ANN (Artificial Neural Network), what have I done in the past?

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What have I done before DataScience Minor?

In the open program of ADS-A I worked on a project, with complex data. I tried using the techniques that were taught in ADS-A (KNN,RFC,LINEAR regression) to get a good algorythm. But these worked best with 3 dimensional datasets and delivered poor results. At the time I didn't have the knowledge that these techniques were able to use multiple data dimensions. Through the usage of PCA and Softmax (as an example). I then searched the web for what techniques would fit best. And I came out with a neural network, I had no idea how this worked at all and had no prior experience with it. So I setout to create a neural network that could do the job. I found tenserflow and worked with it. Here I learned of all the available hyper parameters such as the Neuron's, hidden layers, input and output. I will admit I really had no idea what was going on. I was simply creating an algorithm that would be able to perform with my data.

I will admit once I learned about the local minimum. I realize that I myself with my project in the past must have stumbled upon one. Since I could not achieve a better score and I was not satisfied with it.

I think for my self it would be cool to see if I can recreate this algorithm with my new knowledge at the end of the semester and compare the performances.

What did I learn?

Though I did work with neural networks in the past, I really had no idea back then what it how how it worked and why certain things happened. After having the lesson of today and watching the tutorial of 3 blue 1 brown I have definitely learned quite some things. First of all I learned what the algorithm possibly could be doing and how it tries to find patters in the data fields itself through neurons. And how it creates it confidence. I also learned that there is no connection between all hidden layers only between hidden layers that are connected to each other.

But what I really learned the past couple of weeks is how to explain to someone who has no prior knowledge of what a neural network is, to explain what it is. This comes through the lesson but not only that. When I first saw the explanation of the formula by 3blue 1brown, I was very overwhelmed at how the information came, it was hard for me to keep up. But I saw it a few times and did my best. Now that we recapped it in the class I can definitely say that I comprehend the formula. I don't fully understand It and it will be impossible for me to recreate it. But I can read it, I understand the weights, the inputs, the output and the results that come with it.

This is one of the topics I really wanted to learn about in the minor and I am happy to see that my knowledge already has been boosted by a few simple lessons.