GR5702
Class Contribution
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We want to share some of my experience as an intern in business analytics, which might be useful to some new graduates. The recent job-hunting journey has been pretty difficult for fresh graduates, me and my teammate found internships in different industries and applied data analysis skills during the internship, we think it is better to give other people some suggestions to help them find internships and perform better at work.

Generally speaking, the technical requirements of being a business analyst will be lower than being a data scientist. To be specific, the sample sizes that business analysts need to work with tend to be relatively small, and the processing methods are not very complex. This is because, in addition to the basic data analysis work, business analysts need to visualize data and interpret the meaning of the results. But if more advanced programming skills are applied, the work can often be done better with less effort.
Take my experience as an example; I had three internships in business analysis. During my free time at work, I spent lots of time learning and practicing programmings, such as advanced data cleaning methods, and various practical model building. These have played a significant role in my internship experience and career development, which I will describe in more detail below.

1) Proactive application of data science methods helps me to be more productive, giving me more time to work on things that matter. Sometimes, people may intentionally or unintentionally be limited by the title of their job, thinking that business analysts can only be responsible for those basic data analysis work. When faced with some repetitive and simple tasks, they may not have much motivation to change the status quo. In fact, if we had the ability to write a set of programs to simplify or automate these steps, save a lot of time in the future. Acquiring coding skills beyond the requirements of your current job and applying them appropriately to projects can greatly enhance work efficiency and create more business value for the company. At the same time, these skills and experiences can help you do better in your future career path.

In my past internship at Tencent, the largest Internet company in China, I was asked to monitor and calculate some important business KPIs and monthly reported the results. During the implementation, I noticed that the process of collecting and calculating these data was repetitive and tedious. Take ROI as an example, I need to download data from some database websites, copy it into Excel, and then combine this Excel with Tencent's internal database to calculate ROI. Since this operation wastes some of my time every month, I decided to automate it and turn it into a pipeline. I found the API for the website and connected it to S3 to generate a Redshift table. Based on this table, I created a tableau dashboard, which I connected to the company's internal database. In this way, I

successfully built an automatic data pipeline. After that, I was able to use the time saved to do a more detailed monthly report to explain the business development as shown by these KPIs. This optimization not only made my leaders recognize my ability, but I also deepened my understanding of the company's products and the laws of business.

In my teammate's internship experience in the finance industry, during the process of a merger and acquisition deal with two European banks, there are tons of similar excel forms with data to be analyzed. Normally people just write functions in each of them and do analysis individually, he wrote a VBA code that automatically calculates parameters based on table entries and fastened the process with only one click. Therefore, do not hesitate to spend some time thinking about using data science in the work, they really help you finish the job quicker and more precisely.

2) Applying some data science methods can help to get more accurate analysis results and create higher business value. When facing imperfect data analysis methods, we should actively reflect on them and try to use more advanced coding skills to optimize them.

My example is that once my team needs to predict the next month's sales for several regions. Normally our group would directly estimate the next month's sales using the growth rate of the previous month. However, this calculation is not very informative because each month's sales are affected by various factors which were constantly changing. Thus, I suggest using regression methods and time series methods, which were adopted and are still used today.

Take my teammate's example, during his past summer internship at a mutual fund, his team was trying to predict the liquidity in the money market for the next trading day. In the past, the task is done from traders' own perspective, since after years of experience, they can normally sense the liquidity up and downs. My teammate found that they can list a number of parameters that might contribute to liquidity and construct a model based on those parameters. By having this model, fresh traders are able to feel the liquidity fluctuations based on the model parameters and learn how to trade faster. He picked a list of variables in the market recommended by senior traders, performed data cleaning, EDA, and stepwise regression, and found the best combination of variables to predict the liquidity value. The model is now used in the team as a helpful tool for traders nowadays.

3) When you practice your coding skills, outperform the job requirements, and use proactive data analysis to optimize daily jobs, you will stand out in the interview process. During the interview, if you introduce the tasks that you accomplished using the methods above, interviewers will value you as someone who is capable of combining knowledge received at school with actual scenarios in work and also someone with the willingness to try new things to improve themselves. Then you will be standing out among all candidates. I believe, by having strong coding techniques and

maintaining proactive thinking will help you find a good job, and become a good business analyst and is very beneficial to your career path in the future.

In the end, we all see the economic recession coming and a lot of layoffs on the west coast these days. Although it is a hard time, we still need to be hopeful and focus on our own improvements, then once the opportunity comes, we can grab and hold them tight.