



Density Maximum Likelihood

1 Why

We provide a principle for density selection based on maximizing the probability of the dataset.

2 Definition

Let (x^1, \dots, x^n) be a dataset in \mathbf{R}^d .

The **principle of maximum likelihood** says to solve:

$$\begin{array}{ll} \textbf{find} & f \text{ a density} \\ \textbf{to maximize} & \prod_{k=1}^n f(x^k) \end{array}$$