

Anil Tiwari- Assignment 1

Pandas

- Data manipulation and analysis library
- Provides data structures like DataFrame and Series
- Excellent for handling structured data (e.g., CSV, Excel)
- Features include data cleaning, merging, and aggregation
- Widely used in data science and analytics

NumPy

- Fundamental package for scientific computing in Python
- Provides support for large, multi-dimensional arrays and matrices
- Offers a wide range of mathematical functions
- Efficient for numerical operations and algorithm implementation
- Essential for many scientific and engineering applications

TensorFlow

- Open-source machine learning framework developed by Google
- Used for building and deploying machine learning models
- Supports both deep learning and traditional ML algorithms
- Offers high-level APIs (like Keras) and low-level operations
- Widely adopted in research and industry for AI applications

Keras

- High-level neural network API
- Can run on top of TensorFlow, Theano, or Microsoft Cognitive Toolkit
- User-friendly, making it easy to build and experiment with deep learning models
- Supports both convolutional networks and recurrent networks
- Ideal for fast prototyping of deep learning models

scikit-learn (sklearn)

- Machine learning library for Python
- Provides simple and efficient tools for data mining and data analysis
- Includes various classification, regression, and clustering algorithms
- Built on NumPy, SciPy, and matplotlib
- Widely used for traditional machine learning tasks and model evaluation

PyTorch

- Open-source machine learning library developed by Facebook
- Known for its flexibility and dynamic computation graphs
- Popular in research due to its intuitive design and ease of debugging
- Supports both deep learning and traditional machine learning
- Offers excellent support for GPU acceleration in computations