Why

We want to talk about learning associations between perceptions in time or space.

Definition

An *inductor* is a function mapping a dataset of records in a cartesian product of two sets to a function between the two sets. We call the first set the *precepts* and the second set the *postcepts*. We call a function from the precepts to the postcepts a *predictor*. We call the result of a precept under a predictor a *prediction*. An inductor maps datasets to predictors.

Notation

We introduce no new notation, but rather express the new concepts in the old notation. Let A and B be non-empty sets. Let D be a dataset in $A \times B$. Let $g : A \to B$, a predictor, which makes prediction $g(a)$ on precept $a \in A$. Let $f : (A \times B)^n \to (A \to B)$, an inductor. Then $f(D)$ is the predictor which the inductor associates with dataset D.

Inductors

Datasets

Direct Products

Natural Order   Natural Families

Families

Functions

Relations

Natural Numbers

Set Intersections   Set Unions   Ordered Pairs

Pair Intersections   Empty Set   Unordered Pairs

Set Specification   Power Set

Set Inclusion

Standardized Accounts

Definitions   Accounts

Deductions   Quantified Statements

Logical Statements

Statements

Identities   Sets

Names

Objects   Letters