

scikit-learn

Machine Learning in Python

Getting Started

Release Highlights for 1.0

GitHub

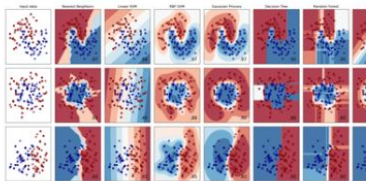
- Simple and efficient tools for predictive data analysis
- Accessible to everybody, and reusable in various contexts
- Built on NumPy, SciPy, and matplotlib
- Open source, commercially usable - BSD license

Classification

Identifying which category an object belongs to.

Applications: Spam detection, image recognition.

Algorithms: SVM, nearest neighbors, random forest, and more...



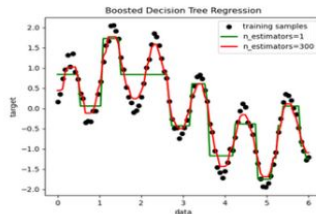
Examples

Regression

Predicting a continuous-valued attribute associated with an object.

Applications: Drug response, Stock prices.

Algorithms: SVR, nearest neighbors, random forest, and more...



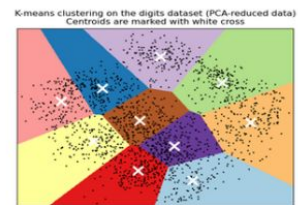
Examples

Clustering

Automatic grouping of similar objects into sets.

Applications: Customer segmentation, Grouping experiment outcomes

Algorithms: k-Means, spectral clustering, mean-shift, and more...



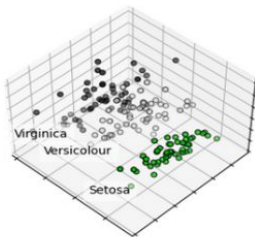
Examples

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...



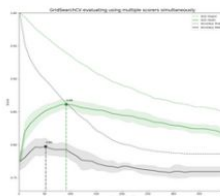
Examples

Model selection

Comparing, validating and choosing parameters and models.

Applications: Improved accuracy via parameter tuning

Algorithms: grid search, cross validation, metrics, and more...



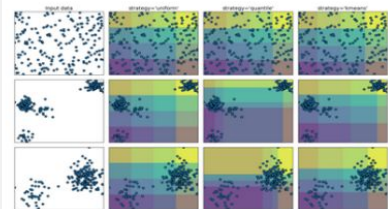
Examples

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)

December 2021. scikit-learn 1.0.2 is available for download (Changelog).

October 2021. scikit-learn 1.0.1 is available for download (Changelog).

September 2021. scikit-learn 1.0 is available for download (Changelog).

April 2021. scikit-learn 0.24.2 is available for download (Changelog).

January 2021. scikit-learn 0.24.1 is available for download (Changelog).

December 2020. scikit-learn 0.24.0 is available for download (Changelog).

August 2020. scikit-learn 0.23.2 is available for download (Changelog).

May 2020. scikit-learn 0.23.1 is available for download (Changelog).

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

Scikit-learn from 0.23 requires Python 3.6 or newer.

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).

Community

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Questions? See FAQ and stackoverflow

Mailing list: scikit-learn@python.org

Gitter: gitter.im/scikit-learn

Twitter: @scikit_learn

Twitter (commits): @sklearn_commits

LinkedIn: [linkedin/scikit-learn](https://www.linkedin.com/company/scikit-learn)

YouTube: [youtube.com/scikit-learn](https://www.youtube.com/scikit-learn)

Facebook: @scikitlearnofficial

Instagram: @scikitlearnofficial

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

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Who uses scikit-learn?



"I think it's the most well-designed ML package I've seen so far."

[More testimonials](#)

scikit-learn development and maintenance are financially supported by

