Is Data Science for All?  
Data Science Bootcamp



**Anish Mahapatra**

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# Introduction

Data Science seems to be the buzzword for the decade. The internet is talking about it, companies want it, your friends and even your family is in the loop about how Data Science is changing the world we live in. Your dad is noticing how Google’s news feed algorithm is getting updated based on the conversations that are happening around, your mom is enjoying food videos on YouTube based on recommendations.

Let’s now come to you. Irrespective of the position, industry and your level of technical knowledge, you would like to understand where do you fit into all of this? It is possible to leverage this “new oil” everyone keeps talking about? The title does say, “Is Data Science for All?”, but I would like to focus on “Is Data Science for you?”. Let’s dive in.

# Is Data Science for you?

* The short answer:   
  **Yes**.
* The long answer:   
  Data Science has been around for a while, and it’s been the sexiest job around according to a lot of people and companies for over a decade. If you are willing to put in the time and effort, no matter what your nature, area of interest /expertise / domain is, **Data Science can be for you**.

Let me give you some context. If your grandparents have managed to learn and upskill themselves on how to use the internet, they probably enjoy a whole set of new privileges in life like, video calls with family, watching content online, participating in group conversations, seeing digital photos of your vacation etc.

Now, on the other hand, if they do not know how to use the internet, they are almost digitially disabled and they are missing out on a big part of the new world.

Similarly,

If you do not know how to leverage Data in this Digital Age, you become digitially disabled

Whether you are a student, professional or entrepreneur, let me explain to you a situation that you might have faced in your day to day. If I were to give you a dataset or an excel file with *one million rows* (ten lakh rows), you can open up excel and perform some sort of analysis.

The situation changes drastically if I were to give you ten million rows – you would not be able to open it in Miscrosoft Excel. Now, all of a sudden you can’t do much, because Excel has a limit of one million rows. Learning how to work with data, perform analysis and even visualize data can help you make better decisions more efficiently. People who are done with their MBA are coming back to Data Science because it can help them make exponentially better decisions.

The most unique thing with Data Science is whether you are a fresher or an experienced professional in any field, you can become a Data Scientist.

There are two main reasons for this.

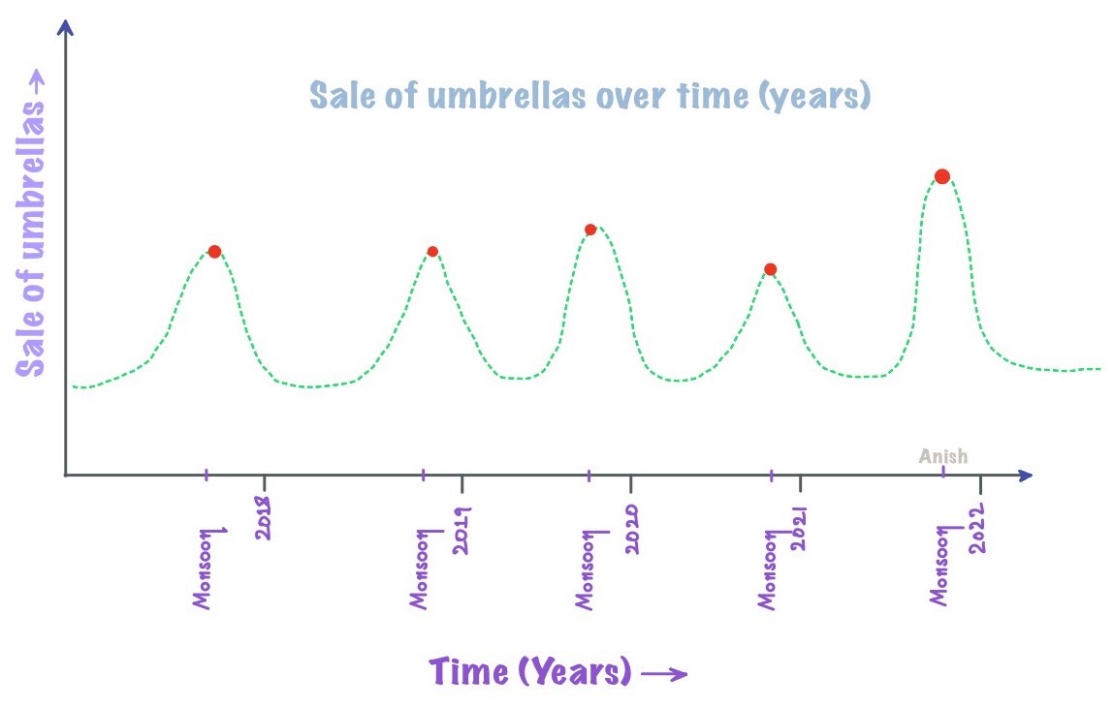
1. Data Science is an **industry-agnostic field**, which basically means that irrespective of the field you are in, you can add a “data-edge” to it and you will also be able to leverage the knowledge and experience you already have
2. Data Science is **extremely practical**. Most of the problems being solved in companies across is understandable and doable.

Whatever your nature or experience is, there is a place for you in the end to end Data Science process. How can I be so sure? Let me show you exactly what I am talking about using the roles that come under Data Science.

# The roles that come under Data Science

I could go about and just jot down the roles and tell you what we do in them. Instead, let’s try to understand with a solid example of how Data Science works in the real world. Follow along closely, I’ll also be talking briefly about the tools and technologies needed as well!

Let’s say we are a retail giant, Reliance Retail and we are looking to **optimize products** that we have in our retail stores across India. For this, the business stakeholders will need to understand what are our best selling and worst selling products. The steps that we can take for the end to end Data Science flow is as follows:

* **Orchestrate Data**: Get data from the various different stores that we have. The data can be in excel, some sort of local database or on the Cloud.
* **Clean & Standardize Data**: Bring the data into the same format, clean and organize the data to make one big master dataset
* **Modelling & Analytics**: On this master data set, we need to perform our analytics of top and bottom performing products to be ableto optimize. This can be done in three ways:
  + **Heuristic model**   
    Heuristic model is a fancy way of saying that business rules are used to decide the prodcuts that are performing well or badly. For instance, we can say that if a particular oil brand is selling over 1,700 packets in a month, it is a good product. Writing code for each of these business rules as if-else statements would ential a heuristic model for example.
  + **Statistical model**Let’s say we are selling umbrellas and the sale of umbrellas is low through the year, except in the monsoon season. Does this mean that umbrellas ar bad products? No. If we were to look at the distribution over five years, we would see that it peaks during monsoon season. The seasonal sales can be inferred looking at it’s statistical distribution.   
      
     So, in this case, umbrellas would not be a bad product, but rather a seasonal product, based on what we can see from the statisitcal distribution over the years.
  + **AI/Machine Learning model**Think of a Machine Learning model as a black model. The input is the same that we have seen above, which is a big master dataset and the output is the good and bad perfoming products. The only difference is instead of a manual, heuristic approach or just statistics, we let the model look at historical data and tell us what the good and bad prodcuts are.

# What role should you pick?

# How long does it take to become a Data Scientist?

# Mandatory skills you need to become a Data Scientist

# Data Science Resources

# Conclusion

# Author

**Anish Mahapatra**   
*Senior Data Scientist*   
LinkedIn: [https://www.linkedin.com/in/anishmahapatra](about:blank) ([LinkedIn](about:blank))