

# DATA SCIENCE ROADMAP

This is the Ultimate RoadMap to become a Data Scientist, one needs to learn the following things. I have added the resource links of all important things in this PDF.

## DO YOU NEED A COLLEGE DEGREE?

With basic understanding of Maths, you can start. Even if you are not doing B Tech, Basic BSC Degree with Maths or some other equivalent will suffice.

## REQUIREMENTS [RESOURCES CAN BE FOUND AT THE END OF THIS DOCUMENT]

- Statistics + Maths
  - [Linear Algebra Notes](#) (Amazing Resource for revising Data Science by Queen Mary University of London)
  - Learn the basics of Mean, median, mode, dy/dx. This [quick video](#) can help you get started.
  - Buy a copy of [Hines Book](#) (Probability and Statistics in Engineering by William Hines)
  - Focus a bit more on Normal Distribution
  - Learn basics of Optimization and Gradient Descent. You can [watch this series](#) I created long back.
  - Get this amazing book on Graphs ([Play with Graphs Book – Amit Aggarwal](#))
- Programming
  - If confused choose Python as your first programming language
    - [Python in Hindi](#) – 100 Days of Code by CodeWithHarry
    - For English Lovers, there is [this awesome course](#) on Udemy
- Now once you have a basic understanding of Python, start learning Data Science
  - Learn Basics – Start from this [free book](#) or buy it on [Amazon](#)
  - Learn to use [this amazing package](#) for building quick Data Reports
  - Learn NumPy from [here](#)
  - Learn Pandas from [here](#)
  - Matplotlib / Seaborn from [here](#)
- Database – Learn Basic CRUD Operations and depending upon how you are fetching your data, pick from these technologies.
  - MySQL
  - MongoDB
  - PyMongo
  - SQLAlchemy
- Transition to ML/DL – Once you have some good hold on Python, Pandas and some data science projects, start transitioning to Machine Learning.
  - Grab a copy of [this book](#): Hands on ML with Scikit-learn and Tensorflow (Author of this book also maintains constantly updating [Github Repo](#))
  - Watch this project video I created on an [End-to-End ML Project](#)
- Linux & GIT
  - Learn Basic Commands of Linux from [this video by CodeWithHarry](#)
  - Learn to push your code to GitHub - Watch this [quick video](#).
  - Learn how to SSH into a Linux machine & about SSH Keys
- Optional Tools that you can learn depending upon your requirements.
  - AWS – Create an account and get started for Free. It will take you a long time to master it
  - Learn about cronjobs from [this video](#)
  - Learn about BeautifulSoup for Web Scraping using Python
  - Tableau/Hadoop/PowerBI
  - Excel VBA
  - Good Code Repos & Papers: [PapersWithCode](#)