Data Science Skills and Mindset that Companies are Actively Seeking

Data Science skills and expertise are in extremely high demand and the skills people and businesses need to succeed are rapidly changing.

Data science professionals who have the right skills and attributes are well positioned to excel. It’s like they are somewhat destined to thrive in years to come…!

However, It is worthy to note that “A fool with a tool is still a fool”, and that Data Science is not just about the technology and the tools, Data Science needs brains. It genuinely requires a curious brain of an artist to be a true data scientist.

We can say that a data scientist is a polymath, one who also embodies an entrepreneurial spirit and labours to make the representation of the data exceedingly clear.

Source: Dribble @ Maliki Farid

In recent times though, It has not been easy for early-career professionals to get Data Science Jobs. Primarily, Because companies calculate Return on Investment to define “Success” and Measuring ROI for the investment in Data projects is a data project in and end of itself.

Companies who have Data Science teams make a very careful decisions when hiring a data scientist. They often look out for certain attributes and right kind of skills in individuals that can be seamlessly integrated with their own data teams to fodder a thriving data culture.

So, Without further ado, Let’s go through these data science skills that for you, I hope will become a path to becoming a part of speed-to-value data efforts that the

most Disruptive and World-Class Companies are actively seeking.

Gain these in-demand Data Science Skills that Companies are Actively Seeking

I've put some efforts trying to extract key bits of information to create a review-driven guide for learners to upgrade their data science skills, relevant today.

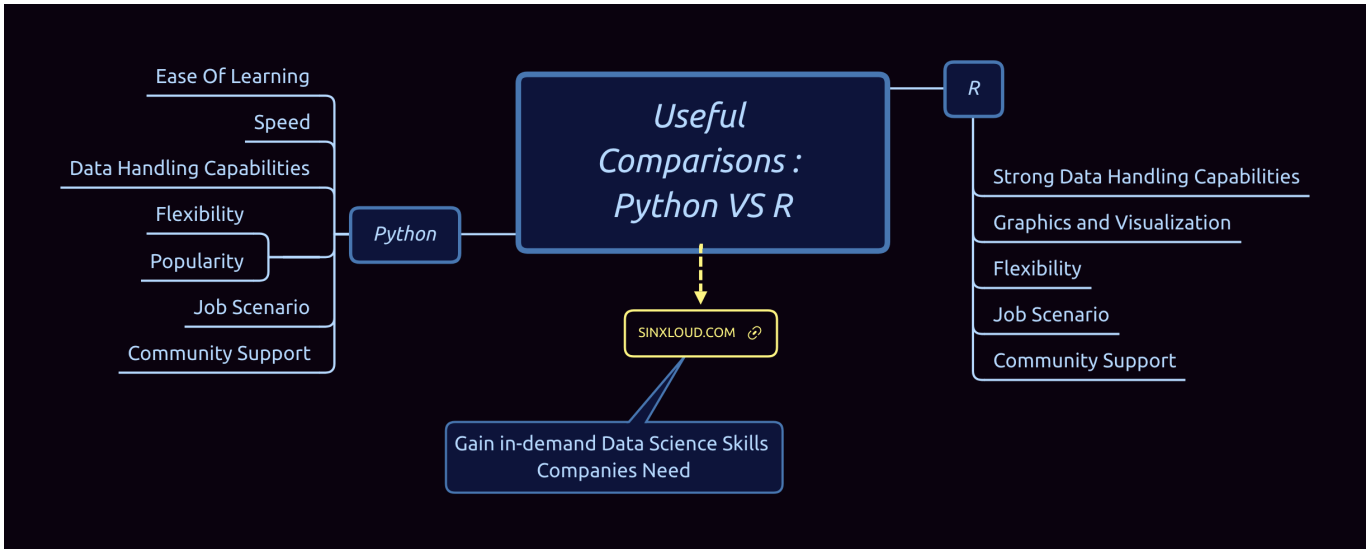
These suggestions are derived from conversations with Data Scientists, Data Engineers, Researchers, and Educators, as well as my own experiences in both Data Science and industry roles.

— Programming Skills: Python & R

Data Scientists posses an in-depth knowledge of analytical tools and at-least one programming language.

As time goes, Data Scientists learn and make use of both Python and R programming, depending on the problem they want to solve.

Here's an infographic for the most useful comparisons between Python and R programming…!



Python for Data Science

Python is versatile and can be used almost in all the steps involved in data science processes as well as Machine Learning and Deep Learning.

With Python, You can take various formats of data and easily import SQL tables into your code. You can create datasets with ease or find any type of dataset you need on Google.

Python has an excellent community support and you will find answers for almost any question via stack overflow or reddit.

R for Data Science

R Programing is specifically designed for data science needs.

It is reported that 43 percent of data scientists are using R to solve statistical problems. Whereas, 40 percent of respondents surveyed by O'Reilly use Python as their major programming language.

Learning R can be challenging compared to Python. However, for data science

R is generally preferred over Python.

Practical Learning Resources

- Python for Data Science Courses (World-Class Educators)
- Data Science BootCamp (1:1 mentor-ship and Job Guarantee)
- Best Data Science Courses (Python & R)
- How to Learn Data Science (with Python, Statistics and Maths)
- 8 Python Cheat Sheets (for Data Science)
- Learn R for Data Science (High-rated Courses)

— Machine Learning: Algorithms, and Maths

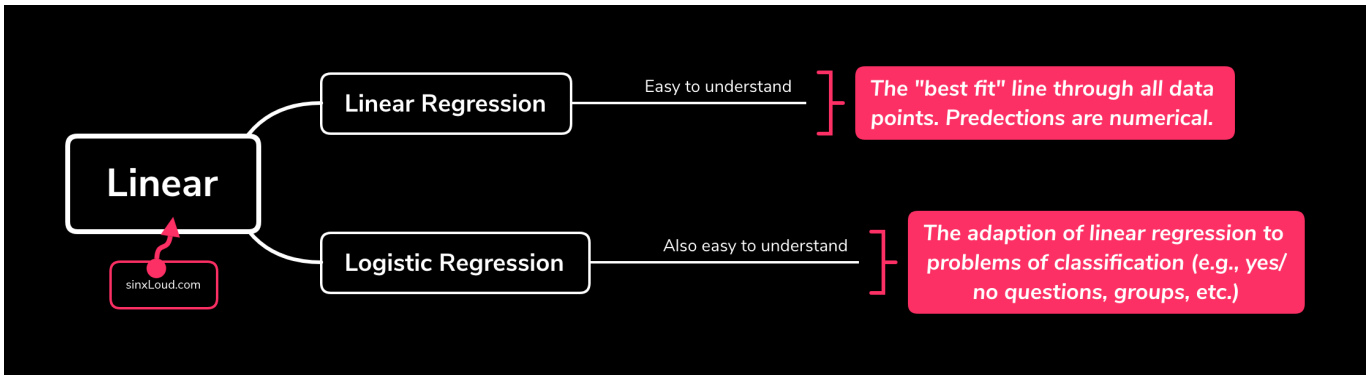
Machine learning is all about Algorithms.

It’s critical for every data scientist to have a strong understanding of the principles of machine learning and derive practical solutions using predictive analytics.

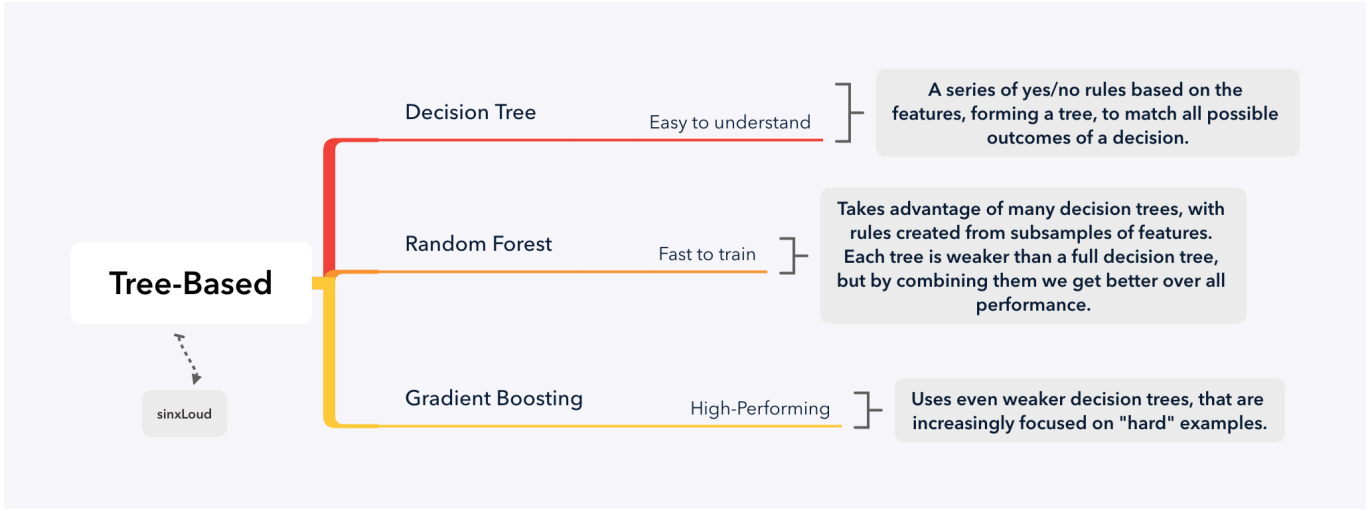
Here’s a survey conducted by Kaggle about the big picture view of the state of data science and machine learning.

Data Scientists are well versed with all the most prominent and common algorithms used in Machine Learning: Linear Models — Tree-Based Models — and Neural Networks.

Linear Models



Tree-Based Models



Data Science involves working with large amounts of data sets. So, You have to upgrade your Math skills in order to tighten your grips on Machine Learning (and also Deep Learning).

Practical Learning Resources

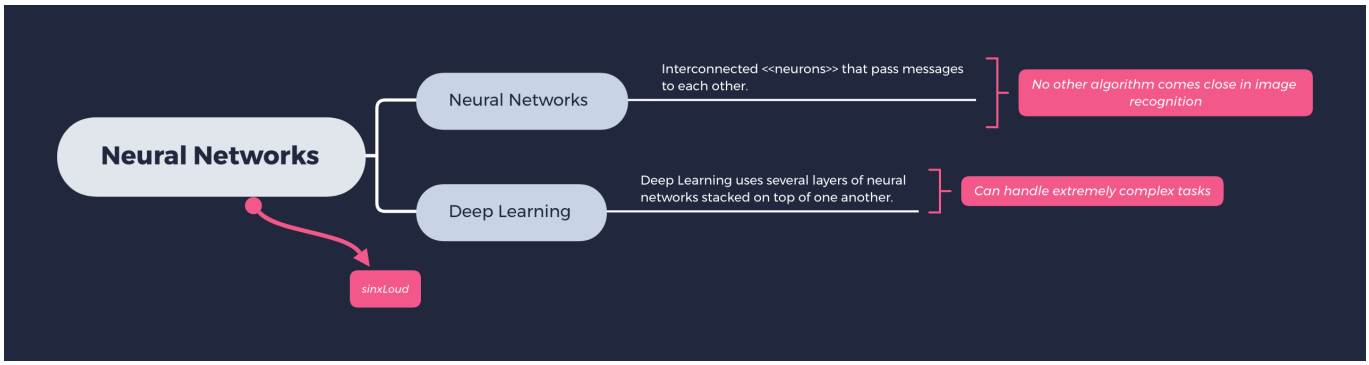
- Machine Learning Courses (from the World-Class Educators)
- Maths for Machine Learning and Data Science
- Machine Learning Cheat Sheets (with Python and Maths)

Machine Learning with Python (DataCamp and Stanford)

— Deep Learning & Neural Networks

Deep learning consists of algorithms that are composed of hidden layers of multiple artificial neural networks.

Deep learning enables data scientists and practitioners on the advanced analytics process to dig deeper into the network without having to write extraneous code.



Deep Learning techniques are extensively used for SEO Optimization, to improve advertising efficiency, to improve filters on the posts that you see online and much more.

This may sound intimidating, but actually computers do the computations for you!

Quick Tip: Learn TensorFlow. It is so powerful tool for performing Deep Learning and Machine Learning.

Interviews should be edifying and conversations about data science!

Practical Learning Resources

Deep Learning Courses (from Notable Educators)

TensorFlow Courses (based on difficulty level)

AI Courses (for technical and non-technical experts)

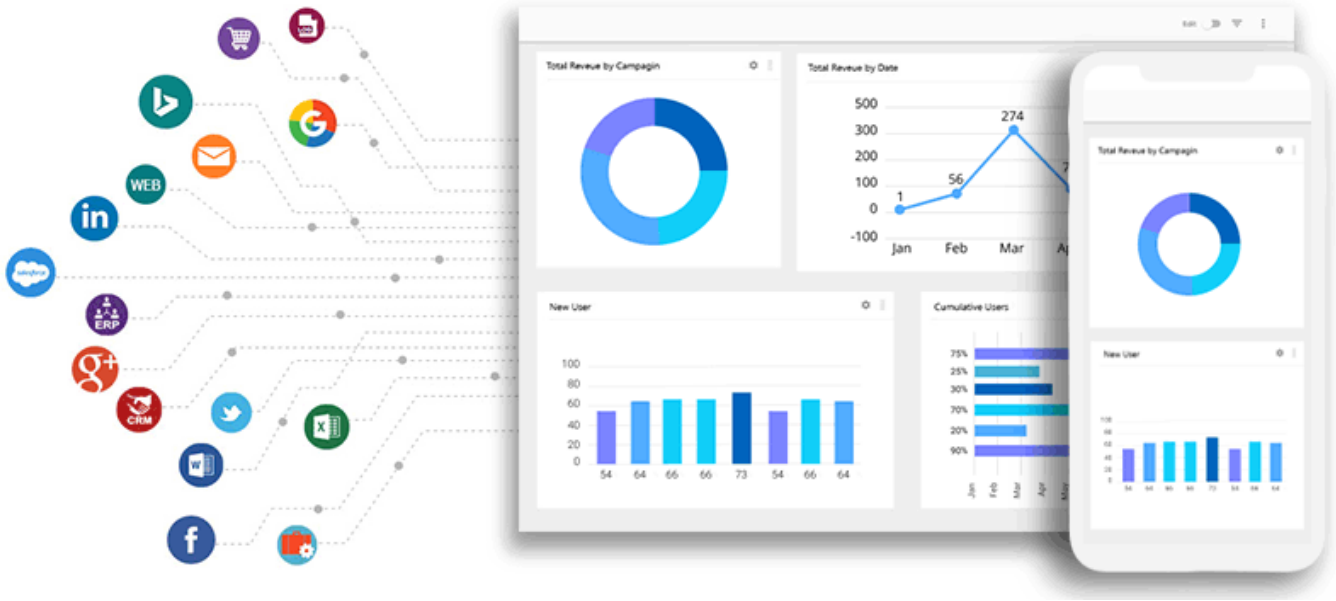
74 Secrets to become a pro data scientist (Ebook)

— Advanced Analytics: Data Mining, Prediction & Visualization

Making sense and predicting trends in data is made possible with by what is commonly referred to as advanced analytics.

This is an important skill for Data Scientists, especially when investigating or sorting the vast amounts of raw, unfiltered data.

And, Data Visualization is really important when we're looking at the output of data science systems.



Data Scientists mostly work with datasets from a wide variety of dimensions that can be analyzed and clearly visualized in order to produce actionable and predictive insights applicable to real-world problems.

> *Remember, Machine learning skills will tremendously support the process of making predictions based on patterns discovered in user data.*

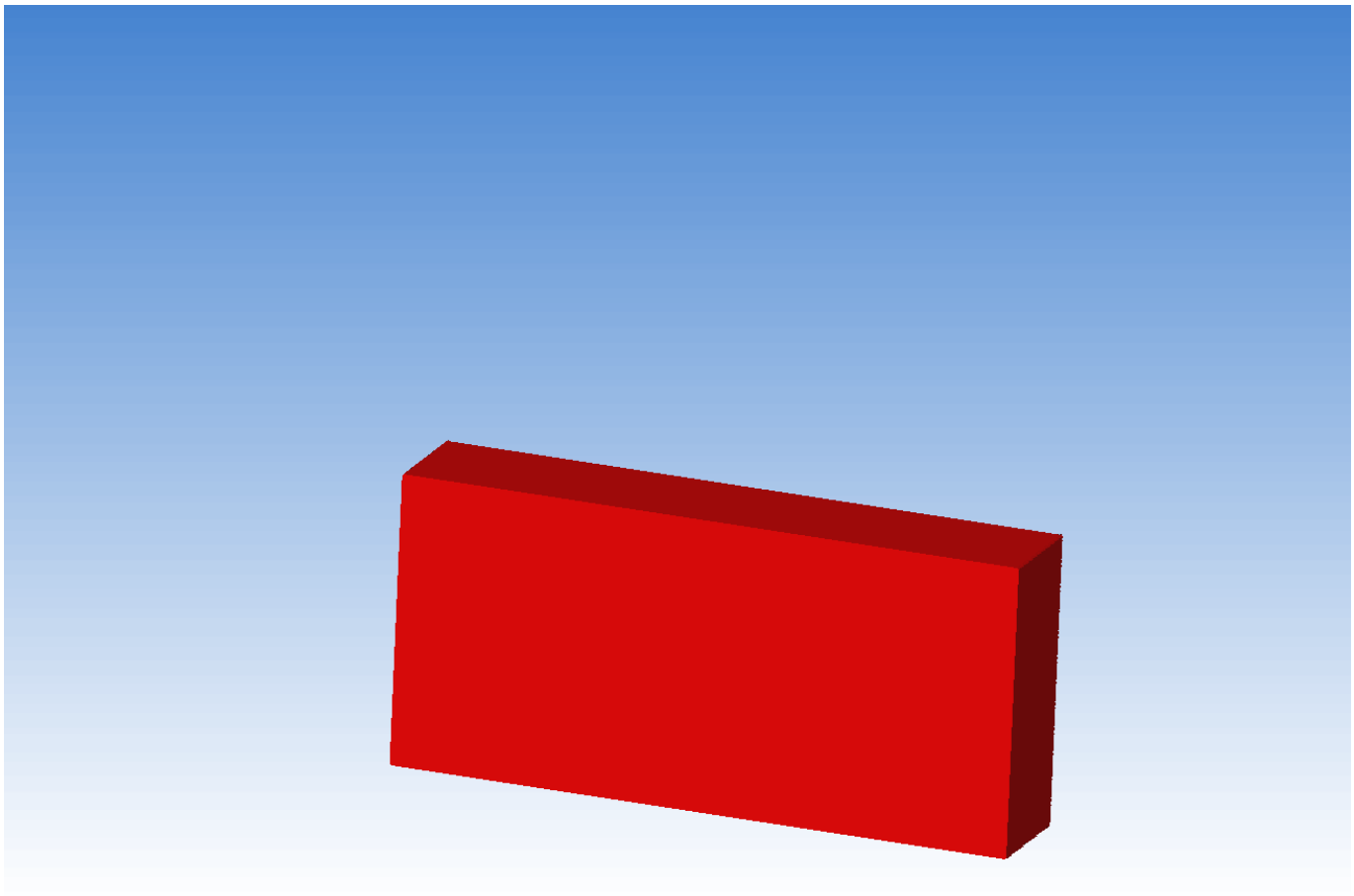
Practical Learning Resources

- Introduction to Data Visualization in Python (Team Anaconda)
- Data Visualization in R (Ronald Pearson)
- R for Data Mining (Top Courses)
- Best Data Visualization Courses (Python & R)
- Interactive Data Visualization with Bokeh (Team Anaconda)

— Statistics: Statistical Analysis & Thinking

Data Scientist must have a strong Statistical grounding about the powerful concepts of tools to get the most out of Data, this is accomplished through computational frameworks.

Both, R and Python based computational frameworks are widely used among Data Scientists, Statisticians and Data Miners for developing statistical software and performing data analysis.



Since, Data science is mostly about statistics, let me shed some light on how R and Python are both perfect and uniquely different for implementing various operations.

R for Statistical Analysis

R is very flexible and offers a strong statistical environment for data and statistical analysis.

R is commonly used for Extract, Transform, and Loading. And also, offers an interface for many database like SQL and even spreadsheets.

Since R was built as a statistical language, it suits perfect to do statistical learning and this is why it remains the top choice in surveys.

Python for Statistical Analysis

Data Scientists also use python because it is highly productive as compared to other programming languages and famous for its simple programming syntax, code readability and English-like commands that make coding in Python lot easier and efficient.

Python offers an ability to understand the importance of connecting research questions to data analysis methods.

Data Scientists with experience in Python are highly equipped with the functional knowledge of applying statistical modelling techniques to data (ie. linear and logistic regression, linear models, multilevel models, Bayesian inference techniques)

Practical Learning Resources

Learn Probability and Statistics for Data Science – Python and R

Statistical Thinking in Python by Daniel Kalpan

Statistical Modelling in R by Daniel Kalpan

Case Studies in Statistical Thinking by Justin Bois

Spatial Statistics in R by Barry Rowlingson

R vs Python : Data Scientists delight (Published in dZone)

— Business Acumen: Sound descisions & Story Telling

Data Science is exceedingly difficult and this is why extending simplicity is the key to have a more satisfying and rewarding journey.

While it’s true that growing in knowledge is very important however it is also important to have a clear and crisp awareness of how to make sound decisions.

Sound decisions that yield better business results come from discernment.

It’s not a skill to discern but an outcome of the skills already acquired. This is a process which you have to trust through deliberate reflections on your own working experience and observations.

And there will always be stories to tell which you as a data scientists will joyfully labor to keep them exceedingly clear and simple to understand.

Practical Learning Resources

- Learning how to learn (Barbara Oakley)
- The Science of Well-Being (Yale)
- Data Scientist in Business (Published in Towards Data Science)

Thanks for making it to the end ;)

If you liked this article, I've got a few practical resources for you. One about the Data Science bootcamp from Springboard and one about the Free Ai Courses from World-Class Educators.

I've also got this Data Science and Ai newsletter that you might be into. I send a tiny email once every fortnight with some useful and cool stuff I've found/made.

Don't worry, I hate spam as much as you. ☟

Collaboration Credits: Mentors from Springboard, Data Scientist from Johnson Controls

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