Machine learning is a branch of Artificial intelligence and computer science which focuses on the use of data and algorithms to imitate the way that humans learn gradually improving its accuracy. Machine learning is an important component of the growing field of data science. Using statistical methods algorithms are trained to make classifications or predictions, uncovering key insights within data mining projects. These insights subsequently drive decision making within applications and businesses ideally impacting key growth metrics. As big data continues to expand and grow the market demand for data scientists will increase requiring them to assist in the identification of the most relevant business questions and subsequently the data to answer them. Since deep learning and machine learning tend to be used interchangeably its worth noting the nuances between the two. Machine learning deep learning and neural networks are all sub-fields of Artificial Intelligence. However deep learning is a sub-field of Machine learning and neural network is a sub field of deep learning.

The way in which deep learning and machine learning differ is in how each algorithm learns. Deep learning automates much of the features extraction piece of the process eliminating some of the manual human intervention required and enabling the use of larger data sets. Deep machine learning can leverage labelled datasets also known as supervised learning to inform its algorithm but its doesn't necessarily require a labelled datasets. It can ingest unstructured data in its raw form and its can automatically determine the set of features which distinguish different categories of data from one another. Unlike machine learning it doesn't require human intervention to process data allowing us to scale machine learning in more interesting ways. Deep learning and neural networks are primarily credited with accelerating progress in areas such as computer vision, naturaly language processing and speech recognition.