Why

Definition

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.

Notation

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

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


Differential Mutual Information
Mutual Information
Differential Relative Entropy
Marginal Densities
Differential Cross Entropy
Differential Entropy
Multivariate Real Densities
Probability Densities
N-Dimensional Space
Space
Real Integrals
Nonnegative Integrals
Simple Integrals
Measurable Functions
Measures
Simple Functions
Relative Entropy
Extended Real Numbers
Characteristic Functions
Entropy
Cross Entropy
Similarity Functions
Partitions
Real Limits
Real Functions
Probability Distributions
Logarithm
Metrics
Probability Outcomes
Real Sequences
Intervals
Real Summation
Distance
Subset Algebras
Probability
Sequences
Natural Summation
Real Numbers
Length Common Notions
Set Operations
Cardinality
Common Sense
Direct Products
Family Operations
Rational Numbers
Natural Order
Natural Families
Function Composites
Algebras
Integer Numbers
Natural Sums
Subset Systems
Injective Functions
Families
Operations
Zero
Set Symmetric Differences
Natural Numbers
Power Set
Functions
Equation Solutions
Set Intersections
Set Unions
Relations
Set Complements
Ordered Pairs
Equations
Empty Set
Unordered Pairs
Set Specification
Set Inclusion
Sentences
Set Equality
Sets
Identity
Objects