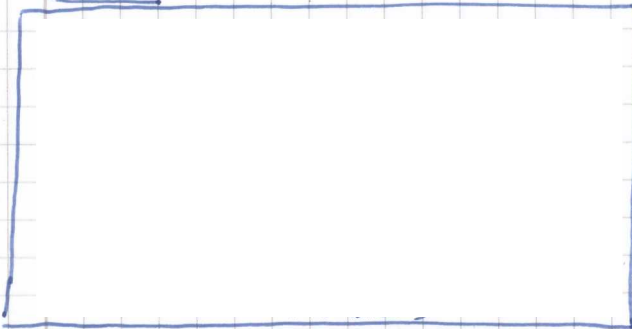
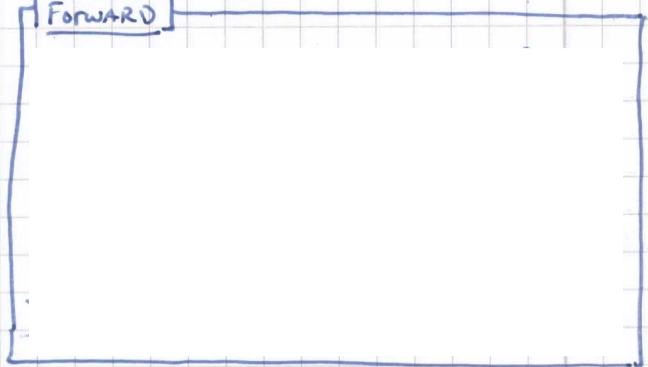


# PA Meta-Summary ①

HMMs

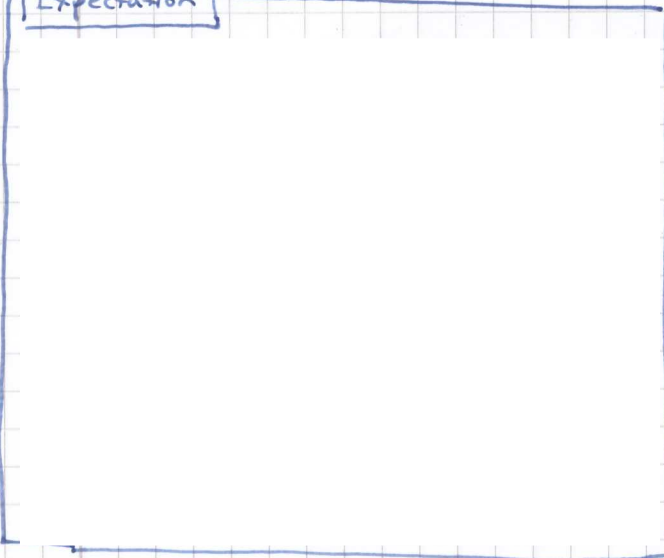


Forward

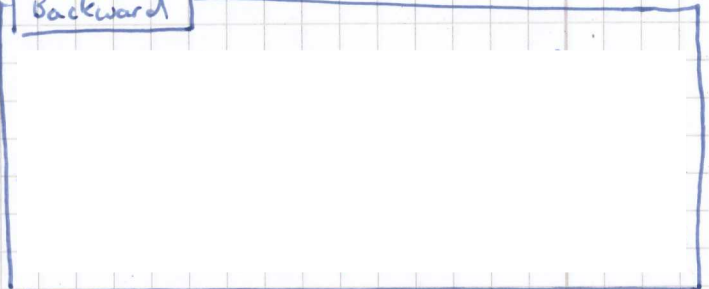


Baum - Welch - Formulas

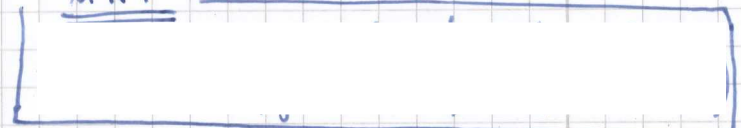
Expectation



Backward



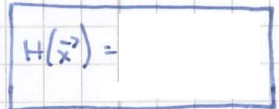
MRF



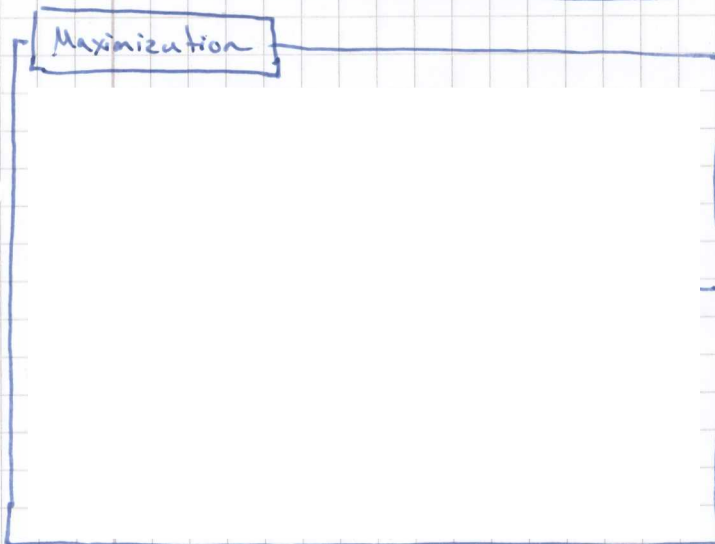
Hammersky - Clifford - Theorem :



$$H(\vec{x}) =$$



Maximization

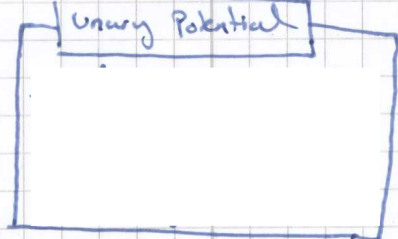


Submodularity :

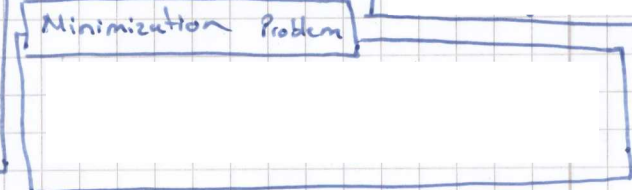
Pairwise Potential



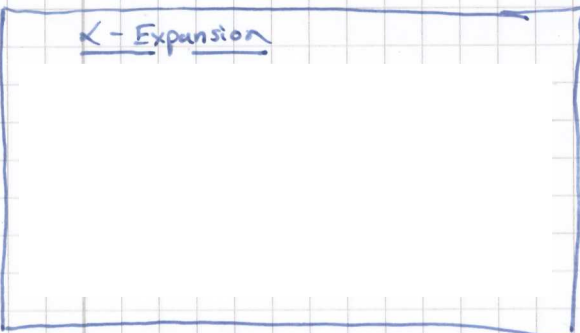
Unary Potential



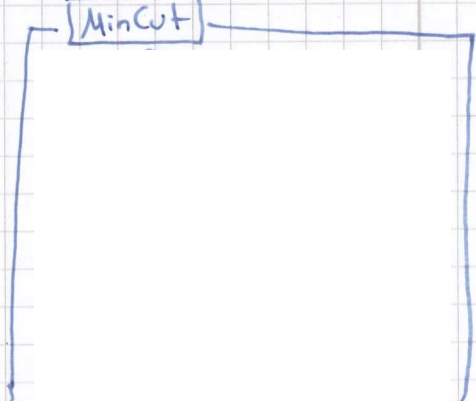
Minimization Problem



K - Expansion



MinCut



# PA Meta-Summary (2)

## Density - Estimation

Parzen - Kernel - Window - Function

$$p(\vec{x}) =$$

Cross  
Validation

## Mean - Shift - Algorithm

Compute Mean Vector

Update  $x$

Epanechnikov - Kernel

K-Means

## Tibshirani Gap Statistics

$$K^* =$$

$$G(K) =$$

$$S_k^i =$$

Model selection for GMMs

Gibbs sampler

## Hierarchical Clustering

GMM:

Expectation

Maximization

## Decision Trees

Entropy

Information Gain

Regression Trees

Mitigate Overfitting

Entropy

Regression Split Optimization Task

$y_{\text{key}} =$

Density Forest Entropy

$$H(s_j) =$$

$$I(s_j, \mathcal{D}) =$$

## Manifold Learning

MDS Concept

Centered Distances

Solution to eigendecomposition

Proportion of variance explained by  $p$  dimensions

ISOMAP

Locally Linear Embedding

s.t.

s.t.

and

Modification of step 2 (high dim)



# PA Meta-Summary ④

