

I never had the opportunity to explore the field of data science before. While I had taken computer science courses in the past, they focused mainly on language acquisition rather than practical application. However, my introduction to data science course proved to be a game-changer. It not only exposed me to real-world coding applications but also introduced me to an entirely new way of thinking - a critical skill for any aspiring data scientist.

To become a proficient Data Scientist, one must have a thorough understanding of what data is. What exactly constitutes data? How can it be utilized? Is it truly omnipresent? According to Google, data refers to "facts and statistics that are gathered together for reference or analysis." However, this definition barely scratches the surface of the true nature of data. We delved into this topic at the beginning of our class, brainstorming various notions about what data means. While Google's definition provides a basic outline, data is essentially information that has been collected and is waiting to be utilized and interpreted by anyone or anything. This information is constantly present, waiting to be captured and transformed into data. However, raw data in and of itself is relatively useless.

To be a successful Data Scientist, one must understand the definition of data. What is data? How can it be used? Is data truly all around us? Google says that data is "facts and statistics collected together for reference or analysis." I think this is a quite numbed-down version of what data is. We messed with this during the start of the class, exploring ideas as to what is data. Google's definition does a good job of conveying the basics. Data is collected information waiting to be used and interpreted by anyone or anything, and there are several ways this can be done. Information is all around us, waiting to be captured to become data. However, that raw data is essentially useless.

Think of data as a book, and information is the letters contained in the book. On its own, random letters cannot be made into anything. It needs to be collected in groups for other uses. Think of Data Scientists as the authors of the book; they help bridge the gap between letters, and books, for the rest of the populous to understand.

Finding the methods to communicate your discovery is the tricky part. Communication is essential. Data Scientists must have the skill to be able to communicate to others about their data, and there are many ways to do this. A few such methods include creating a table of values, graphing your findings, using other illustrations, etc. This takes skill and patience. You need to know the methods of communication in addition to having the patience to work through the problem and get your solution.

Additionally, a Data Scientist must be good at critical thinking. Most of the time, there is a chance that you will be the first person to interpret data the way that you are working. They must find solutions that will be difficult to derive. However, there are numerous resources at your disposal, ranging from looking up other projects online to communicating with other Data Scientists to assist you in your endeavor.

Problems will occur, and roadblocks are inevitable. Data Scientists will first slow down and use their patience to understand the problem. Eventually, the critical thinking process will begin, and that individual will, eventually, communicate to the rest of the world their findings. As a Data Scientist, possessing a deep understanding of the material, a patient approach, strong critical thinking skills, and effective communication abilities are all essential for success in both academic and professional settings. I employ these four principles in my daily studies, particularly when faced with complex physics problems. When tackling such challenges, it's important to take a step back and carefully comprehend the problem at hand. If needed, seeking input from peers or professors is perfectly acceptable. Once the problem is fully understood, it's

time to apply critical thinking skills to develop a solution. Finally, clear communication of the solution to the professor, typically through the assignment submission, is crucial to demonstrate mastery of the topic.

In our daily routine, Data Science has become an indispensable part of life. From relying on GPS to navigate to our destination to receive personalized recommendations on Netflix, its impact is ubiquitous. However, when pursuing a career in Data Science, it's crucial to maintain a patient and compassionate attitude towards yourself and your colleagues. Don't be deterred by difficulties, as they are an inherent part of the learning process. Remember that support is readily available, so don't hesitate to seek assistance when necessary. Stay focused on the challenge, and the solution may very well be right in front of you.