

## Differential Mutual Information

- 1 Why
- 2 Definition

## 2.1 Notation

The differential mutual information between i and jth components of a multivariate density is the differential relative entropy of the i, jth marginal density with the product of the ith and jth marginal densities.

## 2.2 Notation

Let  $f: \mathbb{R}^d \to \mathbb{R}$ . Let d denote the differential relative entropy. The mutual information between i and j for  $i, j = 1, \dots, d$  and  $i \neq j$  is

$$d(f_{ij}, f_i f_j)$$