1 . PANDAS

Pandas is a versatile Python library designed for data manipulation and analysis, featuring data structures like DATAFRAME for handling complex datasets and SERIES for single-dimensional data. It streamlines operations such as data cleaning, merging, and aggregation, making it a fundamental tool for data analysis and data science workflows.

2. NUMPY

NumPy is a foundational Python library for numerical computing. It provides support for large, multi-dimensional arrays and matrices, along with a vast collection of mathematical functions to operate on these arrays efficiently. NumPy's core object is to handle a fast, flexible container for large datasets which is widely used in scientific computing, data analysis, and machine learning, serving as the base for other libraries like Pandas, SciPy, and scikit-learn.

3. TENSORFLOW

TensorFlow is an open-source machine learning library developed by Google. It provides a comprehensive ecosystem for building, training, and deploying machine learning models, particularly deep learning models. TensorFlow supports a range of tasks from simple linear regression to complex neural networks and offers tools for both research and production environments.

4. KERAS

Keras is a high-level neural networks API, written in Python and designed to be user-friendly and modular. It acts as an interface for building and training deep learning models and can run on top of TensorFlow, Theano, or Microsoft Cognitive Toolkit (CNTK).

5. SKLEARN

SKLEARN is a popular Python library for machine learning and data mining. It provides simple and efficient tools for predictive data analysis and includes a wide range of algorithms for classification, regression, clustering, and dimensionality reduction.

6. PYTORCH

PyTorch is a dynamic machine learning library that simplifies building and training neural networks. Install it via pip or conda, import modules like torch and torch.nn, and work with tensors.