



Differential Cross Entropy

1 Why

2 Definition

The *differential cross entropy* of a second density with respect to a first density is the integral of the second density against the negative log of the first density. Let R denote the set of real numbers. Let $f : R^n \rightarrow R$ and $g : R^n \rightarrow R$ be probability density functions. The differential cross entropy of f relative to g

$$- \int g \log f$$

We denote the differential cross entropy of f relative to g by $h(g, f)$.