Why

How to select distribution graphs.[1]

Definition

Let (G, A) be a typed graph on $\{1, \ldots, n\}$. Let $S \subset \{1, \ldots, n\}$. Let $x^1, \ldots, x^n$ be a dataset in $A_S = \prod_{j \in S} A_j$ (see Function Graphs). The *observation likelihood* for this dataset is the observation distribution likelihood of the dataset $\prod_{i=1}^{n} p_S(x^i)$.

A *maximum likelihood distribution graph* is one that maximizes the observation likelihood. The maximum likelihood distribution graph with respect to a parametric distribution family is the member of the family that maximizes the observation likelihood.

---

[1]Future editions will modify.

Maximum Likelihood Distribution Graphs

Distribution Graph Selection

Parameterized Distribution Graphs

Parameterized Distributions

Probability Densities

Real Integrals

Nonnegative Integrals

Simple Integrals

Measurable Functions

Measures

Distribution Graphs

Directed Graph Distributions

Hidden Memory Chains

Rooted Tree Distributions

Memory Chains

Function Graphs

Rooted Trees

Conditional Distributions

Distribution Selection

Conditional Event Probability

Extended Real Numbers

Real Limits

Directed Graphs

Trees

Marginal Distributions

Joint Distributions

Datasets

Event Probabilities

Real Sequences

Absolute Value

Simple Functions

Undirected Paths

Sequences

Probability Distributions

Interval Length

Real Functions

Undirected Graphs

Set Numbers

Intervals

Finite Sets

Real Line

Sigma Algebras

Real Summation

Real Order

Real Numbers

Rational Numbers

Integral Line

Direct Products

Integer Arithmetic

Natural Multiplicative Identity

Natural Additive Identity

Natural Summation

Arithmetic

Identity Elements

Equivalent Sets

Integer Products

Natural Powers

Family Operations

Subset Algebra

Family Unions and Intersections

Natural Products

Integer Sums

Function Inverses

Algebra

Set Operations

Natural Sums

Integer Numbers

Families

Function Images

Function Composites

Operations

Natural Order

Recursion Theorem

Equivalence Relations

Function

Peano Axioms

Cardinality

Relations

Natural Induction

Uncertain Outcomes

Characteristic Functions

Set Products

Subset Systems

Generalized Set Duality

Natural Numbers

Set Powers

Ordered Pairs

Set Unions and Intersections

Partitions

Intersection of Empty Set

Set Dualities

Successor Sets

Unordered Triples

Set Symmetric Differences

Set Intersections

Pair Unions

Set Complements

Pair Intersections

Set Unions

Set Differences

Empty Set

Unordered Pairs

Set Specification

Geometry

Set Inclusion

Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Identities

Sets

Names

Letters

Objects