scikit-learn

Machine Learning in Python

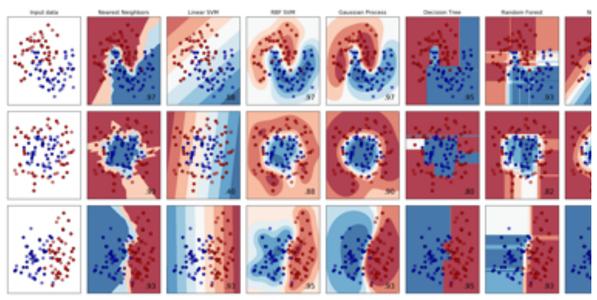
Getting Started | Release Highlights for 0.23 | GitHub

- Simple and efficient tools for predictive data analysis
- Accessible to everybody, and reusable in various contexts
- Built on NumPy, SciPy, and matplotlib
- Open source, commercially usable - BSD license

Classification

Identifying which category an object belongs to.

Applications: Spam detection, image recognition.
Algorithms: SVM, nearest neighbors, random forest, and more...

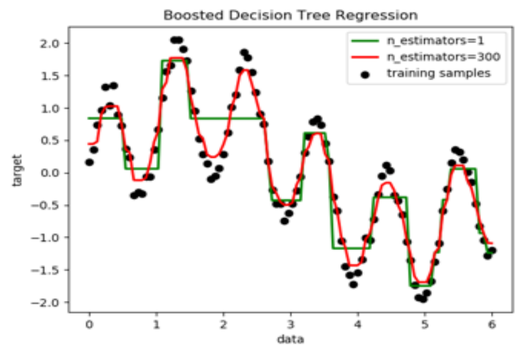


Examples

Regression

Predicting a continuous-valued attribute associated with an object.

Applications: Drug response, Stock prices.
Algorithms: SVR, nearest neighbors, random forest, and more...

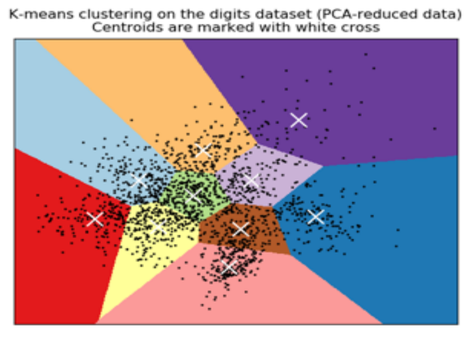


Examples

Clustering

Automatic grouping of similar objects into sets.

Applications: Customer segmentation, Grouping experiment outcomes
Algorithms: k-Means, spectral clustering, mean-shift, and more...

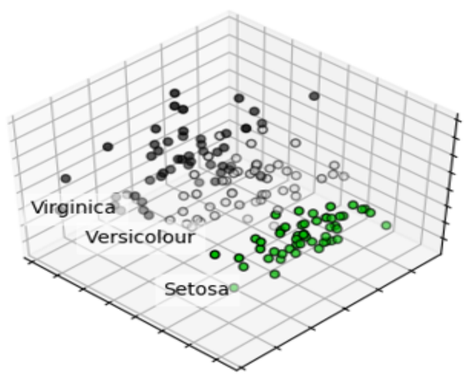


Examples

Dimensionality reduction

Reducing the number of random variables to consider.

Applications: Visualization, Increased efficiency
Algorithms: k-Means, feature selection, non-negative matrix factorization, and more...

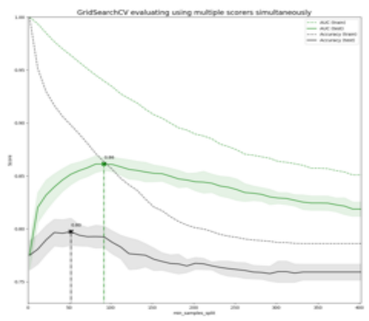


Examples

Model selection

Comparing, validating and choosing parameters and models.

Applications: Improved accuracy via parameter tuning
Algorithms: grid search, cross validation, metrics, and more...

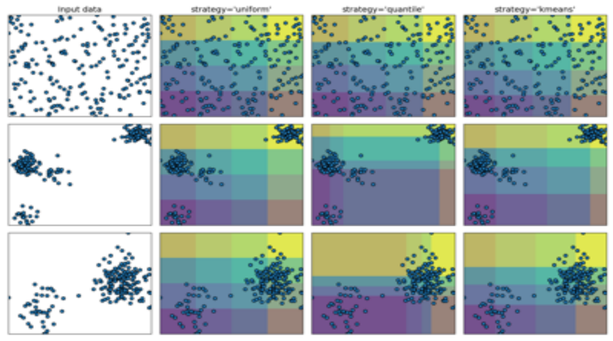


Examples

Preprocessing

Feature extraction and normalization.

Applications: Transforming input data such as text for use with machine learning algorithms.
Algorithms: preprocessing, feature extraction, and more...



Examples

News

On-going development: What's new (Changelog)

May 2020. scikit-learn 0.23.0 is available for download (Changelog).

Scikit-learn from 0.23 requires Python 3.6 or greater.

March 2020. scikit-learn 0.22.2 is available for download (Changelog).

January 2020. scikit-learn 0.22.1 is available for download (Changelog).

December 2019. scikit-learn 0.22 is available for download (Changelog and Release Highlights).

Scikit-learn from 0.21 requires Python 3.5 or greater.

July 2019. scikit-learn 0.21.3 (Changelog) and 0.20.4 (Changelog) are available for download.

May 2019. scikit-learn 0.21.0 to 0.21.2 are available for download (Changelog).

Community

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More Machine Learning: Find related projects

Questions? See FAQ and stackoverflow

Mailing list: scikit-learn@python.org

Gitter: gitter.im/scikit-learn

Communication on all channels should respect PSF's code of conduct.

Help us, **donate!** | **Cite us!**

Who uses scikit-learn?

"scikit-learn's ease-of-use, performance and overall variety of algorithms implemented has proved invaluable [...]."

More testimonials

scikit-learn development and maintenance are financially supported by