Data Science Core Subjects –

1. Machine Learning
2. Deep Learning
3. Data Mining
4. Probability and Statistics
5. Programming in Python, R, SAS
6. Databases – MySQL
7. Big Data Analytics

**how I would learn data science if I had to start again :**

1. Programming in either Python or R
   1. prefer Python for Jobs.
   2. R for Scientific and Academic purposes.
   3. Python is a bit more versatile
2. have a very basic understanding of statistics
3. Basic foundational knowledge of data science core subjects
4. doing real-world projects is the most effective way to grasp this field
5. You should learn just enough programming and statistics to explore your own projects
6. knowledge through very introductory online courses
   1. like the micro courses on Kaggle
   2. 365 data science
7. Kaggle is the best as they have large amounts of datasets and also has analysis for all the projects
8. Kaggle is a public forum for people to submit their analysis of shared data sets
9. We can see the code of established data scientists
10. From this you can see what packages they used the way that they explore the data
11. the different ways that they optimize the algorithms that they use
12. follow along with a few more of these advanced notebooks
13. then I would recommend you starting on your own basic projects
14. I made a video about the three beginner projects that I recommend and
15. Split your time about 50/50 between working on your own projects and other people's code
16. Of the new things that I saw in these more advanced workbooks to the code that
17. Along learning this way you'll see when different people use algorithms and different packages
18. I recommend compiling a list of all the different things you see you should go
19. through the source code of all these different things and try to grasp how they're constructed
20. frankly if you can understand the source code for an algorithm you functionally understand
21. the math behind it it's still good to supplement this information with some actual theory using Wikipedia or some math textbooks but that will give you

if I understand how algorithms are built its way easier for me to understand the math associated with that again this is fairly common practice in math circles they try examples first then see if they can fit a theory to what theyre seeing this helps to build intuition around the data science skill set if youre feeling particularly ambitious its extremely valuable to be able to build some of these algorithms from scratch you should try to explore building a linear regression or a kmeans clustering algorithm from just basic Python components at this point you should already started to delve into more advanced projects you do this to stretch out your skill set the advanced projects are one where you strive to find unique insights this can be fairly intimidating but if you collect your own data it can also be relatively easy you can also do this by asking questions of existing data sets that other people havent thought of yet again this can seem quite difficult but if youre spending a significant amount of time doing projects and building intuition these ideas eventually come relatively naturally at this stage I would also recommend exploring some deep learning NLP and computer vision concepts I personally enjoyed the fast day I course and Ive definitely borrowed a bit from their learning philosophy its important to push yourself to get feedback on your work as well I highly recommend making your analysis public on Kaggle github your blog or tableau public putting work on Kaggle is definitely something that I personally need to improve on as well after youve reached this level youve really built almost all of the foundational knowledge that you need from then on its about learning new packages or concepts and applying them to your work or in more projects the data science journey is never over you know honestly youll constantly be learning and applying new things but I personally think that thats what makes the profession really fun now there are a few other details that I think are important on this learning journey first is how much time you need to spend learning this can vary greatly by person based on how quickly you actually want to consume this material I think that working around an hour per day would be sufficient to learn the foundations of data science for a year if I could go back I would schedule in blocks of time that I would study rather than doing it and I learned this concept from the book ultra learning which I also recommend reading and watching the above video that I made on it I dont suggest studying for less than minutes at a time or for more than hours if you study too short youll spend too much time catching up on what you did the previous time and if you spend too much time I think theres a pretty high chance of burnout next Im a huge believer in setting goals if you see my day in the life video my room is basically decorated with sheets of paper reminding me what I want to accomplish a good goal should be three things measurable something you have complete control over and finally it should have a time constraint a example of a good goal is that youd like to be able to do two exploratory analyses where you apply principle component analysis over the next two week an inferior example would be if you said your goal was to learn PCA the reason why one of these goals is superior to the other is the ability for you to be held accountable to it I think accountability is extremely important and you can hold yourself accountable in a couple different ways one is by writing things down and another way is by actually telling people or community Im perfectly fine with either of these approaches you know you can tell one of your friends you can have an accountability partner you can also use some of these social groups to actually maintain your accountability as well I would ask you to write in the comments section below what some of your goals are and that the community on this channel will help you stay accountable there hopefully this video will give you '

a clear path on how to navigate this

field it took me five years to really

understand these data science and life

concepts and I'm still learning every

day thank you so much for watching and

good luck on your data science journey