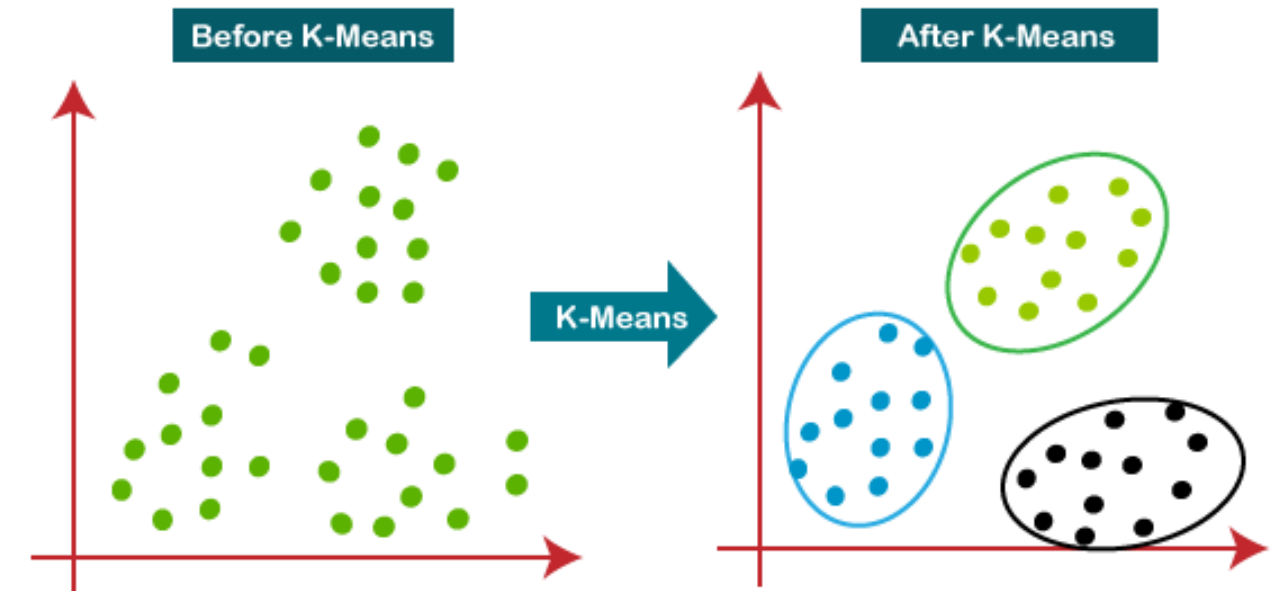


## Review of clustering algorithms

### Motivation:

Clustering or grouping similar individuals (designs with similar features) is used in a special class of stochastic optimization methods to identify several local solutions. Therefore, a review of the most promising clustering methods should be carried out. The main goal is to understand the theory behind clustering algorithms and to get hands on experience using these. A very neat overview of the field can be found in the scikit-learn (<https://scikit-learn.org/stable/modules/clustering.html>) documentation. This python package would be used in the investigations for the bachelor thesis.

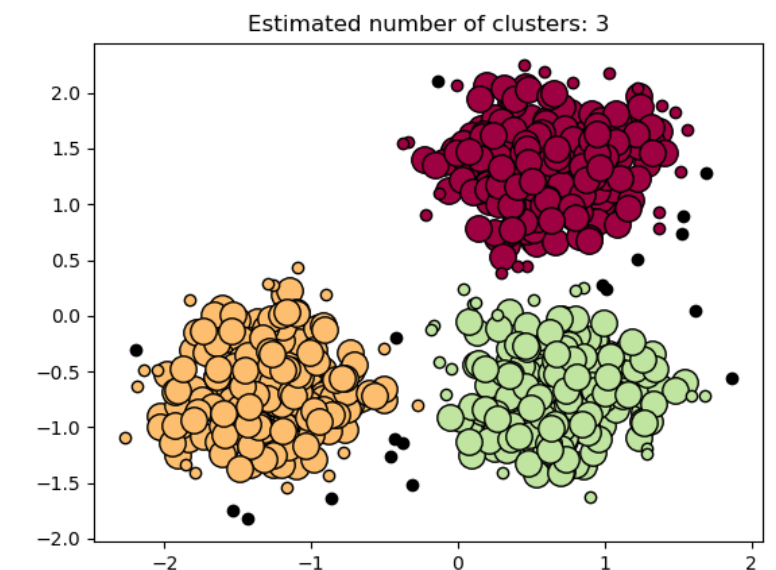
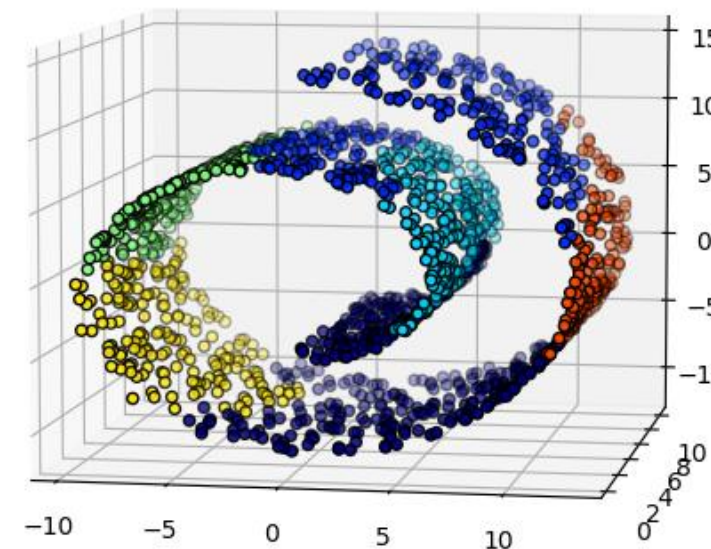


### Prerequisites :

- Basic knowledge in *python* or *julia*.
- Good basics in linear algebra and statistics.
- Motivation to learn about clustering algorithms.

### Tasks:

- Learning the theory behind the clustering algorithms.
- Practical usage of the reviewed methods.
- Understanding the pros and cons of the methods.
- Application to a simple stochastic optimization routine.



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