Program Applied: Statistics/Applied Statistics

An ancient Chinese sage said, “A journey of one thousand miles begins with the very first step.” What it implies is that a major campaign or a serious undertaking must possess a sound foundation. Similarly, for any large-scale statistic project, only by piecing together all the relevant yet discrete statistics to form a complete statistical framework can statisticians produce a statistical system whose validity can withstand the most rigorous scrutiny. As a student of statistics who maintains an unremitting interest in the maximum completeness of statistical data, I have had the experience of riding on my bicycle in the dusty and sandy weather and doing research in all the major libraries in Beijing simply in order to glean useful information out of a set of conflicting figures. To discern underlying principles from apparently discrete data and to strive for the establishment of a sound foundation are two major traits in my personality.

Indeed, statistics is what I love and is the field in which I would like to pursue a successful career. As early as the third year of my undergraduate program, I participated in several

research projects led by my teacher of statistics and teacher of forecasting for China's State Post and Communications Administration regarding software development. In the project on the calculation of the fixed unit-price of the postal and communication business and on the postal statistical information system, my teachers instructed me to gather a large quantity of statistical information concerning GDP or the volume of a particular telecommunication business by consulting almanacs in recent years, accessing the Internet for updated data and sampling investigations. Then I applied standard statistical methods and models and resorted to computer software tools such as Excel, SAS, SPSS to sort out and analyze relevant data, arriving at conclusions, and producing predictions concerning the future economic activities. It was fascinating to experience the entire process of collecting sporadic and discrete data, drawing from them conclusions that are instrumental in guiding business activities. It is precisely this thrilling experience that has reinforced my already strong interest in statistics, especially in economic statistics which is closely integrated with economics, management, and computer technology. Over the past few years, this interest has grown into an unswerving determination.

It is not very common for an average undergraduate to have the kind of practical research experience, tentative as it was, that I had in undertaking specific projects. I believe it should be attributed to my solid foundation in my undergraduate specialty and my strong backgrounds in mathematics, management, and computer. With an outstanding scholastic record in mathematics at high school, I entered Beijing University of Posts and Telecommunications, a first-class institution in computer communication in China whose enrollment is unusually competitive. My performance at the entrance examination was the highest among a total of 120 entrants into the Economics and Management School and I have been able to maintain this top ranking in the subsequent years. My specialty Engineering Management covers a wide spectrum of subjects and professional knowledge, laying a solid foundation for me to embark on more challenging academic tasks. Among our compulsory courses include basic courses in science and engineering such as Advanced Mathematics, Probability Theory and Mathematical Statistics, Linear Algebra, Forecasting, Operational Research, Theory and Application of Statistics, Computer Database, Data Mining as well as courses in economics, finance and management.

However, the breadth of our curriculum is also counterproductive. It has failed to help me acquire significant profundity and professional expertise in any given field of knowledge. This constitutes my primary motivation in seeking a Master's program in statistics at your prestigious university. Statistics is the subject that best befits me because the development of

statistics at present and in the future is and will be characterized by its intimate integration with information science and financial engineering, two fields in which I excel in my undergraduate education. My top scholastic performance for three consecutive years resulted in my winning special-class scholarships and a number of honors, as well as the qualification for a direct Master's program waived of entrance examination at my university. However, as the specialty of statistics is not offered in that program, I have to relinquish the privilege and seek an education abroad, at a top-ranking university in the world where I can learn the most advanced knowledge in statistics and experience a totally different academic style and atmosphere.

In the information society in the 21st century, statistics will be completely merged with economics, management, and computer science. In particular, with the advances in information science, statistics is being applied on an increasingly wider scale. Although the computation of statistical data is simple, the methods utilized in data mining, processing and analysis are becoming increasingly diversified and sophisticated according to specific research orientations. The successful application of statistics requires that statisticians not only have sound theoretical knowledge in their profession but also knowledge in related fields such as economics, finance, business administration and computer technology. The marriage of theories and application of statistics appears to be much more urgent and important than ever.

In view of the development of statistics in the last century, we can find that significant changes have taken place in the context in which statistical data are collected and applied. Specifically, the use of computer and the Internet has brought fundamental changes in the conditions of data collection, storage and information exchange. The data produced by the modern society demonstrate wholly different characteristics in terms of volume, scale, and sequence. With the increasing pluralism of society and economy, the diversification of financial transactions, the rapid transfer of capital in the international market, and the emergence of e-commerce, statistics is bound to produce an essential impact on contemporary life. Amid such accelerating changes, how is the theoretical framework of statistics to be updated and reconstructed in the new millennium? How can the application of statistics be developed? How can the disparity between the historical background in which the conventional theoretical framework of statistics was established and the reality of the pervasiveness of computer application be reconciled? Those important issues that have newly developed in the theory and the application of statistics constitute the very fields I am interested in. I believe that my firm professional foundation and my strong dedication to my proposed area of study will turn me into an accomplished statistician in the near future.