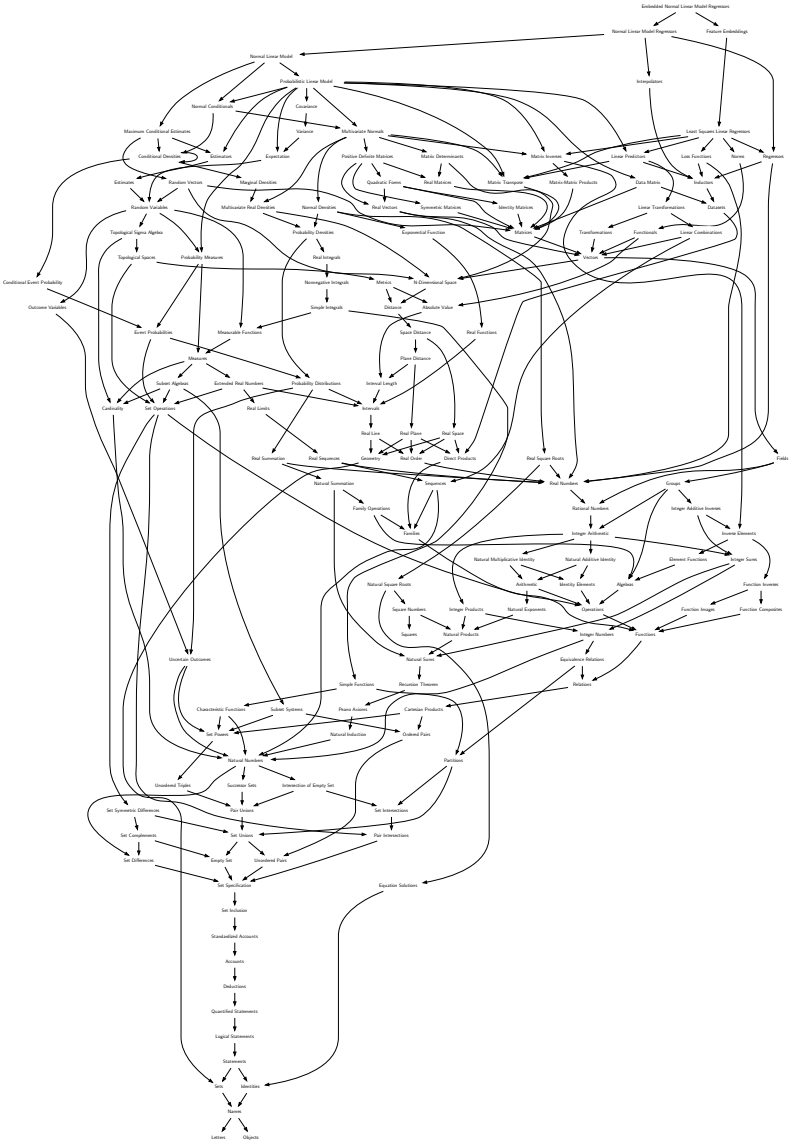
Why

It is natural to embed a dataset.

Definition

Let $(x : \Omega \to \mathbf{R}^d, A \in \mathbf{R}^{n \times d}, e : \Omega \to \mathbf{R}^n)$ be a probabilistic linear model over the probability space $(\Omega, \mathcal{A}, \mathbf{P})$. Let $\phi : \mathbf{R}^d \to \mathbf{R}^{d'}$ be a feature embedding. Then (x, A, e, ϕ) is an *embedded linear model*.

Denote the data matrix of the embedded feature vectors by $\phi(A)$. Then, of course, the embedded linear model (x, A, e, ϕ) corresponds to the linear model $(x, \phi(A), e)$.


Embedded Normal Linear Model Regressors
Normal Linear Model Regressors
Feature Embeddings
Normal Linear Model
Interpolators
Probabilistic Linear Model
Normal Conditionals
Covariance
Maximum Conditional Estimates
Variance
Multivariate Normals
Least Squares Linear Regressors
Conditional Densities
Estimators
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Positive Definite Matrices
Matrix Determinants
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Loss Functions
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Random Vectors
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Matrix Transpose
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Conditional Event Probability
Nonnegative Integrals
Metrics
N-Dimensional Space
Outcome Variables
Simple Integrals
Distance
Absolute Value
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Measurable Functions
Space Distance
Real Functions
Measures
Plane Distance
Subset Algebras
Extended Real Numbers
Probability Distributions
Interval Length
Cardinality
Set Operations
Real Limits
Intervals
Real Line
Real Plane
Real Space
Real Summation
Real Sequences
Geometry
Real Order
Direct Products
Real Square Roots
Fields
Natural Summation
Absolutism
Real Numbers
Groups
Family Operations
Rational Numbers
Integer Additive Inverses
Enables
Integer Arithmetic
Inverse Elements
Natural Multiplicative Identity
Natural Additive Identity
Element Functions
Integer Sums
Natural Square Roots
Arithmetic
Identity Elements
Algebras
Function Inverses
Square Numbers
Integer Products
Natural Exponents
Operations
Function Images
Function Composites
Squares
Natural Products
Integer Numbers
Functions
Uncertain Outcomes
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Equivalence Relations
Recursion Theorems
Relations
Simple Functions
Characteristic Functions
Subset Systems
Power Axioms
Cartesian Products
Set Powers
Natural Induction
Ordered Pairs
Natural Numbers
Partitions
Unordered Triples
Successor Sets
Intersection of Empty Set
Pair Unions
Set Intersections
Set Symmetric Differences
Set Unions
Pair Intersections
Set Complements
Empty Set
Unordered Pairs
Set Differences
Set Specification
Equation Solutions
Set Inclusion
Standardized Accounts
Accounts
Deductions
Quantified Statements
Logical Statements
Statements
Sets
Identities
Names
Letters
Objects