

Reskilling IT

[HOME](#)
[EMERGING TECHNOLOGIES](#)
[CAREER PLANNING](#)
[LET'S BE PARTNERS](#)
[CONTACT US](#)

YOU ARE AT: [Home](#) » [Big Data](#) » [Cheat Sheet – 10 Machine Learning Algorithms & R Commands](#)

Cheat Sheet – 10 Machine Learning Algorithms & R Commands

0

BY AJITESH KUMAR ON JANUARY 16, 2015

BIG DATA

This article lists down 10 popular **machine learning algorithms** and related **R commands** (& package information) that could be used to create respective models. The objective is to represent a quick reference page for beginners/intermediate level R programmers who working on machine learning related problems. Please feel free to comment/suggest if I missed to mention one or more important points. Also, sorry for the typos.

Following are the different ML algorithms included in this article:

1. Linear regression
2. Logistic Regression
3. K-Means Clustering
4. K-Nearest Neighbors (KNN) Classification
5. Naive Bayes Classification
6. Decison Trees
7. Support Vector Machine (SVM)
8. Artifical Neural Network (ANN)
9. Apriori
10. AdaBoost

Cheat Sheet – ML Algorithms & R Commands

- **Linear regression:** “lm” method from base package could be used for linear regression models. Following is the sample command:

```
1 | lm_model <- lm(y ~ x1 + x2, data=as.data.frame(cbind(y,x1,x2)))
```

- **Logistic Regression:** Logistic regression is a classification based model. “glm” method from base R package could be used for logistic regression. Following is the sample command:

```
1 | glm_model <- glm(y ~ x1+x2, family=binomial(link="logit"), data=as.da
```

Practice Tests on Machine Learning, Java / Javascript Technologies

RECENT POSTS



JANUARY 21, 2018

0

Electron uses Blockchain Technology for innovating Energy Sector



JANUARY 21, 2018

0

Cryptocurrency – Bitcoin and Bitcoin Cash Difference



JANUARY 20, 2018

1

Security Lessons from OnePlus Hacking & Credit Card being Stolen



JANUARY 20, 2018

0

Top 10 Global Bitcoin & Cryptocurrency Trading Platforms (2018)



JANUARY 19, 2018

0

Startups – Varo Money uses AI to Improve Customers Financial Health

- **K-Means Clustering:** “kmeans” method from base R package could be used to run k-means clustering. Following is a sample command given X is a data matrix and m is the number of clusters:

```
1 | kmeans_model <- kmeans(x=X, centers=m)
```

- **K-Nearest Neighbors (KNN) Classification:** “knn” method from “class” package could be used for K-NN modeling. One need to install and load “class” package. Following is the sample command given X_train represents a training dataset, X_test represents test data set, k represents number of nearest neighbors to be included for the modeling

```
1 | knn_model <- knn(train=X_train, test=X_test, cl=as.factor(labels), k=
```

- **Naive Bayes Classification:** “naiveBayes” method from “e1071” package could be used for Naive Bayes classification. One need to install and load “e1071” package prior to analysis. Following is the sample command:

```
1 | naiveBayes_model <- naiveBayes(y ~ x1 + x2, data=as.data.frame(cbind(y,
```

- **Decision Trees:** “rpart” method from “rpart” can be used for Decision Trees. One need to install and load “rpart” package. Following is the sample command:

```
1 | cart_model <- rpart(y ~ x1 + x2, data=as.data.frame(cbind(y,x1,x2)), r
```

- **Support Vector Machine (SVM):** “svm” method from “e1071” package could be used for SVM. Note that the same package also provide method, naiveBayes, for Naive Bayes classification. One need to install and load “e1071” package. Following is the sample command given X is the matrix of features, labels be the vector of 0-1 class labels, and C being regularization parameter

```
1 | svm_model <- svm(x=X, y=as.factor(labels), kernel ="radial", cost=C)
```

- **Artificial Neural Network (ANN):** “neuralnet” method from “neuralnet” package could be used for ANN modeling. Following is sample command:

```
1 | ann_model <- neuralnet( y ~ x1 + x2 + x3, data=as.data.frame(cbind(y,
```

Prediction could be made using following formula:

```
1 | p <- compute( ann_model, as.data.frame(cbind(x1,x2)) )
2 |
```

- **Apriori:** “apriori” method from “arules” package could be used for Apriori analysis. One need to install and load “arules” package. Following is the sample command:

```
1 | apriori_model <- apriori(as.matrix(sampleDataset), parameter = list(s
```

- **AdaBoost:** “ada” method from “rpart” package could be used as boosting function. Following is sample command:

```
1 | boost_model <- ada(x=X, y=labels)
```

For most of the above formulas including linear regression model, one could use following function to predict:

```
1 | predicted_values <- predict(some_model, newdata=as.data.frame(cbind(x1_tes
```

[About](#)
[Latest Posts](#)


Ajitesh Kumar

Ajitesh is passionate about various different technologies including programming languages such as Java/JEE, Javascript, PHP, C/C++, mobile programming languages etc, and, computing fundamentals related with cloud-native technologies, application security, cloud computing platforms, mobile apps, big data etc.

He has also authored the book, [Building Web Apps with Spring 5 and Angular](#).

[datascience](#)
[◀ PREVIOUS ARTICLE](#)
[NEXT ARTICLE ▶](#)

Top 4 Javascript Frameworks to Watch out in 2015

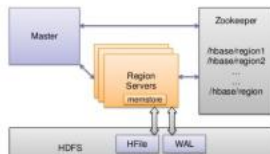
Data Science – List of Common Machine Learning Problems with Examples

RELATED POSTS

OCTOBER 28, 2017

0

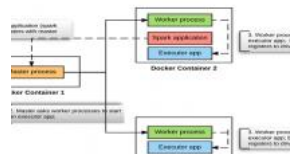
Spark – How does Apache Spark Work?



OCTOBER 15, 2017

0

HBase Architecture Components for Beginners



JANUARY 4, 2017

0

When a Spark application starts on Spark Standalone Cluster?

LEAVE A REPLY

Your Comment

Your Name

Your Email

Your Website

-

=

1

POST COMMENT

ABOUT US

Vitalflux.com is dedicated to help software engineers get technology news, practice tests, tutorials in order to reskill / acquire newer skills from time-to-time.

Thank you for visiting our site today. We welcome all your suggestions in order to make our website better. Please feel free to share your thoughts.

LATEST TECHNOLOGIES

- Quantum Computing
- Robotics
- Blockchain
- Machine Learning
- Cloud Computing
- Web

WE WANT TO HEAR FROM YOU

- Contact US
- Let's Be Partners
- Submit your Startup