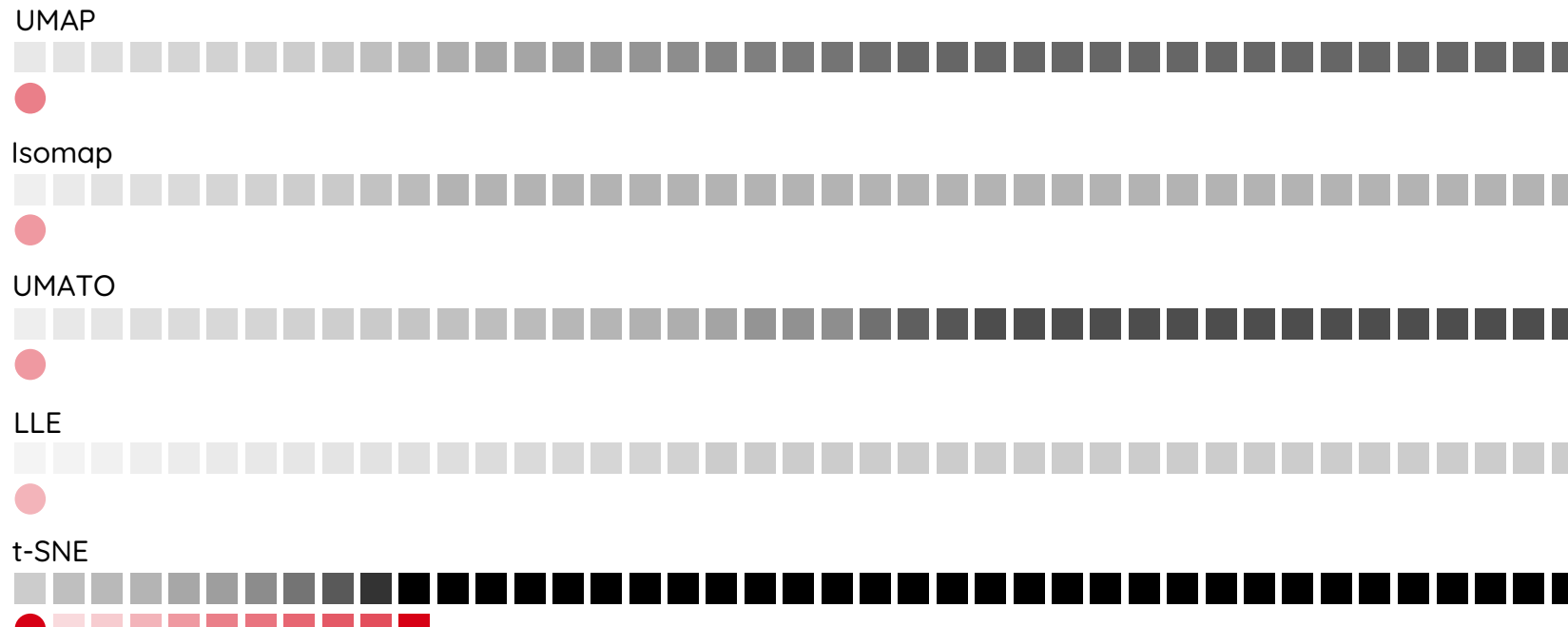


Accuracy (the lighter, the lower)

Prediction of maximum achievable accuracy of a DR technique regarding a given dataset

A single iteration of hyperparameter optimization in a **conventional** / **dataset-adaptive** approach



(CW1) We first run hyperparameter optimization for all DR techniques available. The optimization runs for a **fixed number of iterations**, leading to excessive computations.

(CW2) We then compare the projections produced by DR techniques and select the one with the best accuracy. It is thus necessary to **test all available DR techniques** to identify the most effective one.

(DW1) We first **find the optimal DR technique** with *maximum achievable accuracy*, reducing the computation needed for optimizing less effective techniques.

Current accuracy > predicted accuracy?

(DW2) While optimizing hyperparameters of the effective DR technique, we **early terminate** the optimization when the optimized accuracy exceeds the predicted maximum, reducing the total iteration needed.