Prior Model

Potts Model prior

defined over a graph with vertex set V and a set of possible colours C, probability of state X is given by,

$$\pi(X) = \frac{e^{\beta \sum_i J(X_i)}}{Z_\beta} \quad where \quad J(X_i) = \sum_{j \in V} W_{i,j} \mathbb{I}_{X_i = X_j}$$

Label image prior as a hidden MRF with Potts model

Methods for comparison (baselines)

Gibbs Sampling

aGPM (approx. Gumbel Perturbations)

Variational Bayes EM