



Inductors

1 Why

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

2 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.

2.1 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 $g : A \rightarrow B$, a predictor, which makes prediction $g(a)$ on precept $a \in A$. Let $f : (A \times B)^n \rightarrow (A \rightarrow B)$, an inductor. Then $f(D)$ is the predictor which the inductor associates with dataset D .