Why

TODO

Definition

The *ith marginal density* of a multivariate density is the density obtained by integrating over every component with a particular component fixed.

Similalry the *i, jth marginal density* of a multivariate density is the density obtained by integrated over every component with the i and jth components fixed.

Notation

Let $f : \mathbf{R}^d \to \mathbf{R}$ be a density. For $i = 1, \ldots, d$, let $f_i : \mathbf{R} \to \mathbf{R}$ be defined by

$$f(\xi) = \int_{\{x \in \mathbf{R}^d \,|\, x_i = \xi\}} f$$

for each $\xi \in \mathbf{R}$, Then f_i is the ith marginal density of f.

Marginal Densities

Multivariate Real Densities

Probability Densities • N-Dimensional Space

Real Integrals • Distance

Nonnegative Integrals

Simple Integrals

Measurable Functions

Measure

Sigma Algebras

Extended Real Numbers • Real Series

Real Limits

Space Distance • Plane Distance • Simple Function

Absolute Value

Probability Distributions

Interval Length • Real Function

Intervals

Real Space

Real Line

Real Plane

Real Summation

Real Sequences • Real Order • Integral Line

Geometry

Real Numbers • Rational Order

Sequences • Rational Numbers

Integer Arithmetic

Subset Algebras • Lists

Natural Additive Identity • Natural Multiplicative Identity

Cardinality • Set Numbers

Identity Elements • Arithmetic

Integer Products

Finite Sets

Natural Summation • Natural Power

Equivalent Sets

Direct Products

Operations • Family Operations • Natural Products • Integer Sums • Integer Order

Function Images • Function Composites • Families • Comparisons • Family Unions and Intersections

Natural Sums • Integer Numbers

Functions • Natural Order • Converse Relations • Orders

Recursion Theorem • Equivalence Relations

Relations

Peano Axioms

Uncertain Outcomes

Natural Induction • Characteristic Functions • Subset Systems • Set Products

Natural Numbers

Set Powers • Ordered Pairs • Generalized Set Dualities

Set Symmetric Differences • Partition • Intersection of Empty Set • Successor Sets • Unordered Triples • Set Dualities • Set Unions and Intersections

Set Complements

Set Intersections • Pair Unions

Set Differences

Set Unions • Pair Intersections

Empty Set • Unordered Pairs

Set Specification

Set Equality

Set Inclusion

Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Identities • Sets

Names

Letters • Objects

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