# Python Libraries

## Pandas

Pandas provides data structures to handle and analyze datasets. It supports data manipulation such as grouping, merging etc. It is used for data cleaning, exploration and preprocessing.

## NumPy

NumPy is a library used for numerical computing. It provides mathematical functions for operations on arrays. NumPy is the basis for a lot of other Python libraries such as Pandas, TensorFlow etc. NumPy has been highly optimized for performance and efficient computing.

## TensorFlow

TensorFlow was developed by Google. It is used for machine learning and deep learning applications. It provides tools to build, train and deploy machine learning models. It has been optimized for various hardware and is used for large scale machine learning deployments.

## Keras

Keras integrates with TensorFlow. It is a high level neural network API. It is used for quick prototyping of neural networks with minimal code. Keras provides extensive pre-trained models.

## scikit-learn(sklearn)

scikit-learn is used for data mining and data analysis. It provides algorithms for classification, regression, clustering etc. scikit-learn is built on top of NumPy, SciPy and Matpolib. The included utilities are for data processing, model evaluation and cross-validation.

## PyTorch

PyTorch was developed by Facebook and is primarily used for deep learning applications. It has strong support for GPU acceleration which enables for more efficient training of large models. It is used in both academic research and industry and has support for neural network layers, optimization and loss function.