

A: Datasheet

Algorithm: alchera_3

Developer: Alchera Inc

Submission Date: 2018_10_30

Template size: 2048 bytes

Template time (2.5 percentile): 515 msec

Template time (median): 532 msec

Template time (97.5 percentile): 720 msec

Investigation:

Frontal mugshot ranking 123 (out of 259) — FNIR(1600000, 0, 1) = 0.0104 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 113 (out of 221) — FNIR(1600000, 0, 1) = 0.0352 vs. lowest 0.0062 from sensetime_005

Mugshot profile ranking 75 (out of 190) — FNIR(1600000, 0, 1) = 0.7412 vs. lowest 0.0591 from sensetime_005

Immigration visa–border ranking 66 (out of 142) — FNIR(1600000, 0, 1) = 0.0165 vs. lowest 0.0014 from visionlabs_009

Immigration visa–kiosk ranking 72 (out of 139) — FNIR(1600000, 0, 1) = 0.2059 vs. lowest 0.0694 from cib_000

Identification:

Frontal mugshot ranking 152 (out of 259) — FNIR(1600000, T, L+1) = 0.1551, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

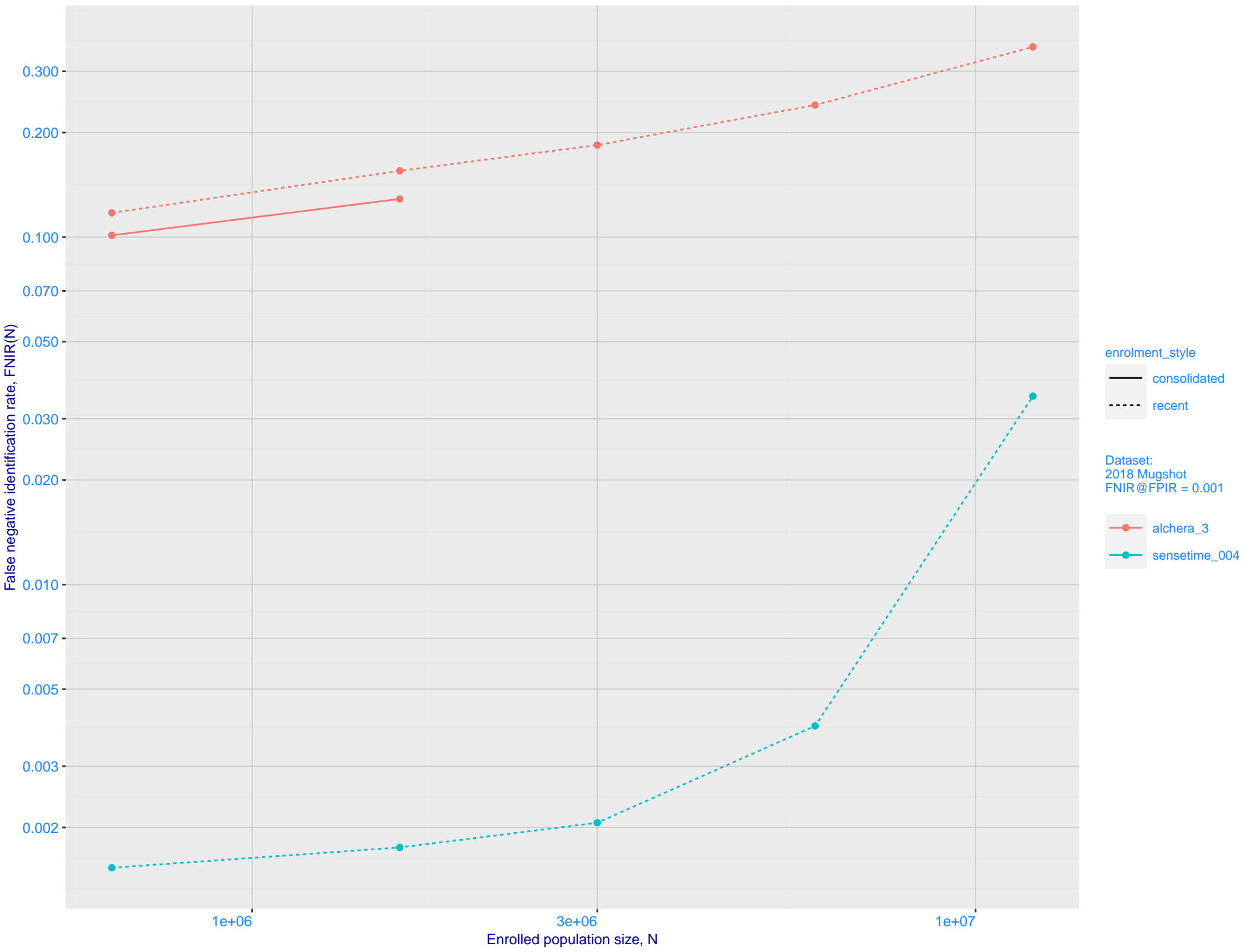
Mugshot webcam ranking 133 (out of 219) — FNIR(1600000, T, L+1) = 0.2388, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 132 (out of 189) — FNIR(1600000, T, L+1) = 0.9993, FPIR=0.001000 vs. lowest 0.1733 from sensetime_005

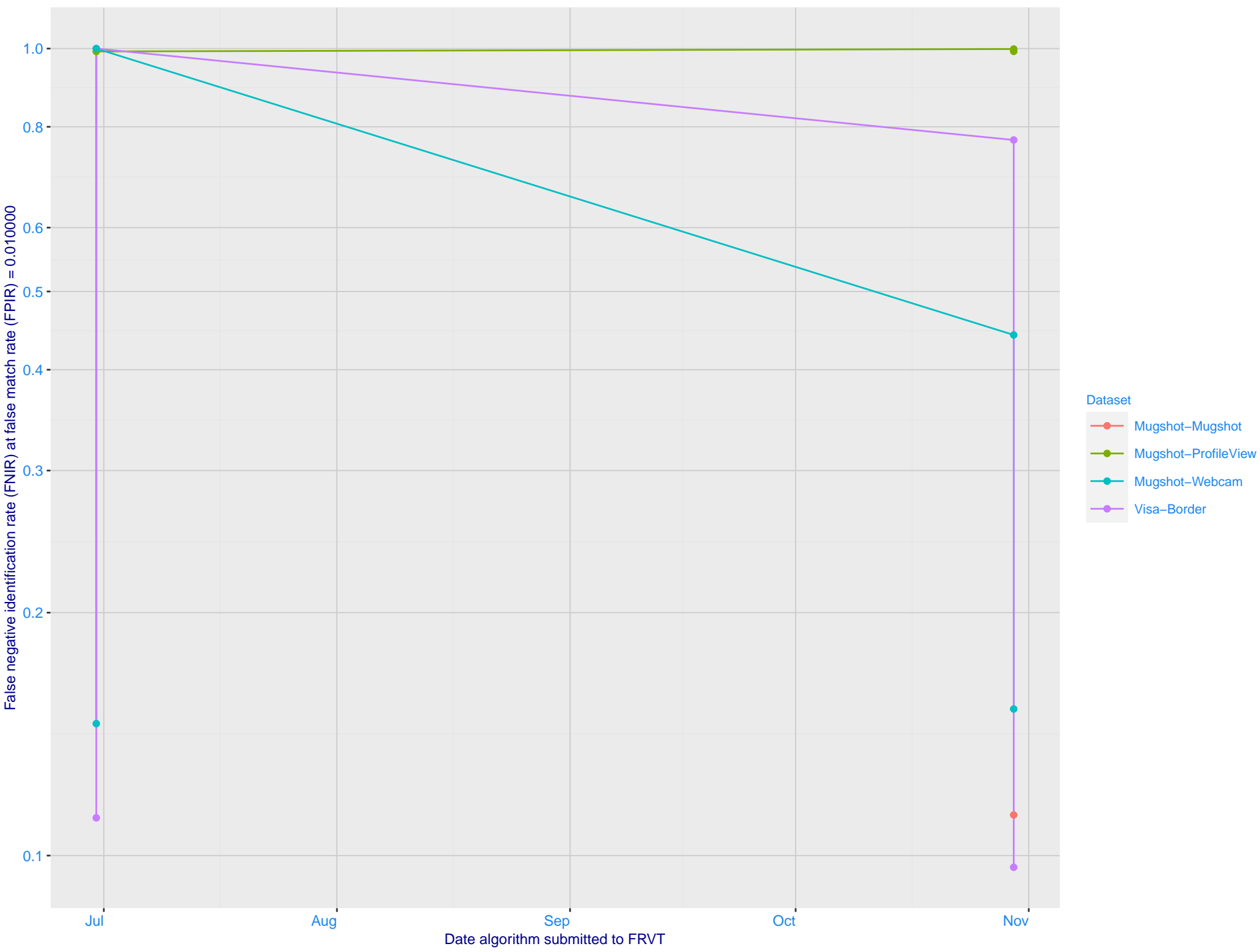
Immigration visa–border ranking 77 (out of 139) — FNIR(1600000, T, L+1) = 0.1717, FPIR=0.001000 vs. lowest 0.0059 from sensetime_004

Immigration visa–kiosk ranking 53 (out of 134) — FNIR(1600000, T, L+1) = 0.4684, FPIR=0.001000 vs. lowest 0.1048 from sensetime_005

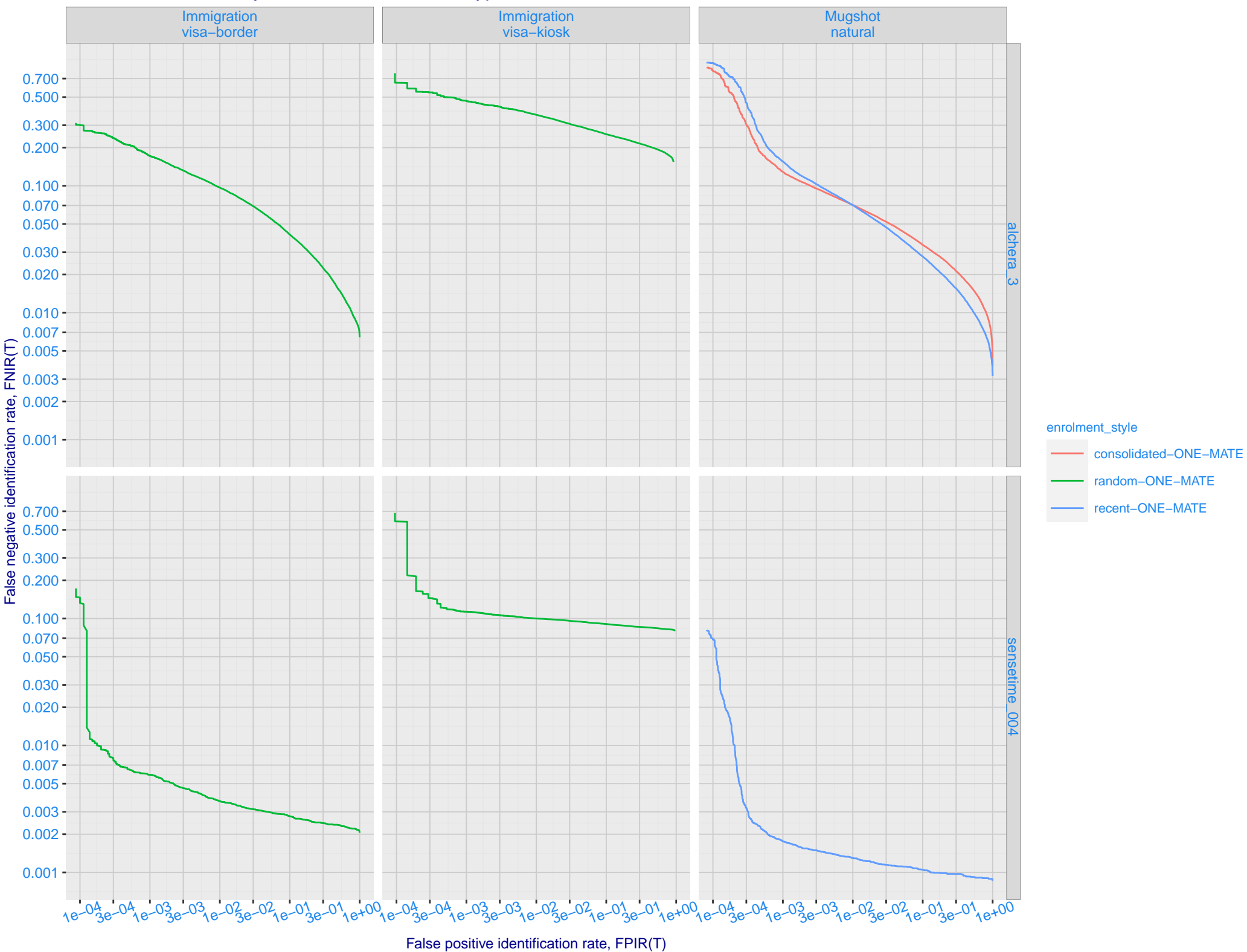
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)



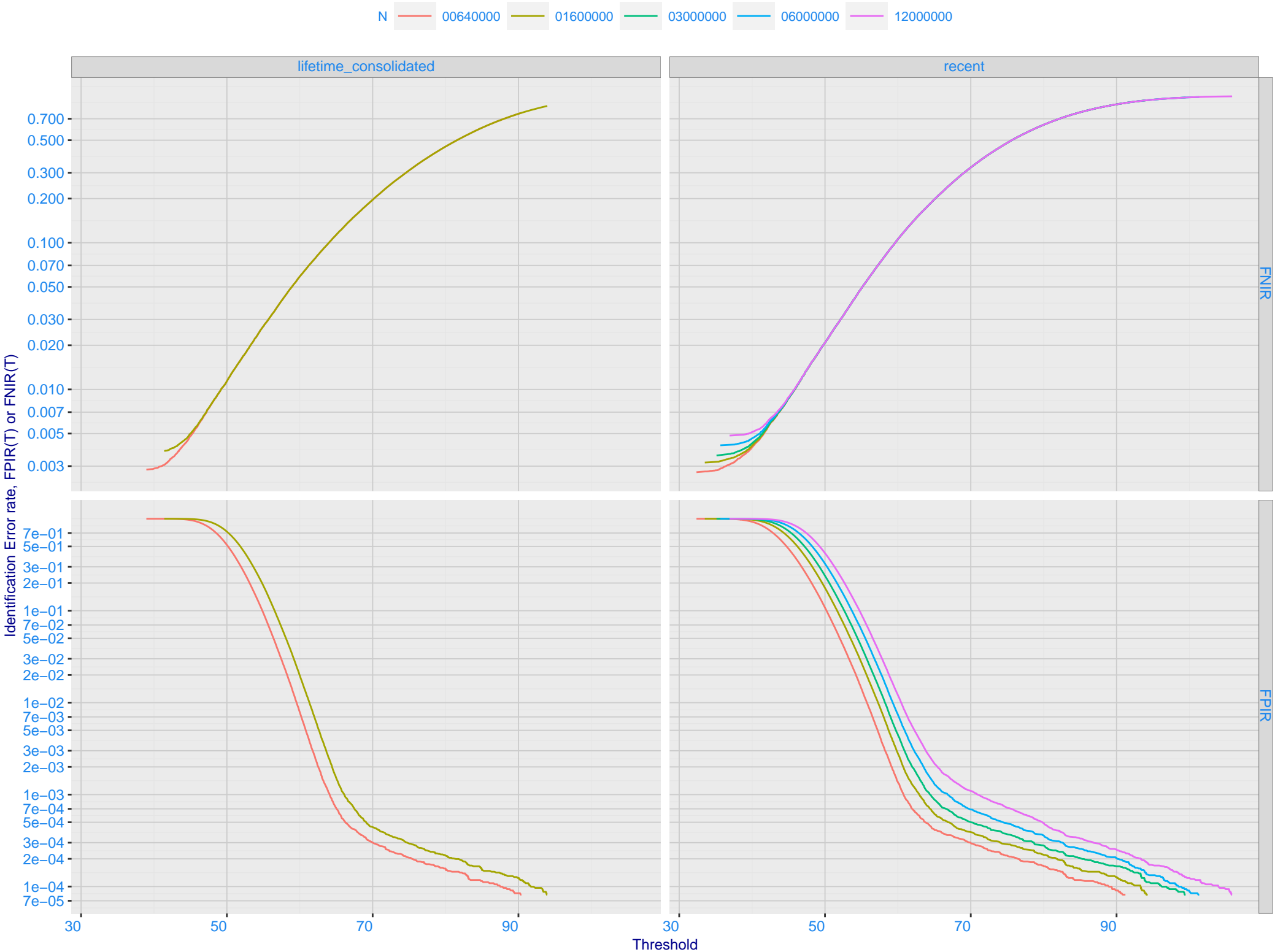
C: Evolution of accuracy for ALCHERA algorithms on three datasets 2018 – present



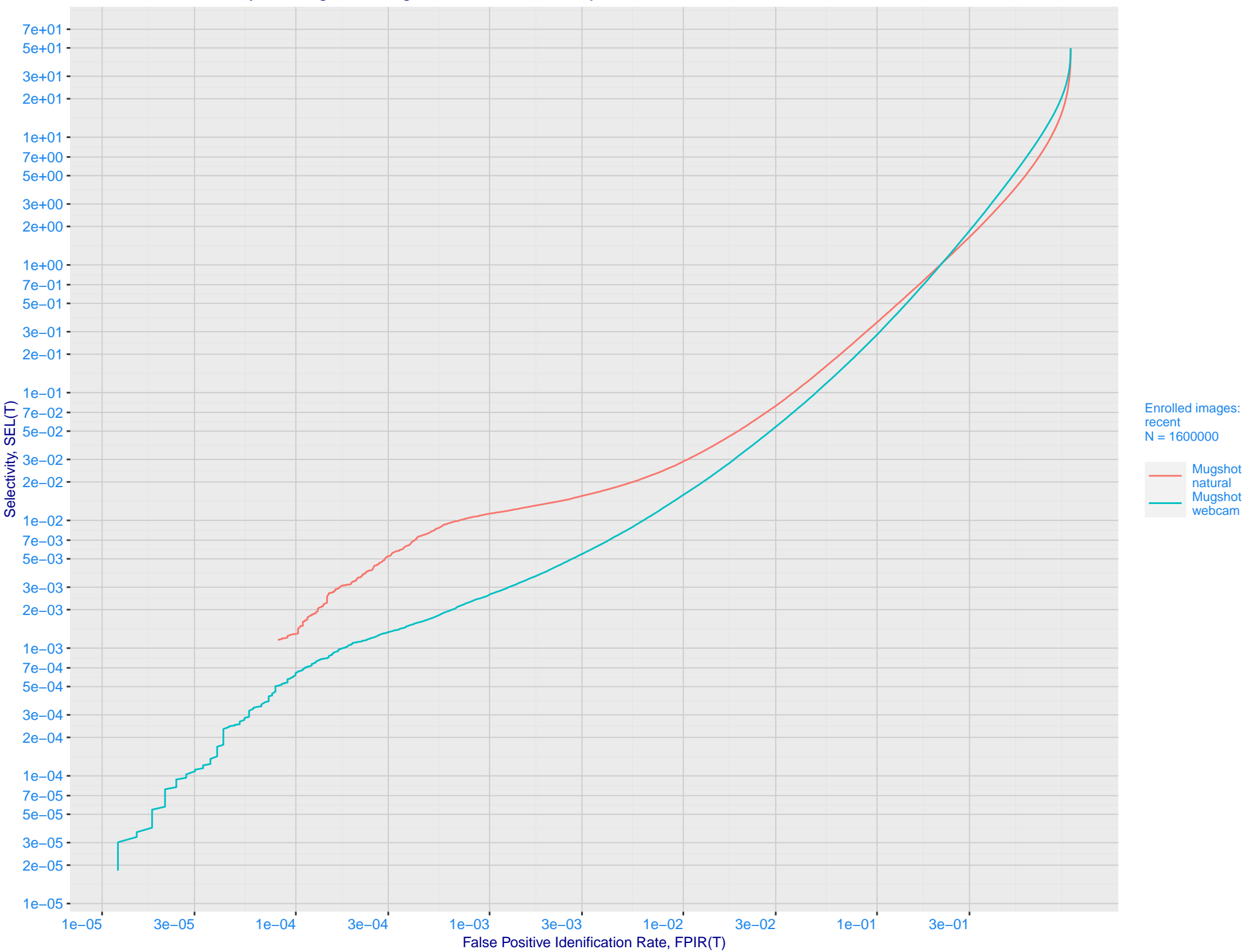
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals



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

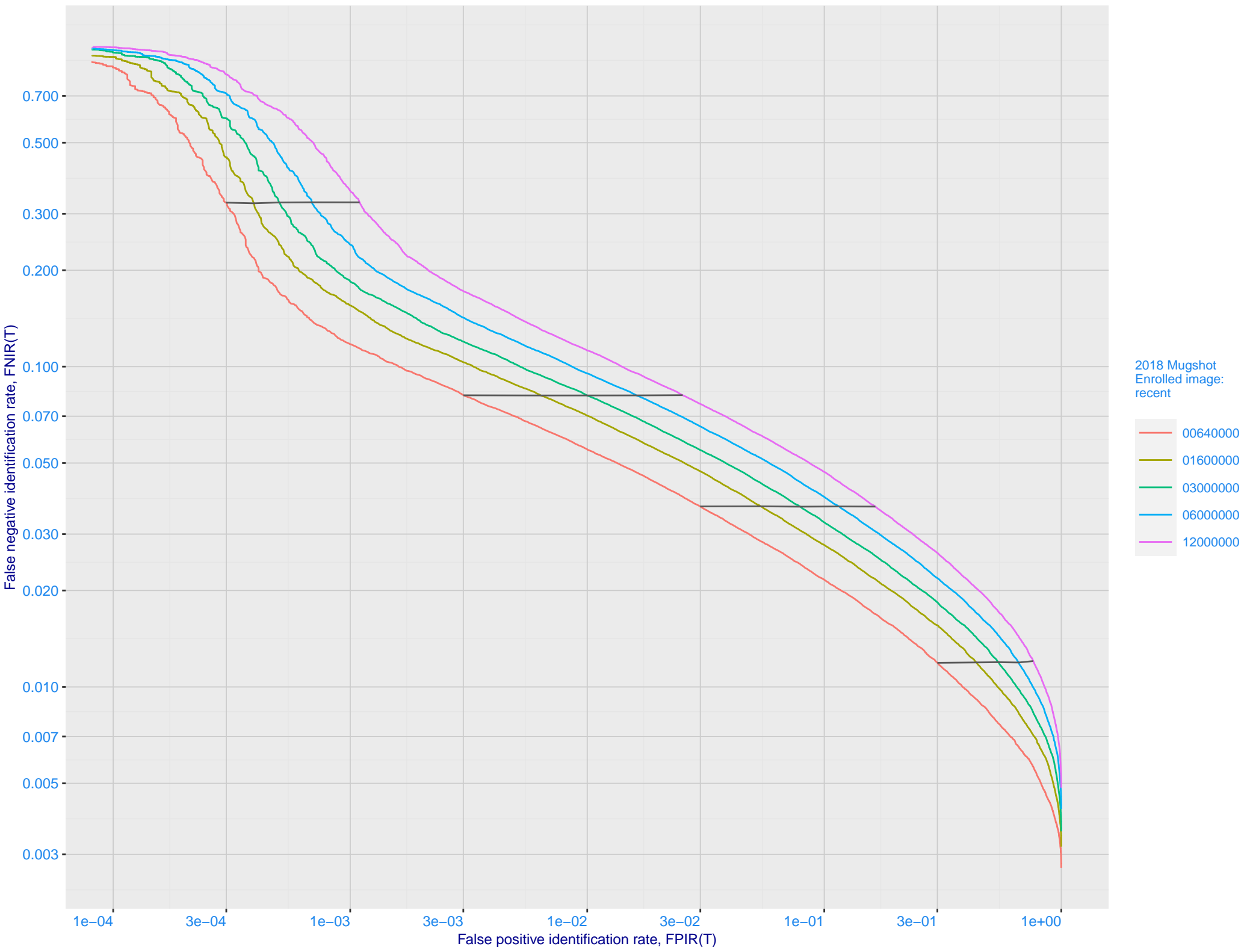


- Immigration visa-border
- Immigration visa-kiosk
- Mugshot natural
- Mugshot profile
- Mugshot webcam

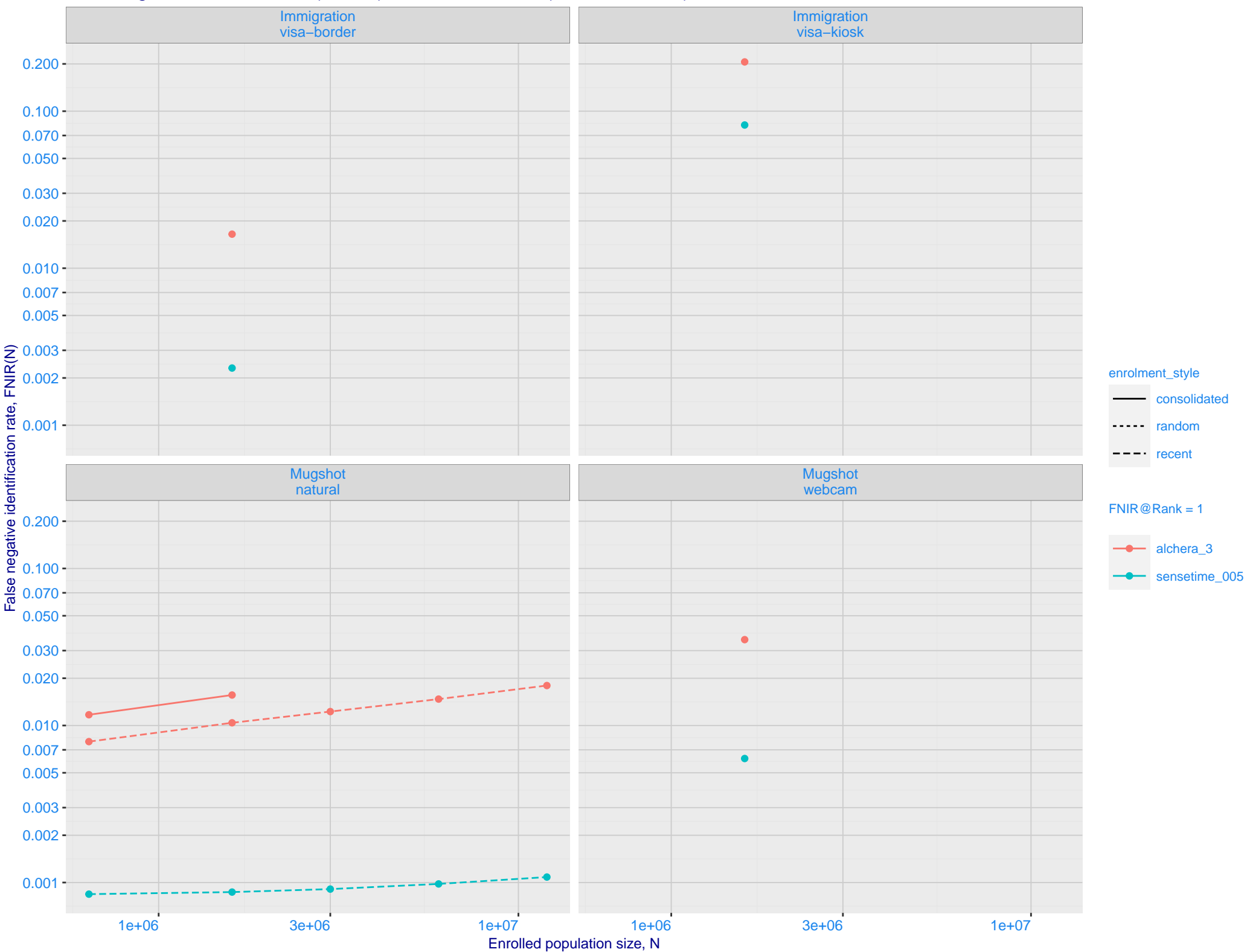
enrolment_style

—	random
- - - -	recent

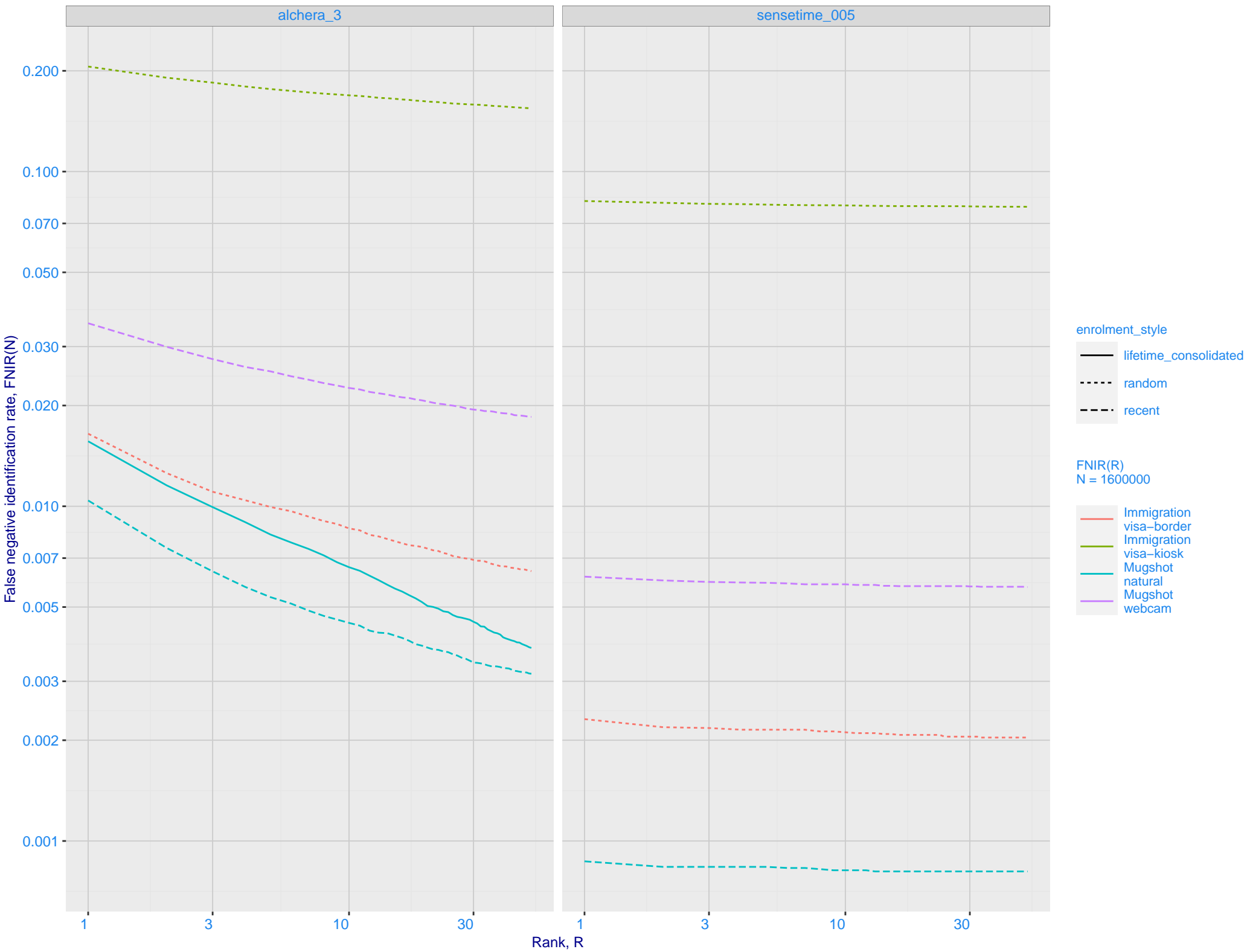
H: DET for Mugshot natural images and various N. Links connect points of equal threshold.



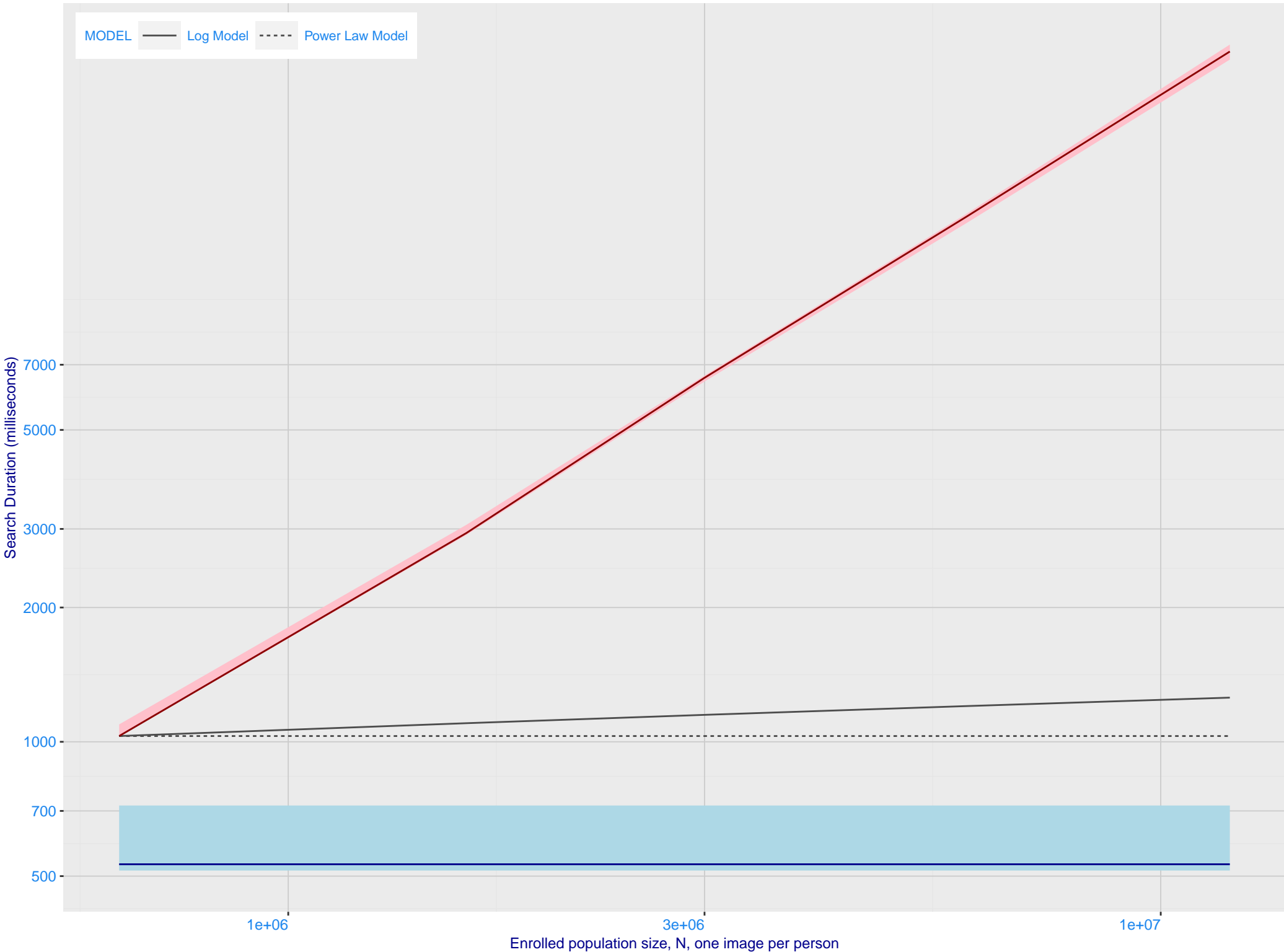
I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005)



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

Dataset: 2018 Mugshot N = 3068801

