

# Introduction

2 minutes

Regression is a simple, common, and highly useful data analysis technique, colloquially referred to as "fitting a trend line". Regression identifies the strength of relationship between one or more features and a single label. Its simplicity, predictable behavior, ability to forecast, and high level of interpretability means this technique is used throughout finance, business, social sciences, epidemiology, and medicine.

In this module, we'll take a deeper dive into how regression works, and understand its limitations, and learn how to assess its performance.

## Scenario: Veterinary Clinic Overrun

Throughout this module, we'll be using the following example scenario to explain the concepts underlying regression. This scenario is designed to provide an example for how you might use this technique when analyzing future data.

The avalanche-rescue dog charity you run has had a sudden wave of illness. After a day of retraining and some social activities, many dogs you work with have fallen unwell, the main symptom being fever (elevated body temperature). Concerned for the dogs who haven't yet presented with symptoms, your team have collected basic information on the first 100 dogs who fell ill. Your job is to identify which types of dogs have higher risks of illness, so that they can be proactively checked by the vet.

## Prerequisites

- Familiarity with machine learning models

## Learning objectives

In this module, you will:

- Understand how regression works
- Work with new algorithms: Linear regression, multiple linear regression, and polynomial regression
- Understand the strengths and limitations of regression models
- Visualize error and cost functions in linear regression

- Understand basic evaluation metrics for regression
- 

## Next unit: What is regression?

Continue >

---