



# Distribution Approximators

## 1 Why

We have a distribution which for some reason is unsuitable, and which we want to replace with one more suitable. For example, the distribution may require enumerating the probability of each outcome to express. Or it may be unreasonable as a result of our common sense. In both cases we want to find a different distribution (from the set of those which is easier to express or from the set of those which is more reasonable based on our common sense) that is in some way close to the original.

## 2 Definition

A *distribution approximator* is an approximator of a probability distribution. The criterion is any similarity function on distributions.