

Overview

Inferential models are used to test hypotheses about the data and to analyze the relationship between predictors and response variables. What if we want to go beyond explaining the relationship and predict future values of a response variable?

For example, a store owner might want to predict which customers are likely to respond to a sales promotion for a target marketing campaign. Target marketing uses historical customer data to improve sales promotions and product loyalty using a predictive model. The model contains inputs that are most likely to predict the target, that is, a customer's response to a promotion. This might include number of visits each month, amount spent per visit, and enrollment in the customer loyalty program. After it's built, the predictive model can be applied to new customer data to predict which customers are likely to respond to a sales promotion. This can provide a more effective marketing campaign.

In another example, a bank manager might use a credit scoring model to decide whether to extend credit to a loan applicant. The inputs might include the applicant's income, employment status, and credit rating. The target variable indicates debt status (for example, whether the loan was paid or is in default). The model can then be applied to new applicants to reduce defaults and serious delinquencies.

In this lesson, you'll learn how to transition from inferential statistics to predictive modeling. Instead of using p-values, we'll discuss how to assess models using honest assessment. After we choose the best performing model, we'll discuss ways to deploy the model to predict new data.

Statistics 1: Introduction to ANOVA, Regression, and Logistic Regression

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