

NumPy

Mostly ndarrays

Based on `examples/Python/4-NumPy.ipynb`



Application-specific

cesium PyChrono MDAnalysis eht-imaging iris
khmer PsychoPy Qiime2 FiPy deepchem
nibabel mne-python yellowbrick scikit-HEP
PyWavelets librosa SunPy QuTiP yt

Domain-specific

Astropy Astronomy
QuantEcon Economics
Biopython Biology
cantera Chemistry
NLTK Linguistics
simpeg Geophysics

Technique-specific

scikit-learn Machine learning
pandas, statsmodels Statistics
scikit-image Image processing
NetworkX Network analysis

Foundation

SciPy Algorithms
Matplotlib Plots

Python Language
NumPy Arrays
IPython / Jupyter Interactive environments

New array implementations

NumPy API Array Protocols

Fig. 2 | NumPy is the base of the scientific Python ecosystem. Essential libraries and projects that depend on NumPy's API gain access to new array implementations that support NumPy's array protocols (Fig. 3).

[Harris et al., Nature 585, 357(2020)]