Validation Types:  
  
Internal: with all the data.  
External random: separating training and test data  
External k-fold: it is the one where we do validations with different training and test sets and we obtain the average indicators of all the results.  
Leave One Out: Not very popular and very expensive but can be used on small data samples.  
Bootstrap  
  
What are Neural Networks?  
Neurons and links  
Machine learning  
Activation and loss functions  
Types of learning  
High computational cost  
Advantage:  
Adaptive  
Parallelizable  
Fault tolerance  
Predictive potential  
Disadvantages  
Computational cost  
Black box  
Less explanatory  
  
XGboost  
Check the official documentation for more details on this method.  
  
  
Text Mining:  
Quality of the information  
Find text anywhere, amount of information  
Numerical processing  
Scalability of the process, we can analyze a conversation like an encyclopedia or tweets of some topic.  
Process:  
Obtaining the information  
Bag of words, transform text  
Lemmatization - Machine learning method  
Advanced analysis (translation, detection of topics)  
Modeling  
Python nltk package is useful for text mining.