

## Science and Engineering : Before

I'm a statistics major at \*\*\*\*\* University, which is recently chosen as the best university in China. For the last three years, I have enjoyed developing my statistical and mathematical knowledge and using it to solve problems. Now, in order to pursue a remarkable career as a professional statistician, I wish to further my education by seeking a Master's degree in the Department of Statistics at \*\*\*\*\* University, which has always been my dream school since the first day I chose statistics to be my major.

From my perspective, statistics is charming. Its charm lies in its ability to create order out of chaos and its application in a variety of other scientific fields. Thus I am eager to absorb more theoretical knowledge and put it into practice in order to carry out my own research. And I am confident that my passion for statistics, combined with my academic and professional background, has prepared me for advanced studies.

My undergraduate education has provided me with solid training in both statistics and mathematics. I have excellent performances in my major statistics-related courses, for I earned at least 90 points in all of these classes. I also took courses like *Scientific Computing*, *Real Variable Analysis* and *Partial Differential Equations* in order to improve my skills in analysis and logic, and I ranked among the best in those classes as well. My strong work ethic always motivates me to make every effort to reach my goals and never doubt my potential. That resulted in my high overall GPA of 3.93 and the steadily-improved semester GPA. By the end of the third year, I had ranked among the top three statistics majors. However, the undergraduate study of statistics is not profound enough and there are still so many parts of statistics such as experimental design, survival analysis and machine learning that I'm not familiar with but so eager to learn. I wish I can develop a comprehensive understanding of them in my graduate study.

In order to gain experience in research and application, I participated in undergraduate research projects. In one of my *Multivariate Statistical Analysis* courses projects, I got inspiration from ordinal principal component analysis and then took rank into consideration when using sample principal component analysis to sort different countries in the world with data of various aspects, finally acquiring relatively more valid results. Moreover, as part of the Student Research Training Program, I led a provincial project, which was named *Quantitative Stock Selection in China's Market Based on Statistical Methods*.

In this project, I learned how to find large quantities of stock market data from past years and taught myself mathematical models such as Capital Asset Pricing Model and Value-at-Risk Model. It was a challenging but fruitful process. After dividing the work among group members with different backgrounds, I worked with another statistics major to apply statistical methods like Factor Analysis and Regression Analysis to help select representative variables and create a stock selection model which we verified based on China's market from 2006 to 2010. It is encouraging that the investigation advice we gave for 2011 has already made profits in China's market.

In my spare time, I sought every chance to work at an internship, which helped me better understand how statistical methods were applied in real work. From July to August 2011, I interned in \*\*\*\*\*'s Municipal Bureau of Statistics, participating in the \*\*\*\*\* Labor Force Survey for the third quarter and learning about software such as SPSS and Wincross. At the same time, as the assistant to the Bureau's

Research Department chief, I helped design questionnaires and programs. In January 2011, I took another internship at \*\*\*\*\* Commercial Bank of \*\*\*\*\* in \*\*\*\*\* as an assistant sales manager, helping to manage credit card affairs and other financial products. In working with the manager and clients, I kept an eye on the uncertainties that might affect the financial market, which I thought could be better understood through the use of statistical models.

Despite the energy I've poured into academics, I also participated in several extracurricular activities which have enriched my life and strengthened my communication and leadership skills. Among all activities, I treasure my experience in \*\*\*\*\* University \*\*\*\*\* Association most. I was the director of Research Center of \*\*\*\*\*. In order to lead a research about the living conditions of rural migrant workers in big cities, I visited the construction site myself to interview migrant workers in \*\*\*\*\* and obtained accurate information and data. Recently I have returned from an exchange program at \*\*\*\*\* University, one of the best and oldest universities in Europe. While there I took probability and regression-related courses that were taught entirely in English in the Statistics Department, which helped prepare me for future studies in America.

Having searched and compared carefully, I finally confirm that the \*\*\*\*\*'s top-ranked Statistics Program best fits me. To be a practicing statistician, I must own an in-depth understanding of statistics itself and the application of it, while \*\*\*\*\*'s program provides strong training with a balance of both of them. Besides, now I'm working on my thesis which is about the modeling and statistical inference of self-adaptive design, and I wish to continue this topic in my graduate study. Among faculty members at \*\*\*\*\*\*, many are first-class experts in modeling, inference and computational statistics. It will be an great honor for me to ask advice and learn valuable qualities of an accomplished scholar from them. In addition, the dense academic atmosphere and the existence of many other world-leading departments at \*\*\*\*\* will create the best studying environment than any other place in the world, which will definitely arouse my desire to study and inspire me to combine statistics with other scientific fields to make contributions.

In summary, I have a heart captivated by statistics and the willingness for further education. My rich academic and social experience equips me with the qualifications necessary for an outstanding and competent candidate. I sincerely believe that \*\*\*\*\* University can give me the best possible education and opportunity. If admitted, I will strive to make valuable contributions to the academic community and treasure every moment at \*\*\*\*\*.