Motivational Pep Talk!

That's all we had time to squeeze into this course! Even though we've covered *maybe* 5% of all that SciKit-Learn has to offer, and have only began to scratch the surface of the greater fields of machine learning and data analysis, you should now have a firm basis to *start* your exploration as a self-sufficient data scientist. Andrew Ng, who's efforts have led many of us into the study of machine-learning, said it best during one of his courses:

> "*When you apply a support vector machine and it doesn't quite do what you wanted, what will you do next? Do you really understand enough about support vector machines to know how to modify the algorithm? To me that's often what really separates the great people in machine learning, versus the people who just read the textbook and only understand that.*"

Although the example used was for support vector machines, his statement generalizes. When you're working on an assignment, or you're attempting to research something new and things go awry, how do you handle the situation? Do you have enough domain expertise in the topic your researching? Have you studied your data? How deep is your understanding of the strengths and limitations of the algorithms you're applying? Are you able to coax and tune your algorithm to its greatest potential? Or do you simply give up because an answer isn't readily accessible?

Wrap-up

Post-course Survey
Survey

Data science is the study of data, and like other sciences, there will be times that after working on an experiment for weeks, the whole thing ends up collapsing disastrously. This is all part of the experimentation process. There will also be times where you have to do research on data that no one else has developed a 'solutions key' for. When that time comes, as will often be the case, you'll be on the data frontier, charting new territory, and plotting intelligence for those that follow after you.

In this course, we've briefly introduced you to some of the more popular tools of machine learning, with the hope that you'll weld them effectively to bolster your data science and analytics abilities. To give you an idea of how much else there is out there, take a look at this diagram that details a traditional route traversed towards data science professionalism. Just having a toolset in hand doesn't make you a master; anyone can pick up a pair of nunchaku, but not everyone is *Bruce Lee*. What separates a novice from a master is **nothing** except patience, perseverance, and hard work. So be sure to keep up the excellent work!


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