**Abstract/Motivation**

In all obviousness, when it comes to any field of study, it is ideal to gradually increment towards to complex concepts, by starting out with fundamental concepts. Therefore, there is a necessity to start out the journey of machine learning by tackling the idea of supervised learning. Before delving into the reasoning why supervised learning is the right way to start of the journey of machine learning is, there is a need of comparing the two ideas of machine learning: supervised and unsupervised.

Supervised machine learning is where we already know how the inputs and outputs are expected to look like, and when the new data is introduced to the supervised learning algorithm, machine will be able to predict how the data is needed to be categorized by comparing the pool of data which was given to the algorithm as an input. To summarize what supervised machine learning is, we are pretty much telling the machine that, “since, you are more accurate than my human brain is, why won’t you tell me what this data that I am trying to predict by comparing subtle differences this data has with other data I will give you?”

Unsupervised learning, however, we don’t know what the right output is, if so, how do we know if the model did well? In the unsupervised learning algorithms, it is similar as telling the machine to, “think instead of me;” therefore, unsupervised learning algorithm is used to explore the difficult concept, where the difficult of implementing an application that utilizes the unsupervised learning algorithm spikes compared to supervised learning algorithm.

In this paper, we will go over the ideas of K-Neighbor Classifier and LinearSVC, where those two ideas will be used for our application to decide which classification the data should belong to.

**Introduction**

Let’s assume we have a pool of data, when plotted, which should look like this.