

Dictionary of computational terms used in the study

Term	Meaning
“Independent” variable/feature	In this context, gene
“Dependent” variable	In this context, clinical condition
Object	In this context, gene expression profile of a single sample
Machine and statistical learning	A group of computational techniques developed for solving general classification and regression problems
Dimensionality reduction	Reduction in the number of variables needed for learning (reduction in gene expressions needed for establishment of diagnosis/prognosis)
Classification and regression trees	One of the machine learning techniques based on generation of aspecific type of decision tree
Univariate classifiers	Approach to classification of objects, based on a single variable (establishment of diagnosis/prognosis based on the expression of a single gene)
Filters	Machine and statistical learning methods developed for relevant variable selection
Multivariate feature selection	Selection of multiple relevant variables that delineates possible variable interdependence
Mutual information	Quantity derived within information theory that can be used as a filter criterion
Genetic algorithm	Computational approach to feature selection (in this context) based on natural selection and mutation
Prediction tool	Machine or statistical learning tool that enables dependent variable value prediction based on the development of quantitative relationship between a dependent and independent variable
Random Forest	A machine learning technique that uses classification and regression trees as a building block which can be used as a filter, and as a prediction tool at the same time
Support vector machines	One of the machine learning prediction tools
Predictive accuracy	A fraction of correct class predictions obtained on a dataset that was not used during learning
Descriptive accuracy	A fraction of correct class predictions obtained on the same dataset that was used during learning
Valid model	A prediction model whose predictive accuracy has been evaluated and proven to be acceptable