

A: Datasheet

Algorithm: lookman\_3

Developer: Lookman Electroplast Industries

Submission Date: 2018\_10\_28

Template size: 292 bytes

Template time (2.5 percentile): 334 msec

Template time (median): 336 msec

Template time (97.5 percentile): 367 msec

Investigation:

Frontal mugshot ranking 111 (out of 259) — FNIR(1600000, 0, 1) = 0.0088 vs. lowest 0.0009 from sensetime\_005

Mugshot webcam ranking 122 (out of 221) — FNIR(1600000, 0, 1) = 0.0379 vs. lowest 0.0062 from sensetime\_005

Immigration visa–border ranking 83 (out of 142) — FNIR(1600000, 0, 1) = 0.0351 vs. lowest 0.0014 from visionlabs\_009

Immigration visa–kiosk ranking 82 (out of 139) — FNIR(1600000, 0, 1) = 0.2394 vs. lowest 0.0694 from cib\_000

Identification:

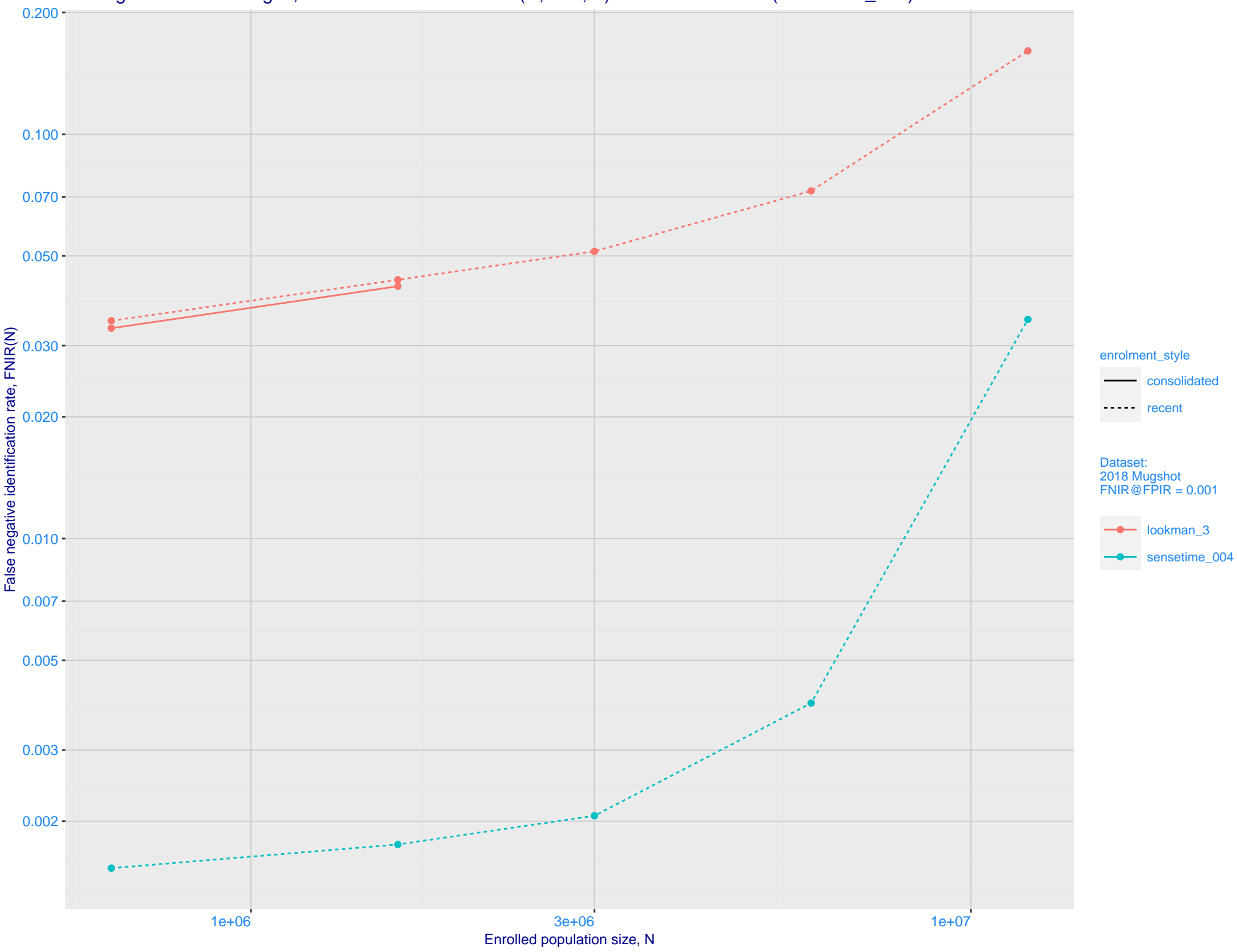
Frontal mugshot ranking 63 (out of 259) — FNIR(1600000, T, L+1) = 0.0437, FPIR=0.001000 vs. lowest 0.0018 from sensetime\_004

Mugshot webcam ranking 70 (out of 219) — FNIR(1600000, T, L+1) = 0.1123, FPIR=0.001000 vs. lowest 0.0122 from sensetime\_003

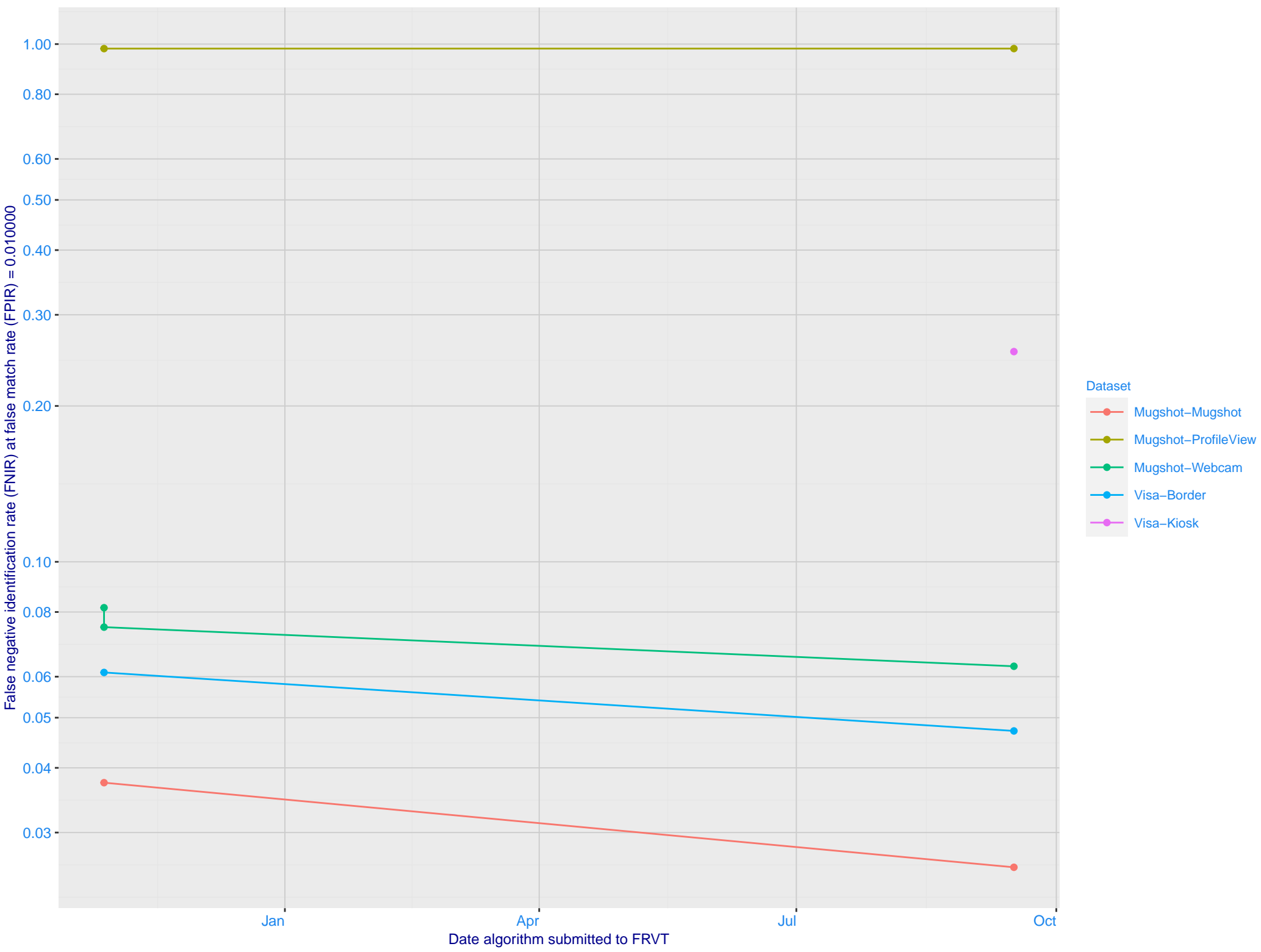
Immigration visa–border ranking 60 (out of 139) — FNIR(1600000, T, L+1) = 0.0841, FPIR=0.001000 vs. lowest 0.0059 from sensetime\_004

Immigration visa–kiosk ranking 44 (out of 134) — FNIR(1600000, T, L+1) = 0.3572, FPIR=0.001000 vs. lowest 0.1048 from sensetime\_005

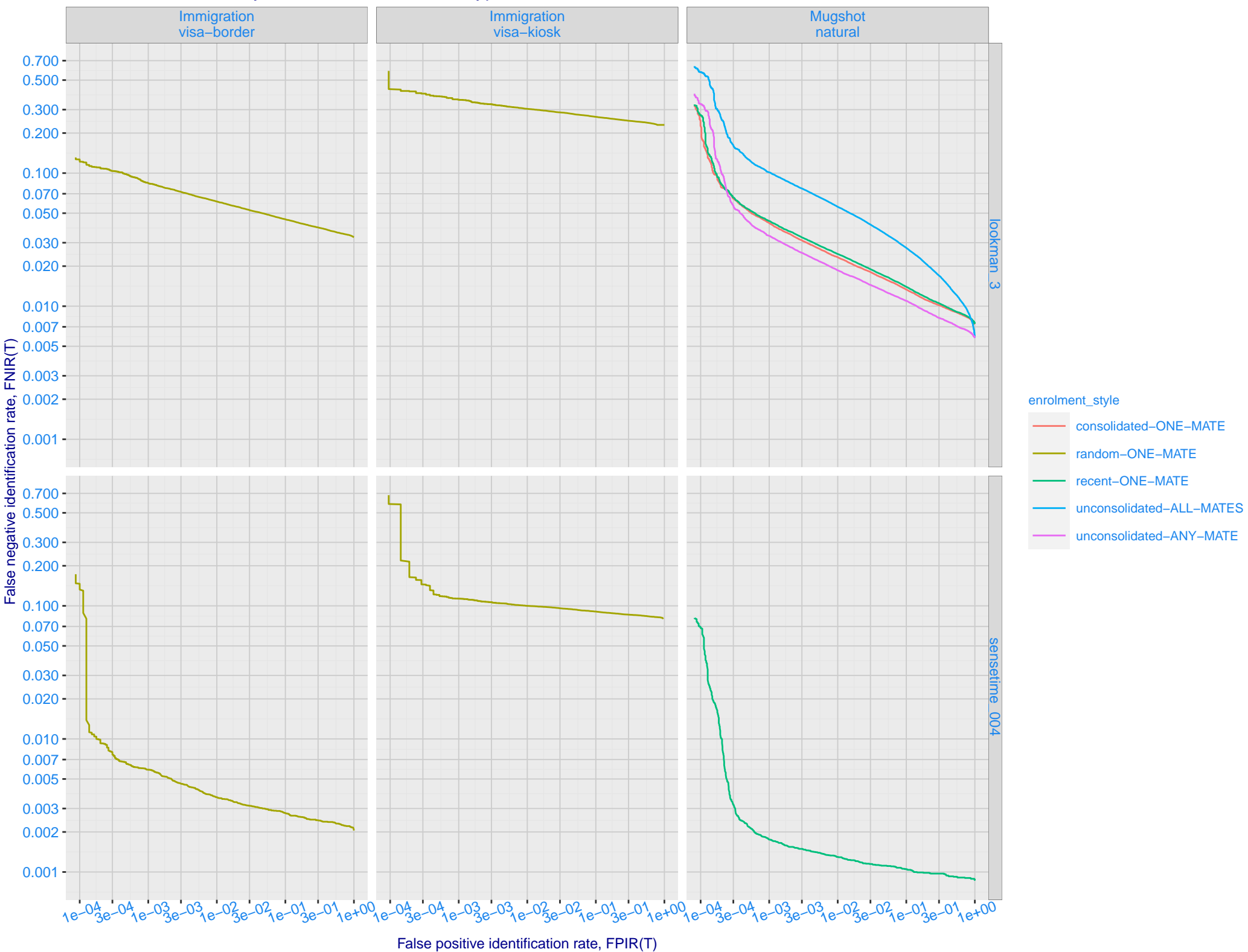
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime\_004)



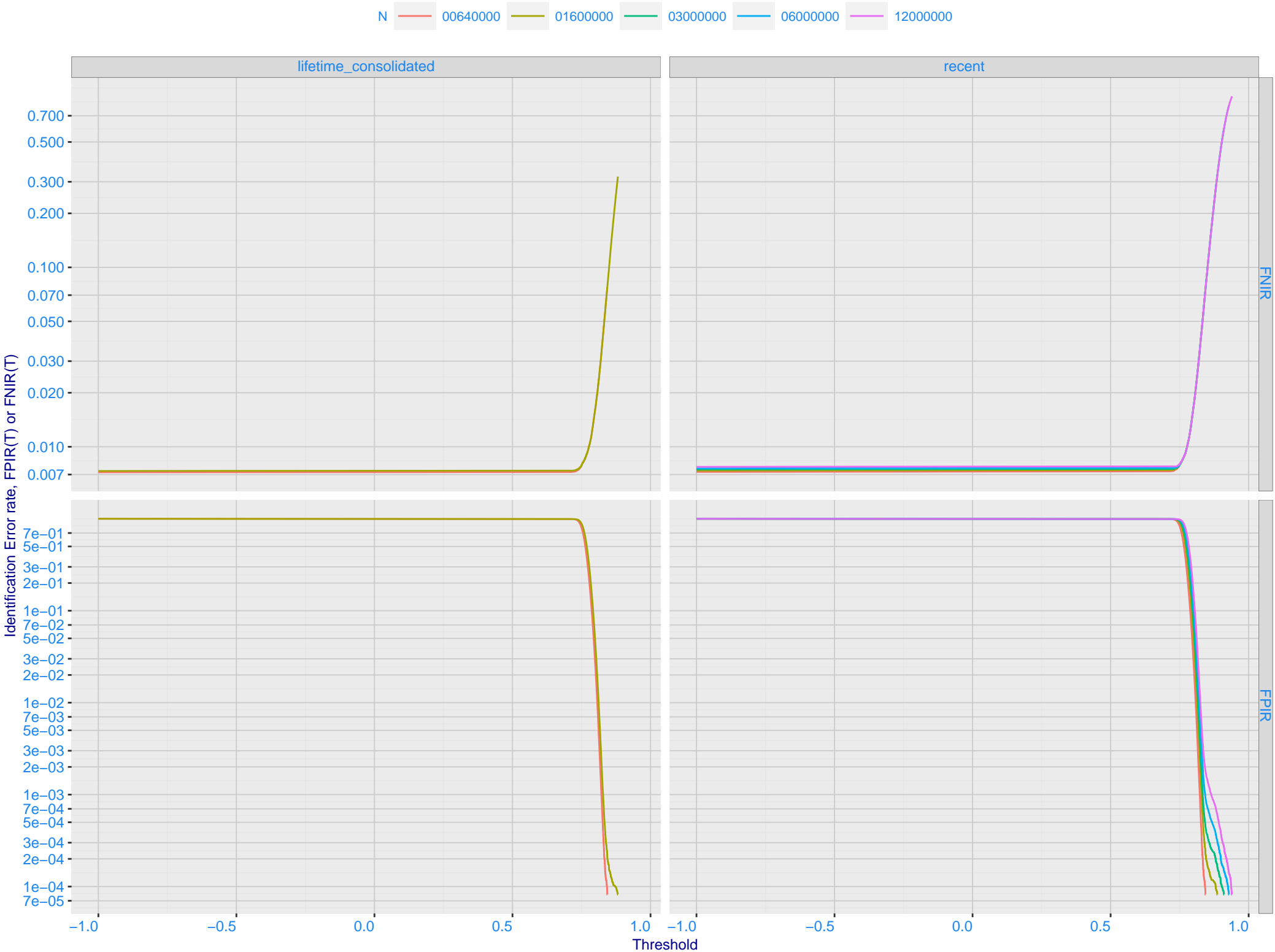
C: Evolution of accuracy for LOOKMAN algorithms on three datasets 2018 – present



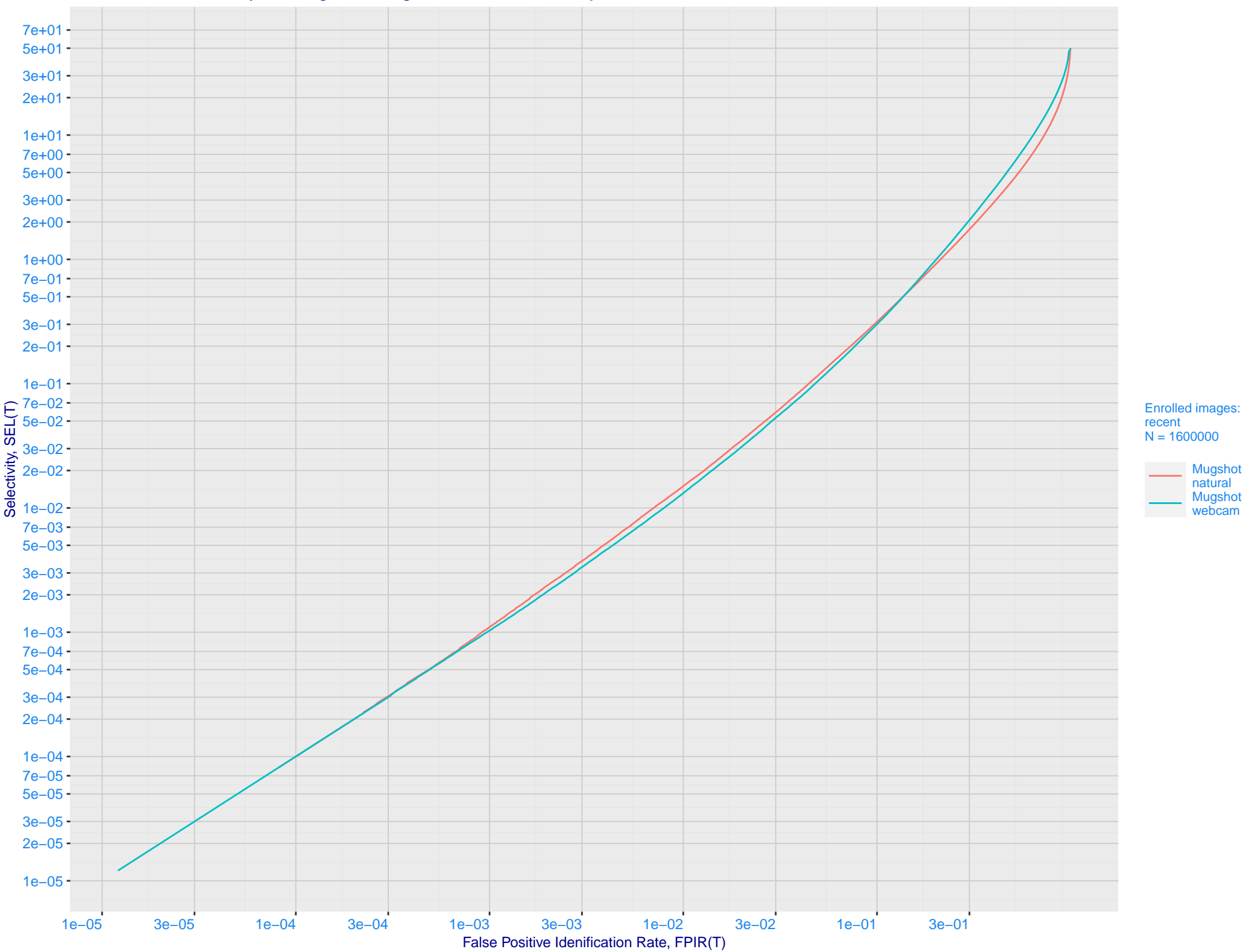
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals



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

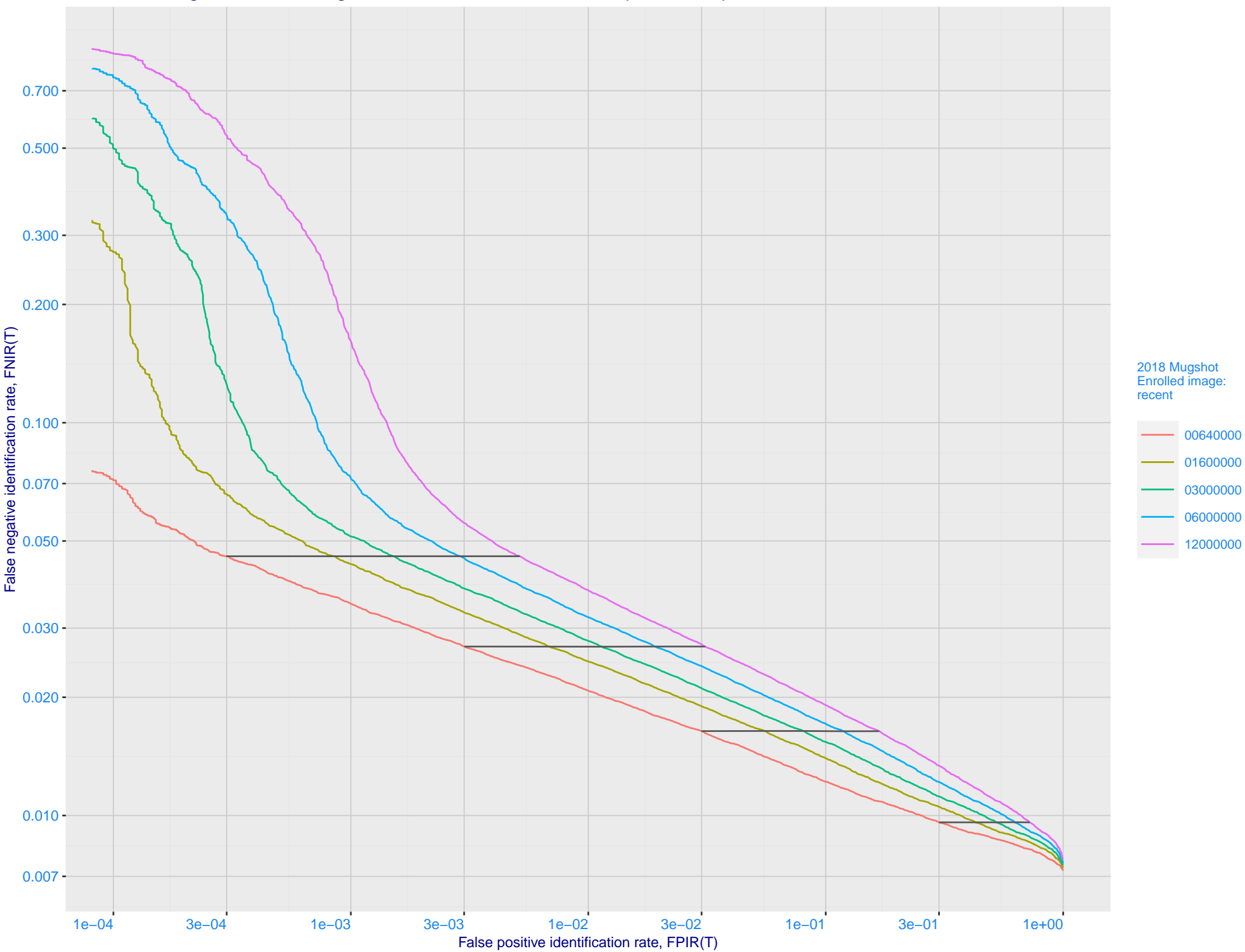


F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate



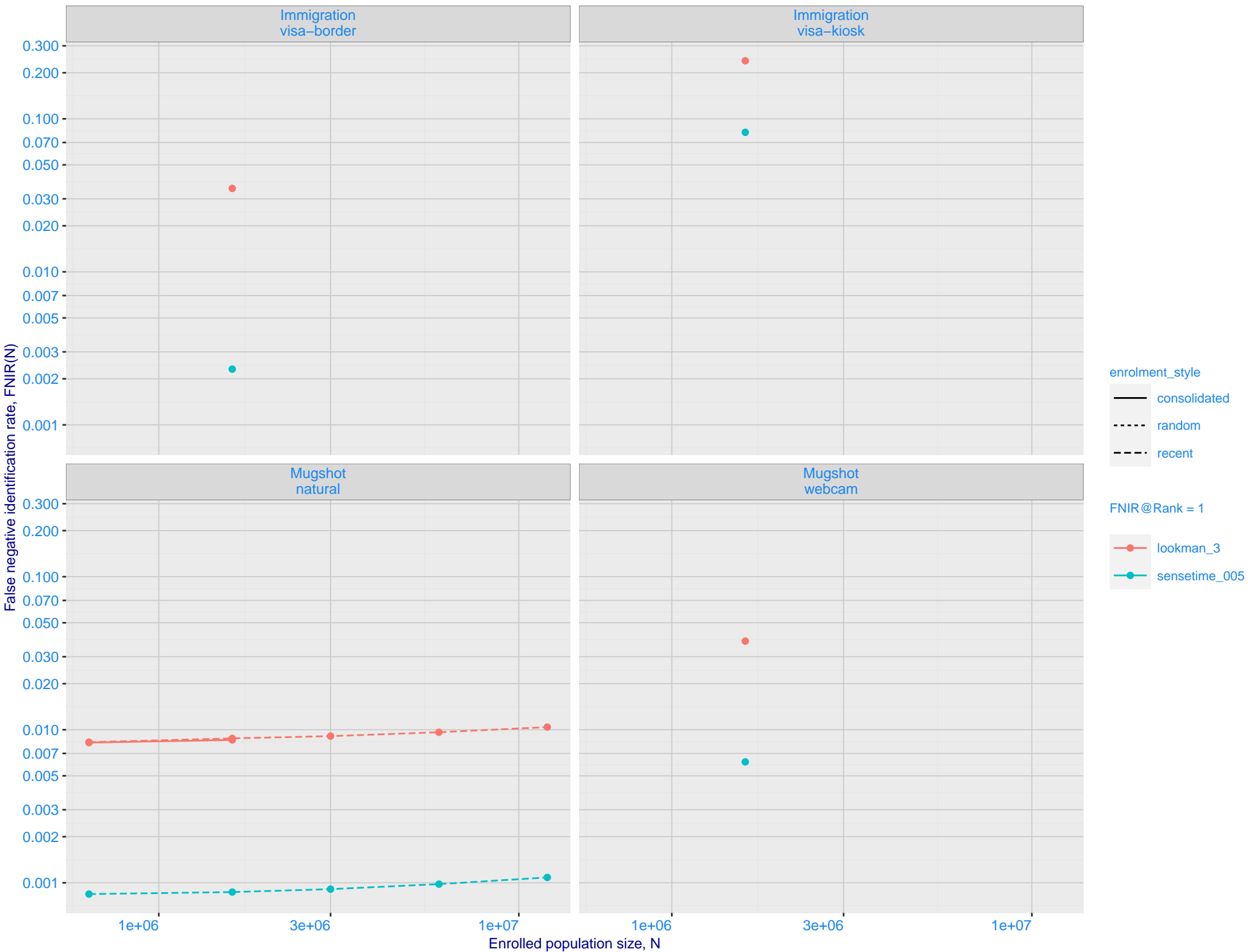


H: DET for Mugshot natural images and various N. Links connect points of equal threshold.



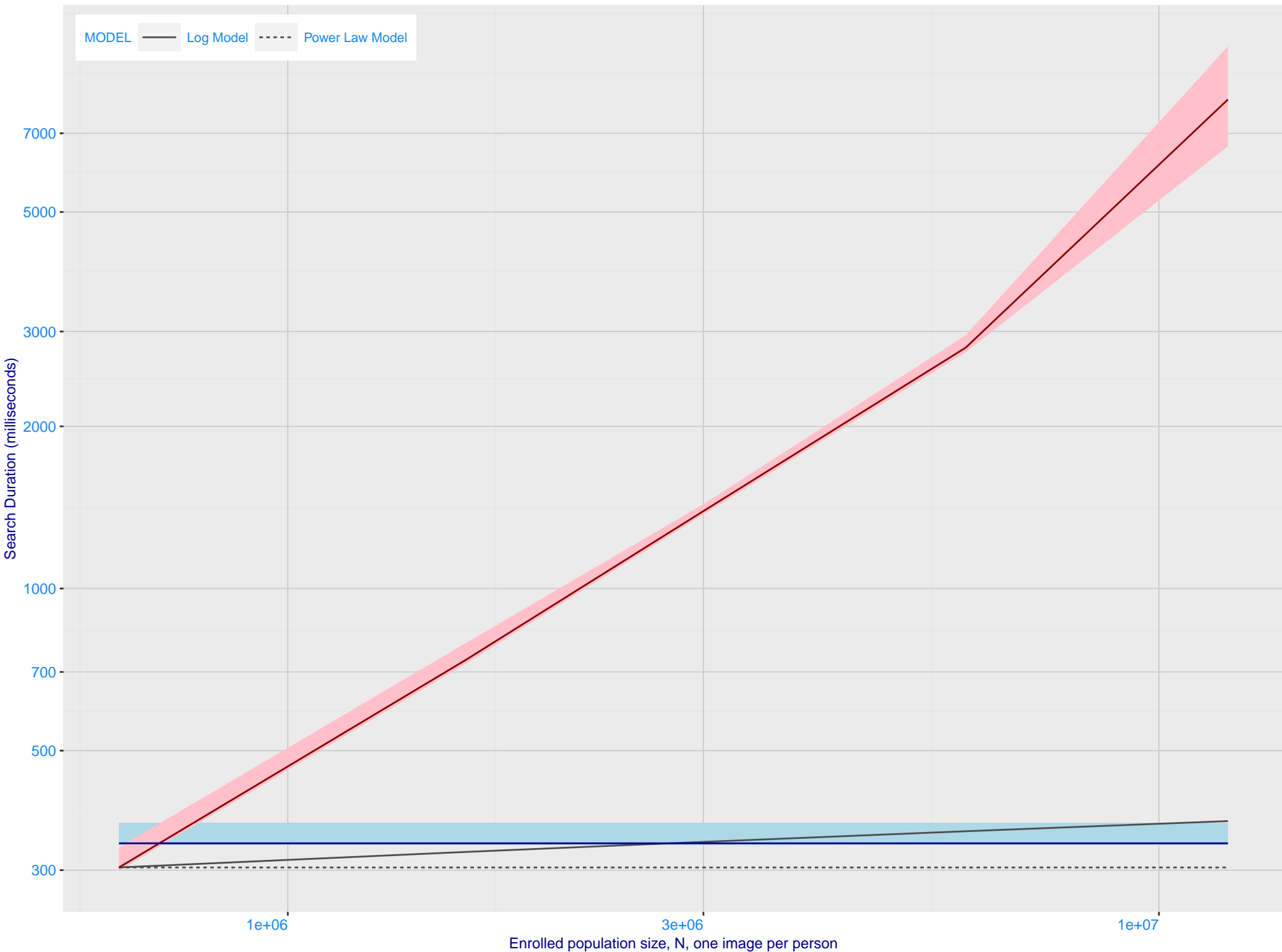


# I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime\_005)



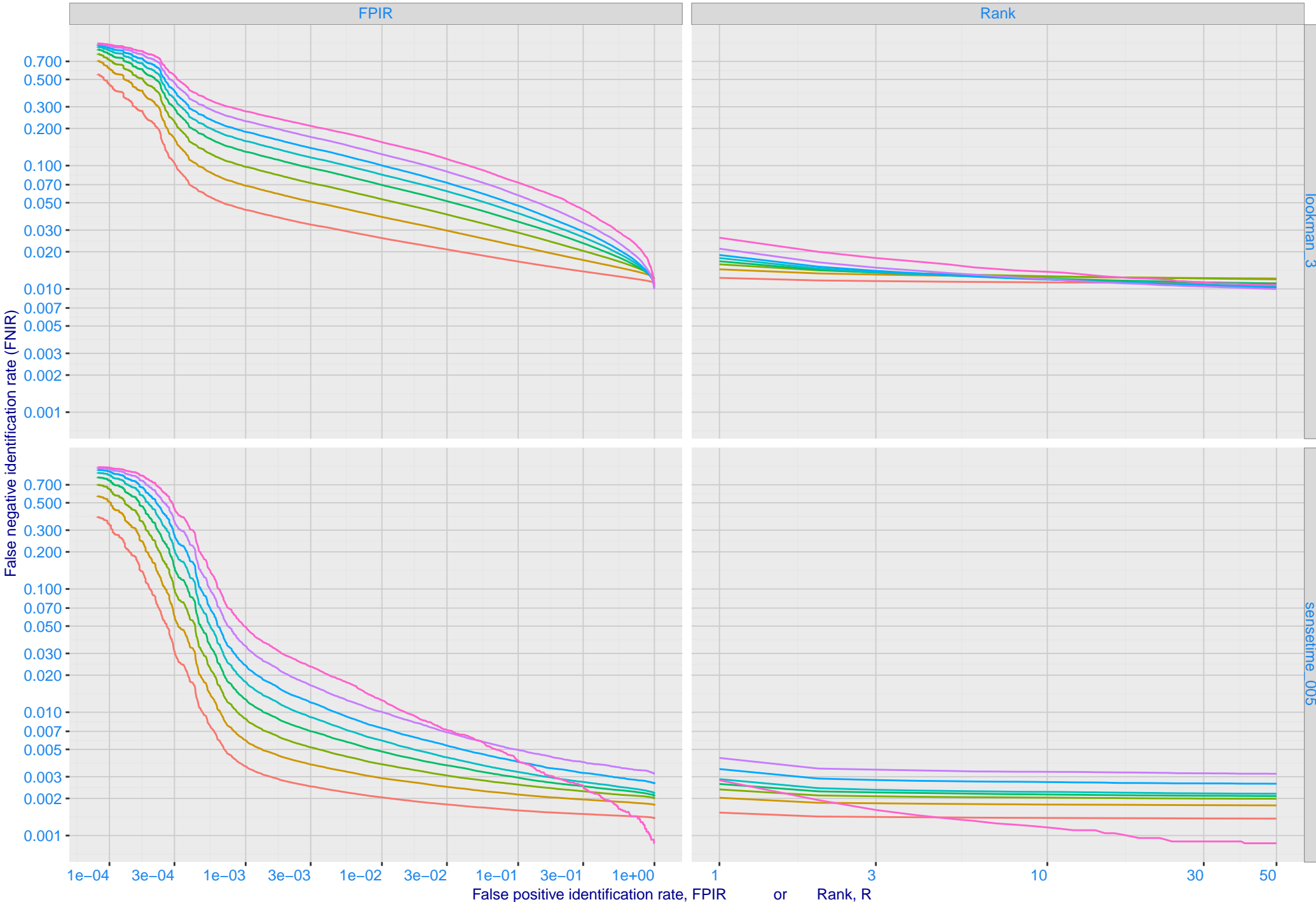


Template duration; search duration vs. N. The blue and pink ribbon covers 95 percent of observed measurements. The template generation time is independent of N. The log and power-law models are fit to the first two (N,T) observations



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

Dataset: 2018 Mugshot N = 3068801



N: Decline of genuine scores with ageing

