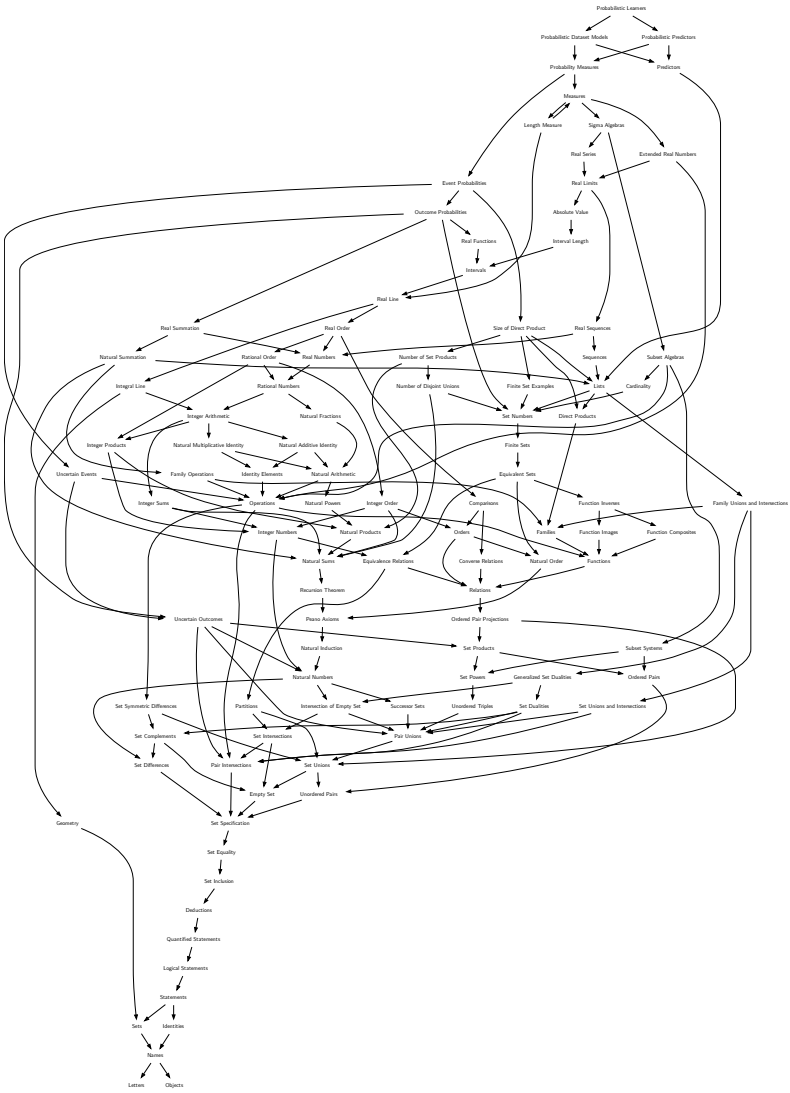
Why

In general, a dataset may be both incomplete and inconsistent.

Why

Let $(Z, \mathcal{Z})$ be a measurable space. Let $\mathcal{M}(Z, \mathcal{Z})$ be the set of measures over $(Z, \mathcal{Z})$. A *probabilistic inductor* for a dataset in Z^n is a function mapping Z^n to $\mathcal{M}(Z, \mathcal{Z})$.

Suppose $(Z, \mathcal{Z}) = (X \times Y, \mathcal{X} \times \mathcal{Y})$ for measurable spaces $(X, \mathcal{X})$ and $(Y, \mathcal{Y})$. Then a probabilistic inductor yields a probabilistic functional inductor. The conditional measure on Y given an observation $x \in X$ is exactly a family of measures indexed by X.


Probabilistic Learners
Probabilistic Dataset Models
Probabilistic Predictors
Probability Measures
Predictors
Measures
Length Measure
Sigma Algebras
Real Series
Extended Real Numbers
Event Probabilities
Real Limits
Outcome Probabilities
Absolute Value
Real Functions
Interval Length
Intervals
Real Line
Real Summation
Real Order
Size of Direct Product
Real Sequences
Natural Summation
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Real Numbers
Number of Set Products
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Finite Set Examples
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Natural Powers
Integer Order
Comparisons
Function Inverses
Family Unions and Intersections
Integer Sums
Integer Numbers
Natural Products
Orders
Families
Function Images
Function Composites
Natural Sums
Equivalence Relations
Converse Relations
Natural Order
Functions
Recursion Theorem
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Peano Axioms
Ordered Pair Projections
Natural Induction
Set Products
Subset Systems
Natural Numbers
Set Powers
Generalized Set Dualities
Ordered Pairs
Set Symmetric Differences
Partitions
Intersection of Empty Set
Successor Sets
Unordered Triples
Set Dualities
Set Unions and Intersections
Set Complements
Set Intersections
Pair Unions
Set Differences
Pair Intersections
Set Unions
Empty Set
Unordered Pairs
Geometry
Set Specification
Set Equality
Set Inclusion
Deductions
Quantified Statements
Logical Statements
Statements
Sets
Identities
Names
Letters
Objects