

## Differential Relative Entropy

## 1 Why

We want relative entropy for densities.

## 2 What

The differential relative entropy of a second density with respect to the first density is the cross entropy of the second with respect to the first less the differential entropy of the first.

## 2.1 Notation

Let f and g be densities. The relative entropy of f with respect to g is

$$h(g,f) = h(f)$$