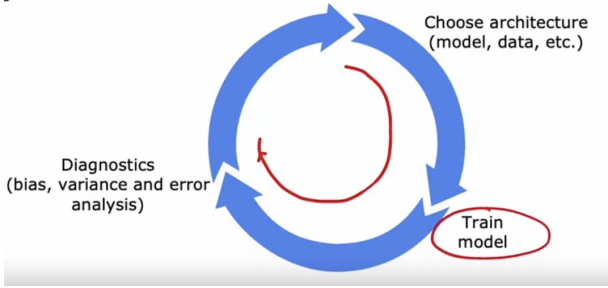# Decision tree and tree ensembles

→ work very well on tabular data — spreadsheets, housing price example corresponding to size of the house , no. of bedrooms , etc. Basically, works better on structured data vis-à-vis a neural network.

→ They are very fast to train

decision trees go through this loop quickly and sometimes more efficiently.

→ they are human interpretable (unless you have a huge (100) decision tree ensemble)

Training a tree ensemble can be computationally expensive if you are on a budget and only option left will be training a single decision tree.

If you are going to use decision trees, 90% using XG Boost will be the best choice.

Neural Networks

→ Works very well on all types of data including unstructured (text, images, audio, etc.) and structured data (tabular).

→ Works with transfer learning. This is important because for many application where you have a small dataset, you can pretrain a model and then use your dataset.

→ It is much easier to join multiple neural networks and train them together because you have the option to train them all together using gradient descent whereas you can only one decision tree at a time.

Neural networks are slower in comparison to decision trees and decision trees are better for structured data.