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BIG DATA MANAGEMENT

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Abstract: *This in the article Python programming of the language information analysis in the field application about in detail information Given : NumPy , Pandas , Matplotlib , Seaborn and other libraries using information collection , purification , analysis to do , visualization to do and scientific calculation opportunities Also , this in the field Python advantages , limitations and future prospects discussion made .*

LOGIN

Information analysis current modern technologies in development important place holds . The present on the day artificial intellect , great data (Big Data), and automation sectors information without analysis develop Python programming language information management and analysis to do processes facilitating strong tool as known .

Python to oneself originality his/her in simplicity and strong in libraries manifestation It will be . Like NumPy, Pandas, Matplotlib, and Seaborn libraries Python not only software processes in automation , maybe big in size information with also important in work to the tool turns .

Python information in the analysis place

Python open source and wide functionality with other programming to their languages relatively information in the analysis more is applied . Below Python information in the analysis main opportunities quoted :

Data collection and cleaning : Python via API using information collection and primary cleaning easy done is increased .

Information analysis : Libraries using big in size information again work and analysis to do possible .

Visualization : Matplotlib and Seaborn such as libraries graphic and diagrams through analysis the results to describe opportunity gives .

Statistical modeling : StatsModels and SciPy libraries statistic analysis and modeling for wide opportunity creates .

Automation : Python scripts processes automation and real time analysis done in increasing is used .

Home libraries

Python data in the analysis various rich in libraries . Below their the main ones quoted :

NumPy

NumPy is numerical calculations for main library big , big dimensional arrays and matrices with to work makes it easier .

Capabilities :

Many measurable arrays create

Algebraic and trigonometric calculation

Statistical analyses for ready functions .

Mathematician operations :

via NumPy following deeds fast and effective to perform possible :

Addition , subtraction , multiplication and to be such as main arithmetic operations .

Algebraic operations (matrix determinant calculation , mutual reverse matrices find).

Statistical calculations (average) value , variance , median and etc.).

Flexibility :

NumPy arrays size easily change and to them information add For example , you can use an array again shaping (reshape function) or his/her size expanding (hstack , vstack) is easy done is increased .

Pandas

Pandas data management and again work for comfortable is a tool . Information tables management for main library as is used .

Capabilities :

Export data from CSV, JSON, and SQL formats winter and save .

Filtering , grouping and cleaning functions .

Time rows analysis to do opportunity .

Matplotlib

Matplotlib statistics and graphic drawing tool is linear graphs , histograms and other diagrams create for is used .

Capabilities :

Graphic and diagrams formatting .

2D and 3D graphics create

Special graphic settings .

Seaborn

Seaborn based on Matplotlib created and statistic analysis the results visualization to do simplifies .

Capabilities :

High good quality statistic graphs create

Correlations show

Aesthetic in terms of high graphics .

StatsModels

StatsModels statistic analysis and regressions done increasing strong It is a library .

Capabilities :

Time rows analysis to do

ANOVA and regression analyses .

Model results assessment and visualization to do

Advantages and restrictions

Python information in the analysis strong sides and some disadvantages of the following consists of :

Advantages :

Simplicity and study for convenience .

Rich libraries and tools existence .

Open source happened because of free use opportunity .

Limitations :

Heavy calculations for Python slowly performance .

Large size information with at work more memory requirement .

Future prospects

Python programming language information in the analysis own relevance does not lose .

Big Data: Python is big information again like Spark and Hadoop in performance systems with together is used .

Artificial intelligence : TensorFlow and PyTorch such as libraries via Python in AI systems wide is used .

Data automation : Python automation tools in improvement is used .

Conclusion

Python data analysis for suitable and strong programming language is considered based libraries using not only information to manage , but complicated also perform analyses increase possible .

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