pandas

pandas is a data wrangling platform for Python widely adopted in the scientific computing community, it provides easy-to-use data ingestion, transformation, and export functions.

It is an open-source library providing high-performance, easy-to-use data structures and data analysis tools for the Python programming language. pandas' data analysis and modeling features enable users to carry out their entire data analysis workflow in Python without having to switch to a more domain-specific language like R.

pandas is a Sponsored Project of NumFOCUS, a US 501(c)(3) public charity.

For more information on pandas, including our governance structure and project roadmap, please visit:

https://pandas.pydata.org/

APPLICATIONS

Tech and finance (e.g. Athena Capital Research, Two Sigma)

Almost every major university

National research labs such as the Program for Climate Model Diagnosis and Intercomparison (PCMDI)

PLANNED FEATURES

+ **Extensibility** - pandas extending.extension-types allow for extending NumPy types with custom data types and array storage. Pandas uses extension types internally and provides an interface for 3rd-party libraries to define their own custom data types. Many parts of pandas still unintentionally convert data to a NumPy array. These problems are especially pronounced for nested data.
+ **Apache Arrow interoperability** - Apache Arrow is a cross-language development platform for in-memory data. The Arrow logical types are closely aligned with typical pandas use cases. pandas better-integrated support for Arrow memory and data types within pandas.
+ **Numba-accelerated operations** - Numba is a JIT compiler for Python code. pandas would like to provide ways for users to apply their own Numba-jitted functions where pandas accepts user-defined functions (for example, Series.apply, DataFrame.apply, DataFrame.applymap, and in groupby and window contexts). This will improve the performance of user-defined-functions in these operations by staying within compiled code.

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