Why

[1]

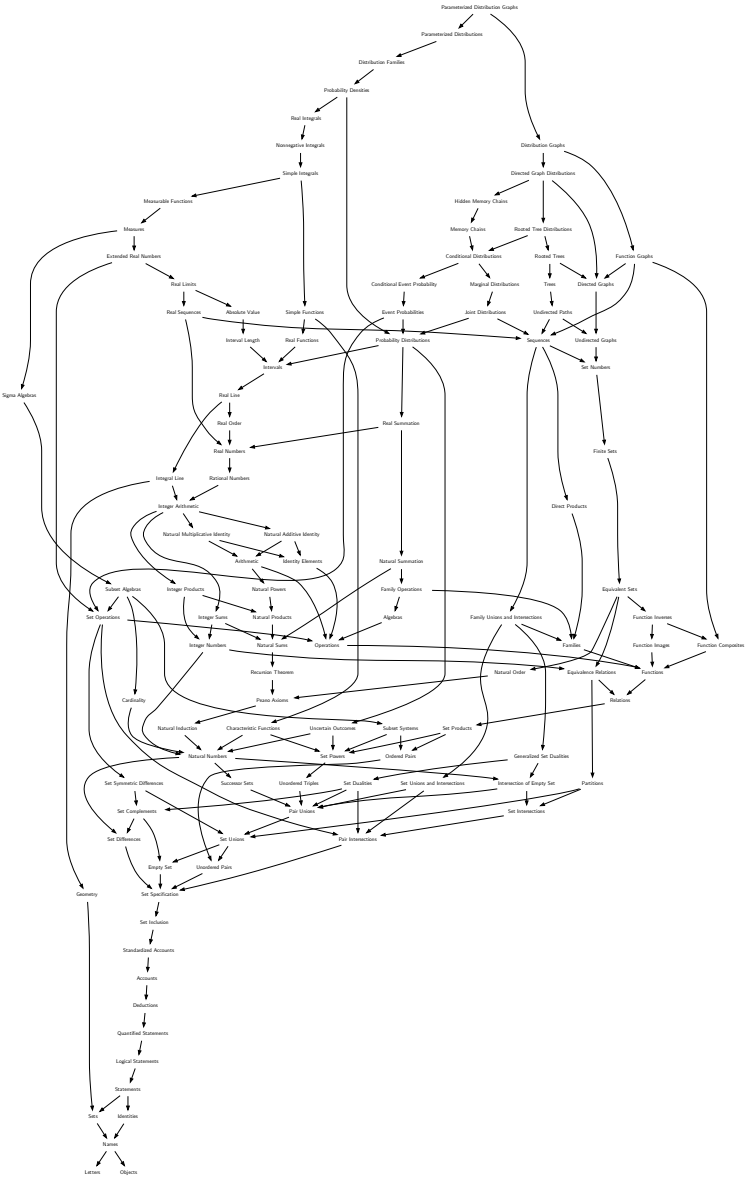
Definition

Let G be a directed graph on $\{1, \ldots, n\}$. A *parametric distribution graph family* (or *parametric distribution network familiy*, *parameteric conditional distribution network family*) is a family of conditional distribution networks $\{G, \{g_i^{(\theta)}\}_{i=1}^n\}_{\theta \in \Theta}$. We call the index set Θ the *parameter set*. G does not depend on the parameters.

In the case that $\text{pa}_i = \varnothing$ in G, $\{g_i^{(\theta)}\}_\theta$ is a parametric distribution family on A_i and in the case that $\text{pa}_i \neq \varnothing$, $\{g_i^{(\theta)}\}_\theta$ is a parametric conditional distribution family on A_i from $\prod_{j \in \text{pa}_i} A_j$ (for both these terms, see Parameterized Distributions).

A parametric distribution network family is *functionally parameterizable* if each of the conditionals is functionally parameterizable (again, see Parameterized Distributions).

[1] Future editions will include.


Parameterized Distribution Graphs
Parameterized Distributions
Distribution Families
Probability Densities
Real Integrals
Nonnegative Integrals
Simple Integrals
Measurable Functions
Measures
Extended Real Numbers
Real Limits
Real Sequences
Absolute Value
Simple Functions
Interval Length
Real Functions
Intervals
Real Line
Real Order
Real Numbers
Integral Line
Rational Numbers
Integer Arithmetic
Natural Multiplication Identity
Natural Additive Identity
Arithmetic
Identity Elements
Subset Algebras
Integer Products
Natural Powers
Set Operations
Integer Sums
Natural Products
Integer Numbers
Natural Sums
Operations
Recursion Theorem
Cardinality
Peano Axioms
Natural Induction
Characteristic Functions
Uncertain Outcomes
Subset Systems
Set Products
Natural Numbers
Set Powers
Ordered Pairs
Set Symmetric Differences
Successor Sets
Unordered Triples
Set Duplicates
Set Unions and Intersections
Intersection of Empty Set
Partitions
Set Complements
Pair Unions
Set Intersections
Set Differences
Set Unions
Pair Intersections
Empty Set
Unordered Pairs
Geometry
Set Specification
Set Inclusion
Standardized Accounts
Accounts
Deductions
Quantified Statements
Logical Statements
Statements
Sets
Identities
Names
Letters
Objects
Distribution Graphs
Directed Graph Distributions
Hidden Memory Chains
Memory Chains
Rooted Tree Distributions
Conditional Distributions
Rooted Trees
Function Graphs
Conditional Event Probability
Marginal Distributions
Trees
Directed Graphs
Event Probabilities
Joint Distributions
Undirected Paths
Probability Distributions
Sequences
Undirected Graphs
Set Numbers
Sigma Algebras
Real Summation
Finite Sets
Direct Products
Natural Summation
Family Operations
Equivalent Sets
Algebras
Family Unions and Intersections
Families
Function Inverses
Function Image
Function Composites
Natural Order
Equivalence Relations
Functions
Relations
Generalized Set Dualities