Hypothesis  
  
Description  
Does high government response and placing restrictive measures increase the number of detected cases in Australia?

Sourced from

<https://covid19datahub.io/articles/data.html>

To prove hypothesis, we can make classification models

Definitions:

Classification Models

**Classification** is a process in which an algorithm is used to analyze an existing data set of known points. The understanding achieved through that analysis is then leveraged as a means of appropriately classifying the data. Classification is a form of machine learning that can be particularly helpful in analyzing very large, complex sets of data to help make more accurate predictions.

“Classification models are a form of supervised machine learning which is often used when the analyst needs to understand how they got to a certain point,” Mello says. “They give you more than just an output; [they give you] more information that you can use to explain the results of the prediction to your boss or stakeholder.”

Some of the most common classification models include decision trees, random forests, nearest neighbor, and Naive Bayes.

There are also the neural networking models that are more used in AI. “These are very powerful models, and they can make accurate predictions very well,” Mello says, “but you typically cannot explain what is happening behind the scenes.”

**Digging In Deeper:** The unknown process that takes place with this model can be compared to putting raw dough into one side of a black box and getting freshly baked bread out the other side. Because you understand the inputs (dough) and outputs (bread) you can make certain assumptions about what happened inside the box—the dough was cooked—but the exact mechanism of how this happened cannot be known.’

### Regression Models

Data analysts use **regression models** to examine relationships between variables. Regression models are often used by organizations to determine which independent variables hold the most influence over dependent variables—information that can be leveraged to make essential [business decisions](https://graduate.northeastern.edu/resources/data-driven-decision-making/).

“The most traditional regression models that have been used for a long time are logistic regression, linear regression, and polynomial regression,” Mello says. “These are the most common.”

Other examples of regression models can include stepwise regression, ridge regression, lasso regression, and elastic net regression.