

机器学习中的Inductive Bias

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机器学习中的Inductive Bias介绍

机器学习算法中，假设学习器在预测中逼近正确的结果，其中包括在训练中未出现的样本。既然是未知的状况，结果可以是任意的结果，若没有其他假设，这任务就无法解决。这种关于目标函数的必要假设就称为归纳偏置。

归纳偏差有点像我们的先验(prior)，但是有点不同的是归纳偏差在学习是不会被更新的，但是先验在学习会不断地被更新。

Algorithm	Inductive Bias
Linear Regression	The relationship between the attributes x and the output y is linear. The goal is to minimize the sum of squared errors.
Single-Unit Perceptron	Each input votes independently toward the final classification (interactions between inputs are not possible).
Neural Networks with Backpropagation	Smooth interpolation between data points.
K-Nearest Neighbors	The classification of an instance x will be most similar to the classification of other instances that are nearby in Euclidean distance.
Support Vector Machines	Distinct classes tend to be separated by wide margins.
Naive Bayes	Each input depends only on the output class or label; the inputs are independent from each other.