Analytics Vidhya
Learn Everything About Analytics

Secret Santa Gift From Analytics Vidhya

Rise Up In Your Career

Dear AVian!

Merry Christmas and a very Happy New Year!

2016 has been phenomenal for Analytics Vidhya and we thank you for making it special for us. This year we launched several new formats of hackathons and competitions, we launched webinars, our slack channel and several meet ups. Each of these was received with tremendous enthusiasm and action. We grew multi-folds in terms of traffic and global recognition. We also now have close to 50,000 registered users on the portal.

In order to end this year on a high, we thought of providing you handy reference guides on areas of your interest. These guides are curation of some of the best reference materials available on the web in each of these areas. We hope you find these guides useful and they will kick start your learning in 2017.

As we move in the New Year, we plan to launch a new job portal for our community. We will continue to come up with more skill tests and exciting hackathons and it should all translate to better job opportunities for the community. If you have any questions / thoughts / suggestions for us, please feel free to reach out to me directly.

With that, I will like to once again thank you all and wish you a very happy new year.

Till then, stay warm and keep learning.

Regards

Kunal Jain

CEO & Founder

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Contents

Introduction

Machine learning is changing the face of analytics industry. The goal of machine learning is to program computers to use example data or past experience to solve a given problem. Many successful applications of machine learning already exist, including systems that analyse past sales data to predict customer behaviour, optimise robot behaviour so that a task can be completed using minimum resources, and extract knowledge from bioinformatics data.

Below are some of the resources that will get you started on learning concepts of Machine Learning along with its practical applications.

Blogs / Resources

1. Step by Step Learning Path on Machine Learning

This is an ideal resource for you to master machine learning. This learning path provides you a step by step method of becoming a master at machine learning. Once you've covered the basics of machine learning, you can then proceed to higher level concepts such as deep learning , neural network.

2. Essential of Machine Learning Algorithms

With this resource you can dive deep into the essential components of machine learning which includes algorithms / techniques used in machine learning. To make machine learning easier each algorithm has been explained in simple english with the one real life example.

3. Top YouTube Videos on Machine Learning, Deep Learning, Neural Networks

More than reading, sometimes video tutorials can help you learn concepts quickly. Here's a large collection of best youtube videos available in machine learning, deep learning and neural networks. These videos include talks and complete tutorials teaching various aspects of machine learning.

Resources by Machine Learning Category

Data exploration/ Pre-Processing:

- Data Exploration (Resource1, Resource2, Resource3)
- Feature Selection (Resource1, Resource2)
- Dimensionality Reduction (Resource1, Resource2)

Machine Learning Algorithms:

- Linear Regression (Resource1, Resource2, Resource3)
- Logistic Regression (Resource1, Resource2)
- Ridge and Lasso Regression (Resource1, Resource2)
- Naive Bayes (Resource1, Resource2)
- k-NN (Resource1, Resource2)
- k-Means (Resource1, Resource2, Resource3)
- Support Vector Machine (Resource1, Resource2)
- Tree Based Algorithms (Resource)

Boosting and Ensemble Methods:

- Gradient Boosting Machine (Resource1, Resource2, Resource3)
- XGBOOST (Resource1, Resource2)
- How to Ensemble Models (Resource1, Resource2, Resource3, Resource4)

Improve Model Performance:

- Model Performance Metrics (Resource1, Resource2)
- How to Improve Model Performance (Resource1, Resource2)

Books

1. Pattern Recognition and Machine Learning

This book is best suited for beginners who have no prior knowledge of machine learning and pattern recognition. It provides a comprehensive introduction to the field of pattern recognition and machine learning.

2. Elements of Statistical Learning

This book is highly recommended by data science experts. It covers all the necessary algorithms that you require to master the concepts of machine learning. This book describes the important ideas covering a wide range of topics from supervised to unsupervised learning.

3. Bayesian Reasoning and Machine Learning

This is another book which covers important aspects of bayesian reasoning with the elementary to advanced level of machine learning concepts.

4. Machine Learning: A Probabilistic Perspective

This book is a great starting point for beginners in data science. This book manifests intuitive examples which are fun to read and help understand complex concepts in a simplistic manner. The books cover a wide range of topics beginning with fundamentals of probability & statistics to advanced concepts of machine learning.

5. Information Theory, Inference and Learning Algorithms

This book is meant for folks interested to master the advanced concepts of machine learning which include data compression, noisy channel coding, probabilities and inference, neural networks, sparse graph codes etc.

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Thank you!

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