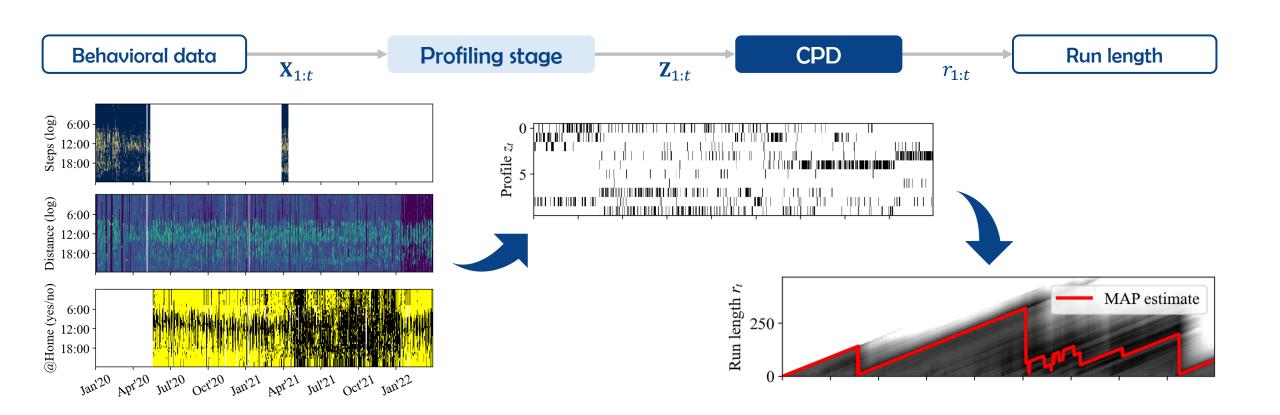
A real-life application of the VQ-VAE

A foundation model for scaling the analysis of patient behavior

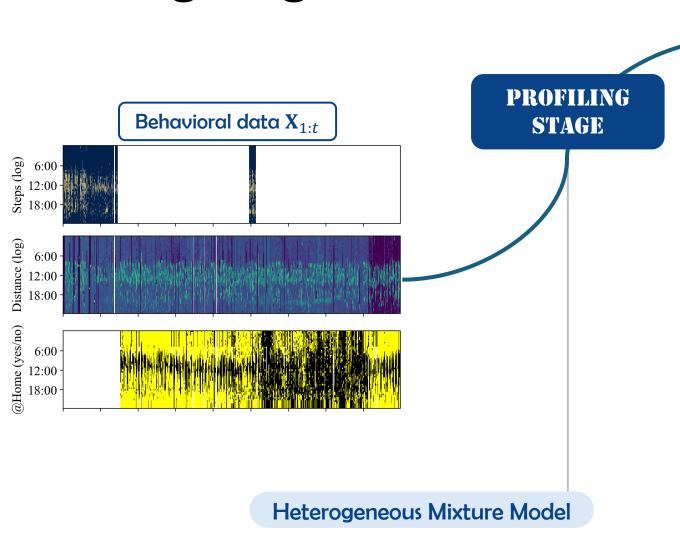
Josué Pérez Sabater · Rodrigo Oliver

Agora Session of June 24th, 2025

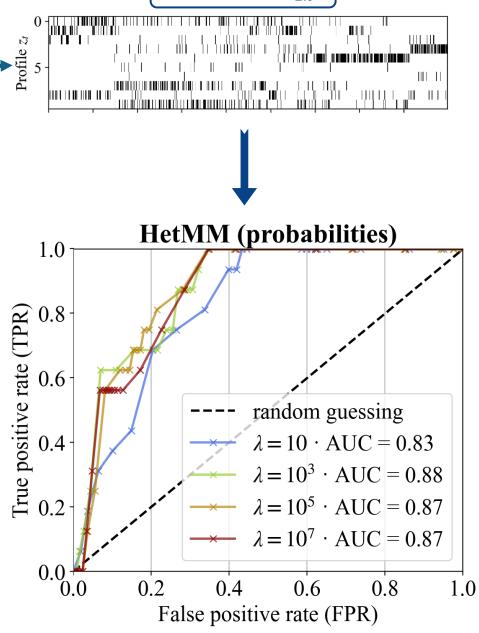
Detecting changes in human behavior



Profiling stage: HetMM



Profile data $\mathbf{Z}_{1:t}$



Profiling stage: HetMM vs. VQ-VAE

Heterogeneous Mixture Model

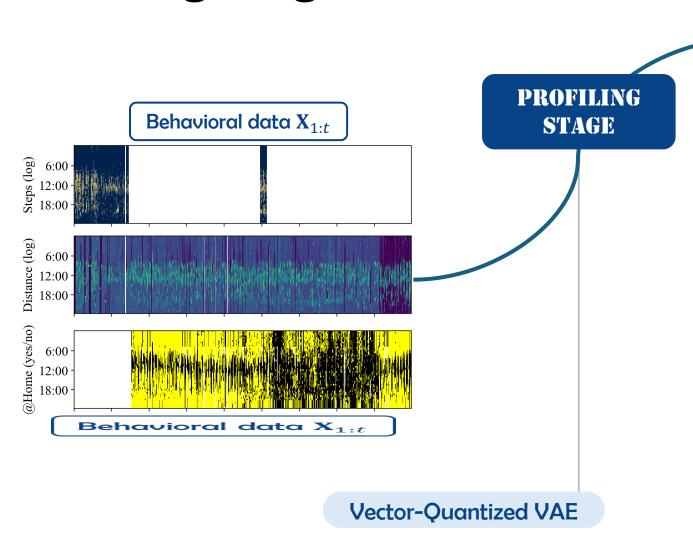
PROFILING STAGE

Vector-Quantized VAE

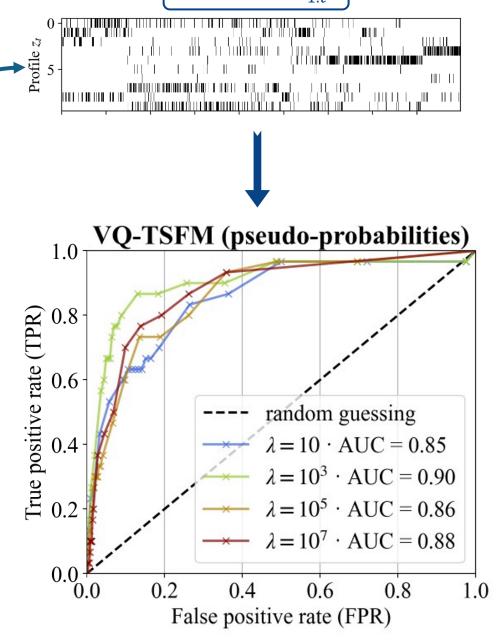
- One model per patient
- Highly personalized
- Not easily scalable
- New patient → TRAIN new model
- Misses the bigger picture

- One model for whole population
- Easily scalable
- Captures population patterns
- New patient → INFER profile
- Still low-dimensional

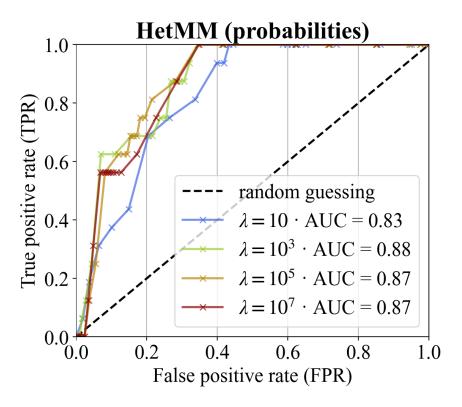
Profiling stage: VQ-VAE

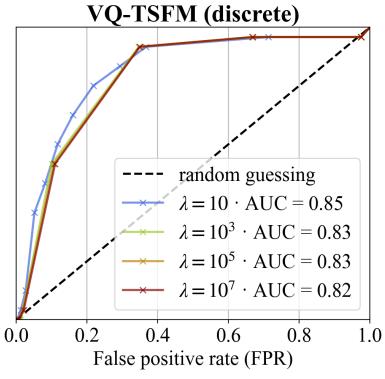


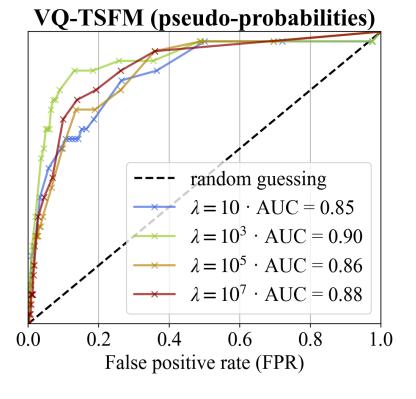
Profile data $\mathbf{Z}_{1:t}$



Profiling stage: VQ-VAE







A real-life application of the VQ-VAE

A foundation model for scaling the analysis of patient behavior

Josué Pérez Sabater · Rodrigo Oliver

Thank you!

VQ-VAE: Foundational capabilities

