Simple Linear Regression

At an early age, humans start to intuitively understand the power of predictions. We’re constantly seeking information about the future in order to give us an edge in life. If we know what may happen, we’re better equipped to prepare for what’s to come. We can be ready to face uncertainty.

One of the fundamental aspects behind predictions is rooted in the recognition of patterns. If we can find a conditional pattern, then we can predict the future with incomplete information. If event A typically precedes event B, we can predict event B after observing event A.

If we were in a coastal village before the time of modern meteorological technology, we may have noticed that before a tsunami, almost all birds in the area move inland in the same direction, away from the ocean. If you see those birds, don’t wait to run for the hills.

In modern society, the risks of uncertainty are typically much less severe. The information we use to build our own everyday predictions are typically coming from the words of the media. Sitting longer leads to a shorter lifespan, sugar intake leads to weight gain, and money makes people happy up until a certain point.

In each of these claims, we’re given a simple linear regression – one predictor variable and one response variable. We are told- if this, then that… and sometimes reminded that correlation is not causation. Seeing lots of birds fly inland doesn’t cause a tsunami.

Its important for everyone to understand how to process this information because we all instinctively desire that advantage in life. We want to know what’s the best way to do things, to conserve our energy and resources in order to get the best results. Understanding simple linear regression helps us to not only see the truth in the words, but to make our own experiments, analyze data, and to form our own predictions. This seems increasingly important as we deal with misinformation.

Understanding linear regression allows us to see how much of an impact one variable has over another and how much variance there is in the pattern. Even if our jobs don’t involve linear regression on a daily basis, it seems like understanding it should be common knowledge taught to kids, just like fundamental personal finance.