Why

We name a predictor whose set of postcepts is finite.

Definition

A *classifer* is a predictor whose codomain is a finite set. In the case that we call the predictor a classifier, we call the postcepts *classes* or *labels*. We call the prediction of a classifer on a precept the *classification* of the precept.

We call the classifier a *binary classifier* (some authors: *two-class classifier*) if the set of labels has two elements. In the case that there are k labels, we call the classifier a *k-way classifier*, *k-class classifier* or *multi-class classifier*. This second term is used, illogically but conventionally, in contrast to binary classification.

Let A be a set of precepts (inputs) and let B be a set of labels (postcepts, outputs). Suppose $B = \{0, 1\}$, so that, in particular B is finite. Then $f : A \rightarrow B$ is a binary classifier with labels 0 and 1. Suppose instead that $B = \{\text{Yes}, \text{No}, \text{Maybe}\}$ In this case, we would call $f : A \rightarrow B$ a three-way classifier.

Other terminology

Following our terminology, but speaking of processes, some authors refer to the application of inductors for these special cases as *binary classification* and *multi-class classification*. Or they speak of a *classification problem*.

Some authors refer to a classifier as a *discriminator* and reference *discrimination problems*. Some authors refer to a classifier as a *point classifier* since it makes one guess.[1]

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[1]Future editions may remove this. This term is used in contrast with list predictors, mentioned in subsequent sheets.

Classifiers

Finite Sets Inductors

Equivalent Sets Datasets

Natural Order Function Inverses Direct Products

Function Images Function Composites Families

Peano Axioms Equivalence Relations Functions

Natural Induction Relations

Cartesian Products

Natural Numbers Set Powers

Intersection of Empty Set Successor Sets Partitions Unordered Triples

Set Intersections Pair Unions Ordered Pairs

Set Differences Set Unions

Pair Intersections Empty Set Unordered Pairs

Set Specification

Set Inclusion

Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Identities Sets

Names

Letters Objects

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