**Project Description**

Technology has improved by leaps and bounds over the years and continues to improve, with computers theoretically doubling processing speed every 18 months according to Moore’s law. With the advancement of more powerful computers comes the possibility to use that power towards machine learning, a method of data analysis that automates analytical model building. Neural networking is a type of machine learning that is showing powerful modeling potential by operating in a similar capacity to the human brain. Neural networks are adaptable to changing input and can account for unknown variables allowing for greater predictive ability and simpler user operation.

In this project I will be introducing the class to Deep Learning Neural Networks (DLNN) which are neural networks that contain multiple hidden layers. I will be using the programming language python and utilizing the packages tensorflow, keras, numpy, and pandas to model survivability of titanic passengers using a dataset acquired from Kaggle.com. DLNN are capable of modeling and predicting images, audio, video and text, allowing for great potential in automating labor-intensive tasks, however for this project I will only be going over a basic example focusing on numerical matrix data. I encourage all those interested in exploring DLNN to look into how it can be used as a tool to help you answer your specific research questions.