**1. NumPy**

* **Purpose**: NumPy (Numerical Python) is a fundamental library for numerical computing in Python. It provides support for large, multi-dimensional arrays (ndarrays) and a wide range of mathematical functions to operate on these arrays efficiently.
* **Key Features**:
  + N-dimensional array objects.
  + Mathematical functions for linear algebra, statistics, and random number generation.
  + Integration with other libraries like SciPy, Pandas, and TensorFlow.

**2. Pandas**

* **Purpose**: Pandas is a powerful data manipulation and analysis library for Python. It provides data structures like DataFrames, which allow for easy manipulation, analysis, and visualization of structured data.
* **Key Features**:
  + DataFrame: a 2D labeled data structure with columns of potentially different types.
  + Series: a 1D labeled array capable of holding any data type.
  + Functions for data cleaning, filtering, grouping, merging, and aggregation.

**3. TensorFlow**

* **Purpose**: TensorFlow is an open-source deep learning framework developed by Google. It is used for building, training, and deploying machine learning models, particularly deep neural networks.
* **Key Features**:
  + Flexible architecture for deploying computation across a variety of platforms (CPUs, GPUs, TPUs).
  + TensorFlow Lite for mobile and embedded machine learning.
  + TensorFlow Extended (TFX) for end-to-end machine learning pipelines.

**4. Keras**

* **Purpose**: Keras is a high-level neural networks API, written in Python and capable of running on top of TensorFlow. It is designed to enable fast experimentation with deep learning models.
* **Key Features**:
  + User-friendly and modular interface for building and training deep learning models.
  + Supports convolutional networks, recurrent networks, and any combination of the two.
  + Integrates well with TensorFlow and other backends.

**5. PyTorch**

* **Purpose**: PyTorch is an open-source deep learning framework developed by Facebook. It provides a flexible and dynamic computational graph, which makes it popular for research and development of deep learning models.
* **Key Features**:
  + Dynamic computational graphs (eager execution) for intuitive model development and debugging.
  + Strong support for GPU acceleration.
  + Extensive library of pre-built neural network layers and tools (torch.nn, torch.optim, etc.).

**6. Scikit-learn (sklearn)**

* **Purpose**: Scikit-learn is a widely-used machine learning library in Python. It provides simple and efficient tools for data mining and data analysis, covering both supervised and unsupervised learning.
* **Key Features**:
  + Algorithms for classification, regression, clustering, and dimensionality reduction.
  + Tools for model selection, validation, and preprocessing.
  + Integration with NumPy and Pandas for seamless data handling.