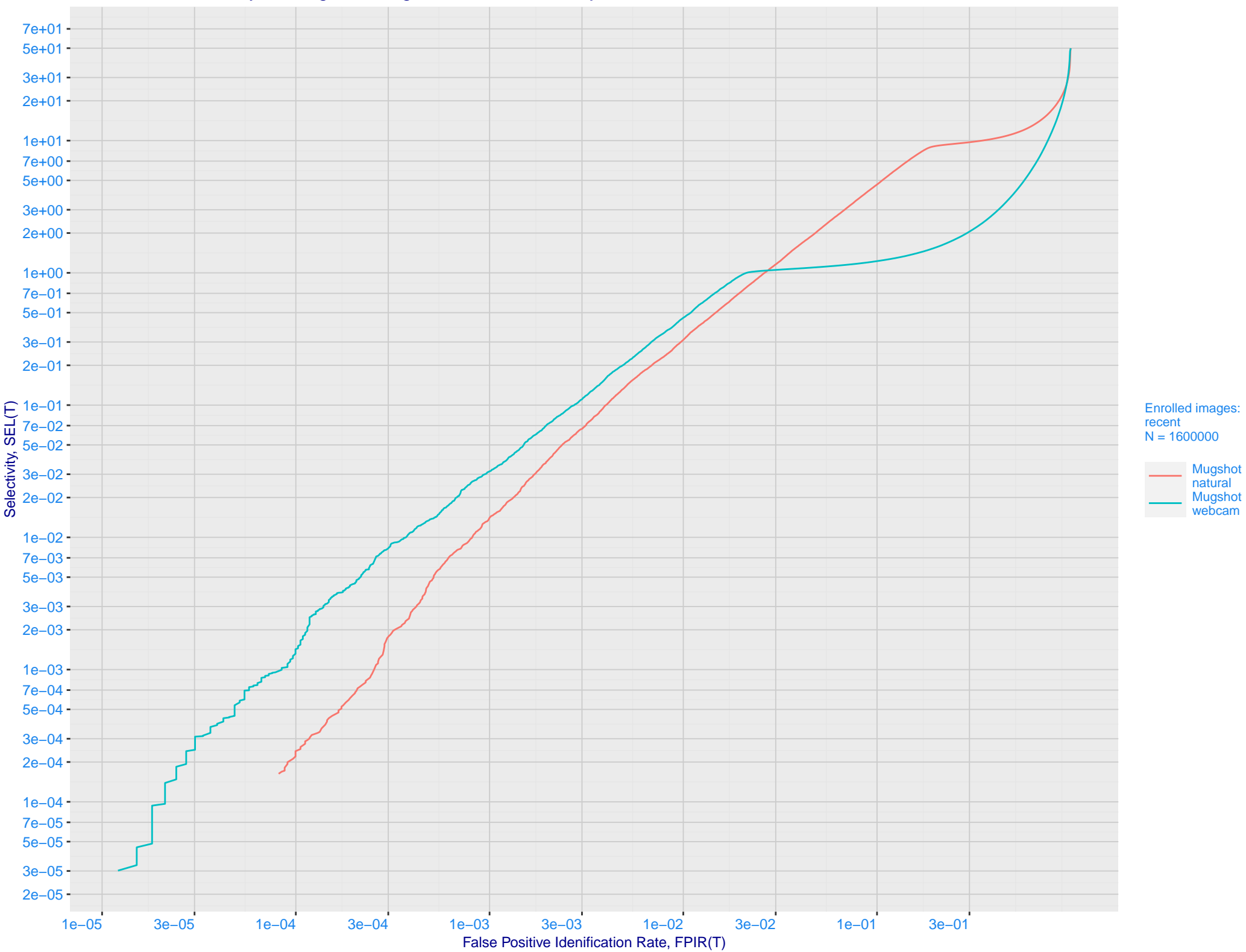Aug 19
Date algorithm submitted to FRVT

D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals
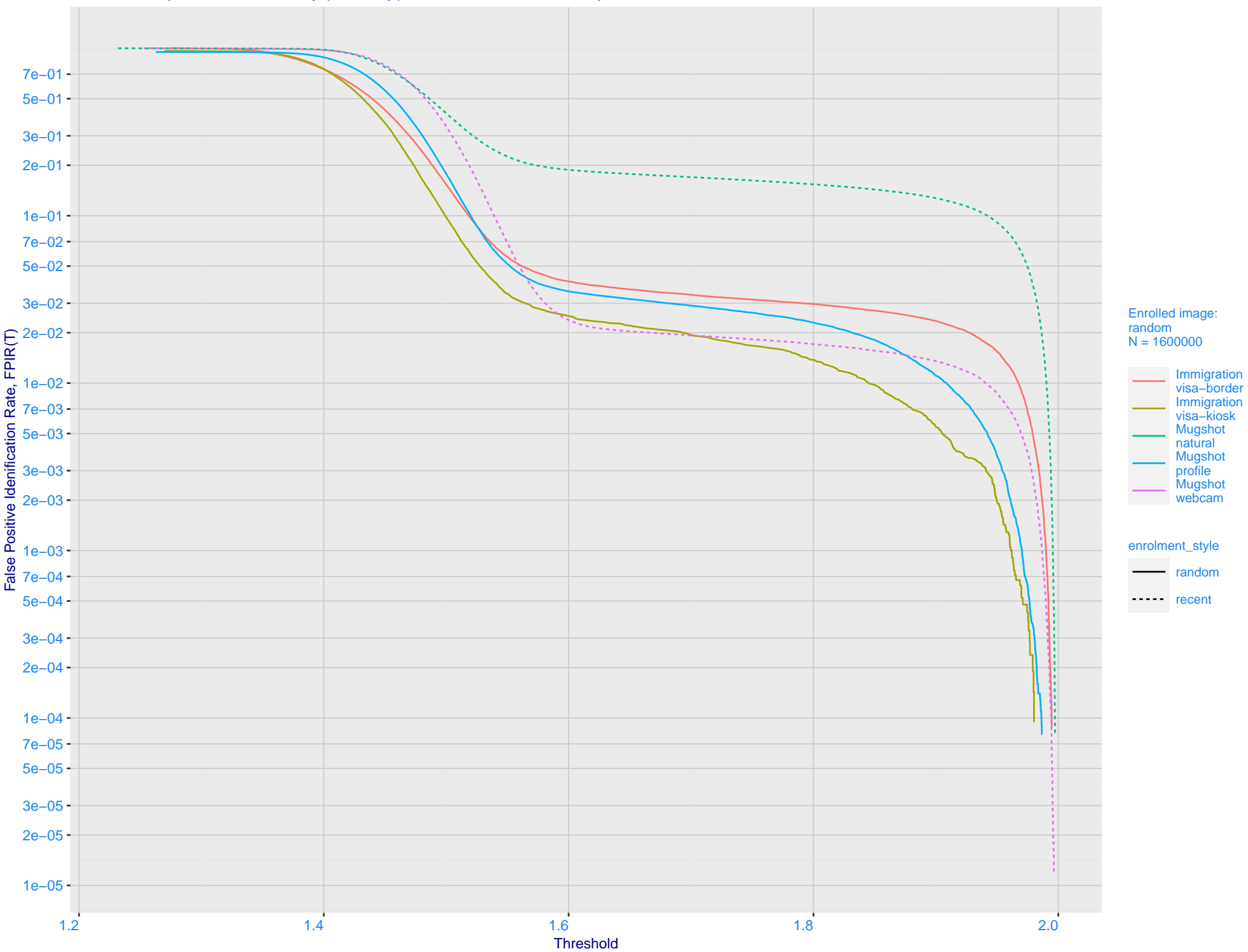
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images
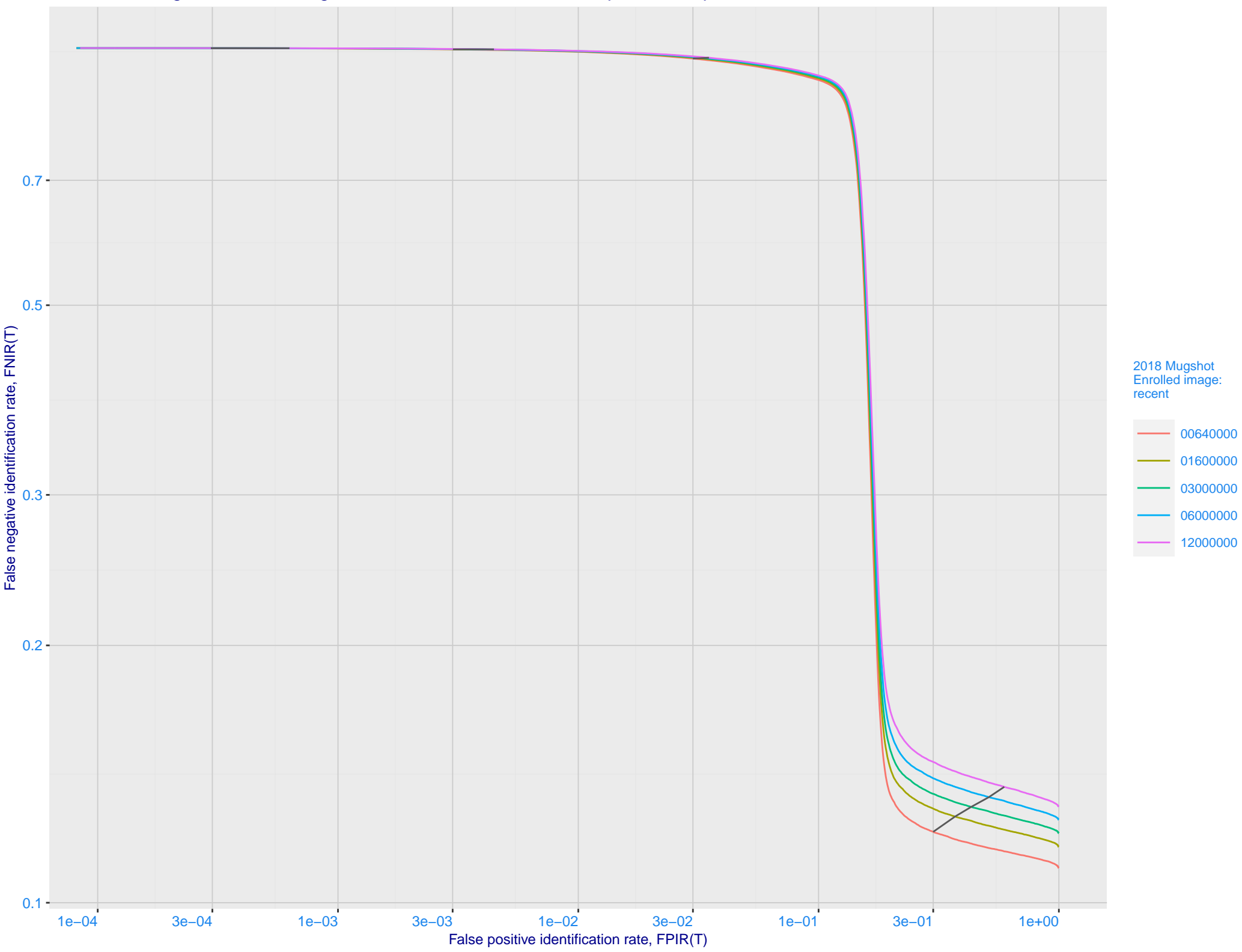
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate
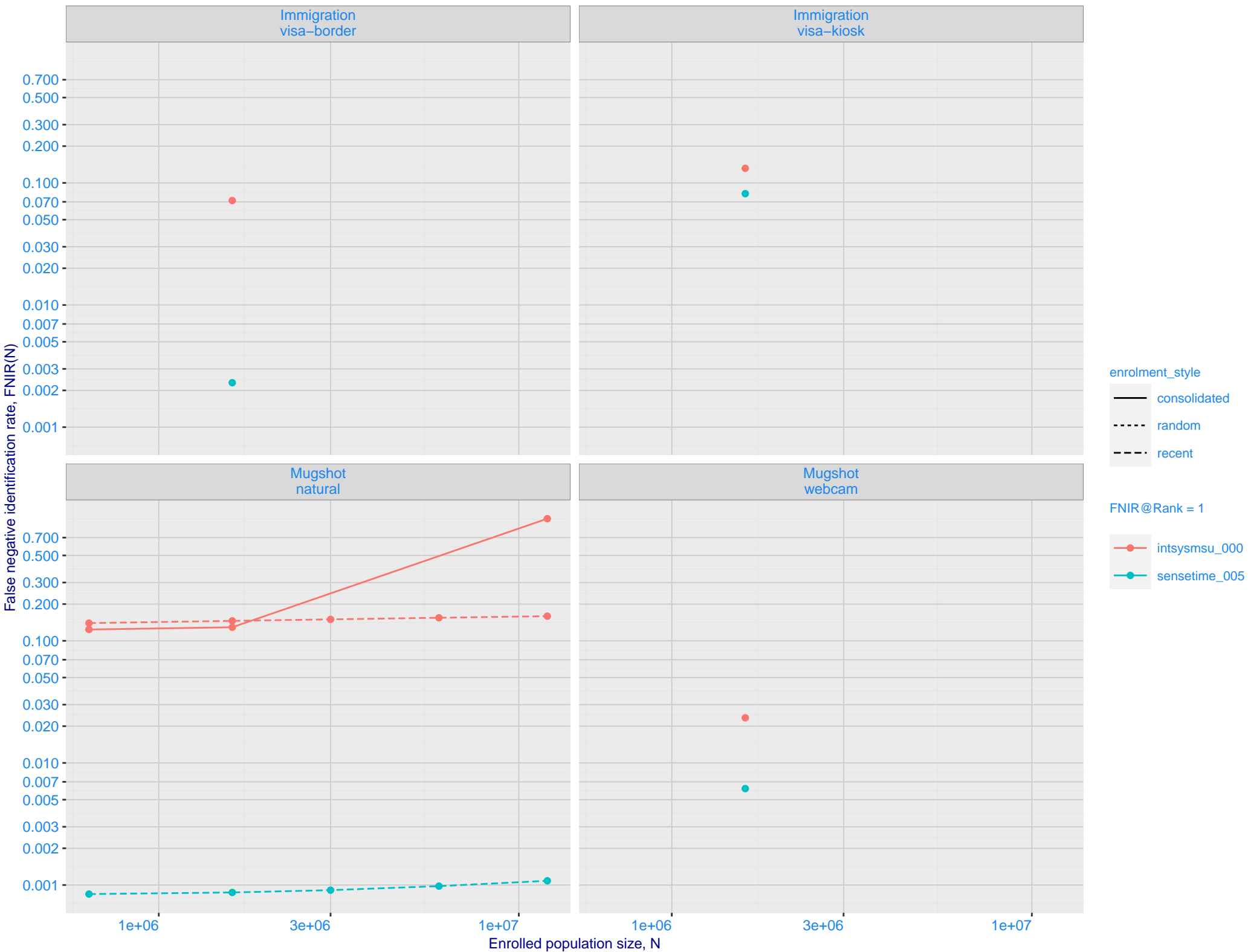
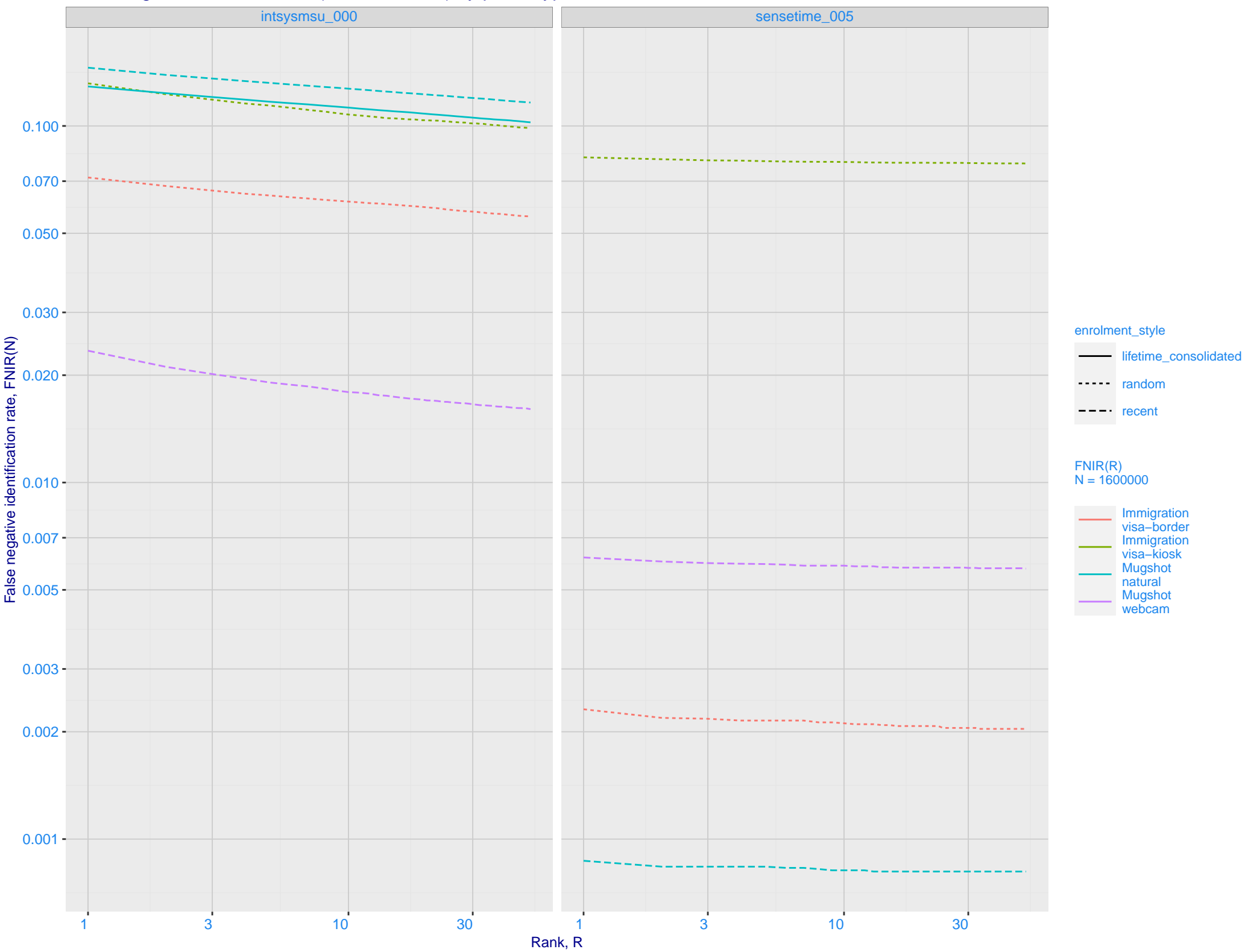G: FPIR dependence on T by probe type for N = 1600000 subjects

H: DET for Mugshot natural images and various N. Links connect points of equal threshold.

2018 Mugshot Enrolled image: recent

- 00640000
- 01600000
- 03000000
- 06000000
- 12000000

False negative identification rate, FNIR(T)

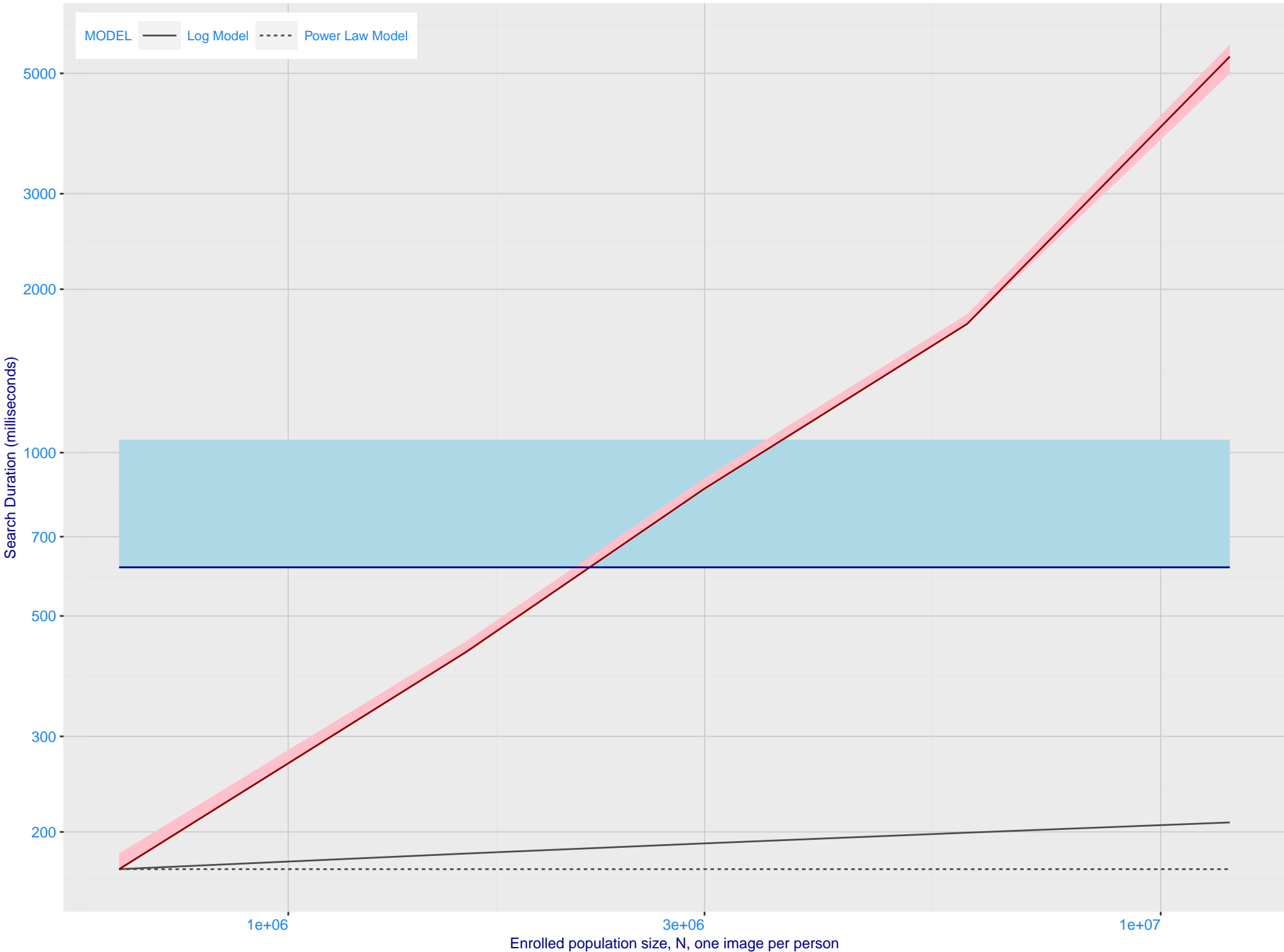False positive identification rate, FPIR(T)

I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005)

J: Investigational mode: FNIR(1600000, R, 0) by probe type

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

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