Artificial Neural Networks
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As humans have evolved, one aspect of evolution has become very clear to us all, that our evolution has only come with the development of our brains. By observing the apes and older species in the evolutionary path of humans, we can clearly see the journey we have taken to reach here. A major step in the evolutionary process of our brains was the invention of the computer. The first computer was invented by Charles Babbage in 1822.

Over the next 199 years, technology has advanced with an overwhelming speed. The latest technology of today is already obsolete tomorrow. In such an era, keeping up with the latest advancements proves to be a challenge. Over the last few years, the field of Data Science and Machine Learning has grown in popularity. All companies today have customer data that they would like to leverage for useful information. By applying Data Science concepts and using Machine Learning, companies can use this data to personalize services, offers and rewards to the most suitable customers. Likewise, there are a lot of people interested in this kind of work where they actively solve problems and use key concepts in Mathematics and Statistics to do so. Another great incentive is the increased monetary returns from jobs in this field.

Artificial Neural Networks (ANNs) began to be used to exploit the structure and functionality of the human brain. Frank Rosenblatt, an American psychologist with notable contributions in Artificial Intelligence (AI), conceived the Perceptron as a simplified mathematical model of how the neurons in our brain operate. A neuron takes a set of binary inputs (neighboring neuron signals), multiplies each input by a continuous value weight (these being the synapse strength of each neuron). This result is then compared to a threshold value and outputs 1 if the sum is large enough and 0 otherwise. This shows the working of a single neuron. A network of this is used in most cases in order to get the best results.