a. Optimal transport for recovering developmental trajectories

feature vector

μ_{t-1} measurement snapshot   cell type $\bullet$ μ_{t+1}

undifferentiated cells

μ_t

cell data space

$P_{t,t+1}$

$P_{t-1,t}$

cell type $\bullet$

$t-1$ t $t+1 \longrightarrow$ time
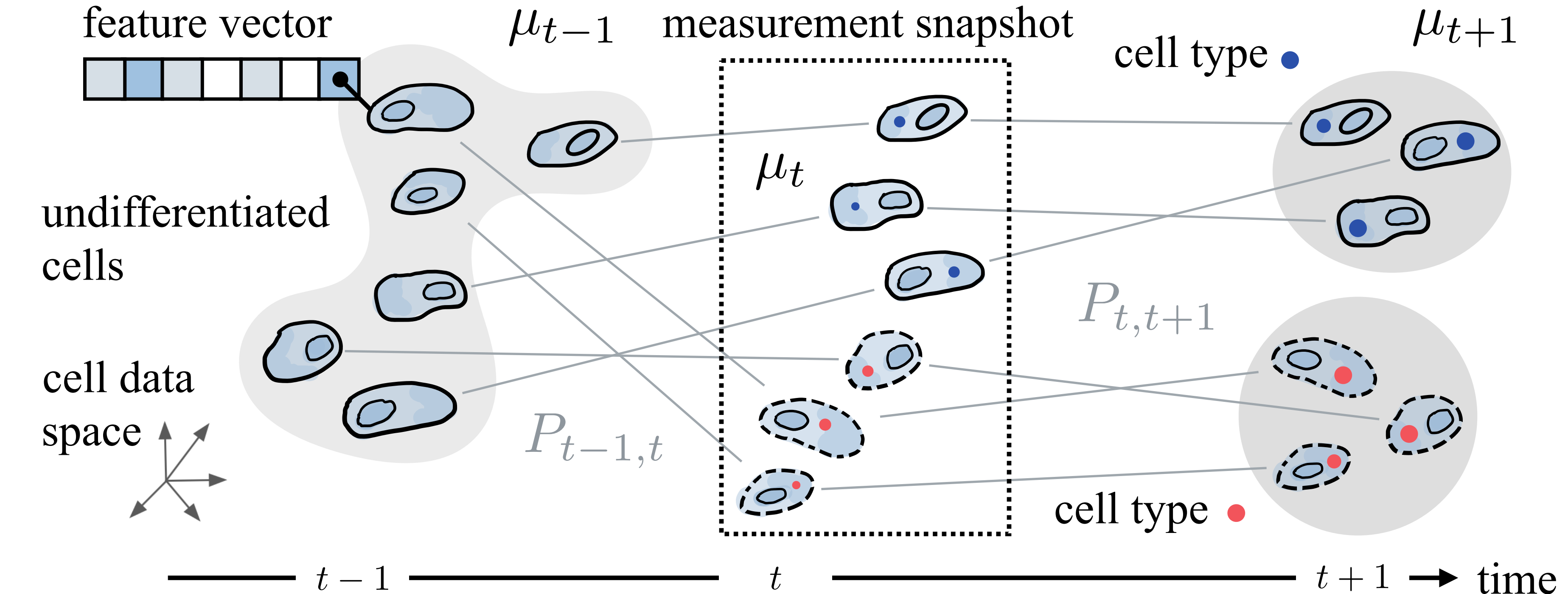
b. Optimal transport for predicting perturbation responses

unperturbed cells

neural network-based OT map

$T \equiv \nabla$

x

$T(x)$

unknown perturbation sensitivities $\bullet$ and $\bullet$

predicted perturbed state