**Applied Program: Electrical Engineering**

In the entire process of my growing up, I have been influenced by the accomplishments of many great people. But I am most influenced by the deeds of an ordinary American called Bob. He is a veteran and his story is carried in many Chinese newspapers. He lost both of his legs as a result of striking a mine during the Vietnam War. Being a handicapped person, Bob can only rely on his hands to move about. Although he suffers from such severe bodily confinements, he refuses to be overwhelmed by despair. He "walked" from the West coast of the United States to the East coast on hands and proved to the world with his action that courage, perseverance, determination and optimism can conquer all forms of difficulties. The story has profoundly moved me. I think that as a person in sound physiological conditions, I should be able to surmount all obstacles as long as I make strenuous efforts the way Bob did.

My course of life is not as twisted as Bob's, but his spirit has become my constant encouragement. Born into a family of musicians, I graduated from high school with distinction and was admitted into the Electrical Department of Tsinghua University without being required to take any entrance examination. I chose Biomedical Engineering as my area of specialization and has since embarked on the sustained study and exploration in this field.

University education is like a paradise of knowledge replete with precious academic treasures. In it, I greedily absorbed all kinds of "nutritious" knowledge. Biomedical Engineering is a newly emerged cutting-edge discipline that synthesizes a multiplicity of subjects including physiology, electric and electronic engineering, computer science, and material science. The multi-disciplinary nature of Biomedical Engineering made it possible for me to simultaneously study a variety of subjects. It was an immense challenge, but this challenge also constituted a constant impulse toward the pursuit of diverse new knowledge.

In studying all the subjects related to Biomedical Engineering, I could not only experience the complexity and difficulty of fundamental biological theories but also perceive the joy of the pragmatic knowledge derived from electronics and computer science. On account of my deep interest in Biomedical Engineering and my devotion and industry in coursework, I performed extremely well academically. Apart from academic excellence, I paid much attention to improving my comprehensive qualities because I believed that the real success of a person does not simply depend on his or her professional expertise but also on many other related factors. As an undergraduate, I launched the Pop Music Association of xxxxxx University in which I served as deputy chairman. I was the chief oboe player of xxxxxxxUniversity Orchestra. My experience in this regard has not only enriched my imaginative thinking but also cultivated in me a unique humanistic sensitivity. In addition, I was responsible for the successful organization of xxxxxxxx University's basketball league match for two years. These experiences enhanced my organizational and cooperative abilities while making me increasingly understand the importance of effective communication and collaboration with other in the modern world. I believe that the same holds true for scientific research. Most scientific discoveries are made not on the basis of the individual efforts of a particular scientist, but on the accumulative and concerted coordination and cooperation of a group of scientists. I concluded my undergraduate studies with a well-written and solidly-founded thesis which was rated as Excellent.

After completing my undergraduate studies, I pursued a Master's program at xxxx University. During this period, I participated in a major research project undertaken by a State Key Lab based in xxxxxxx University, a lab which is especially devoted to projects commissioned by China Foundation of Natural Sciences. I was responsible for a large part of the project, which was the calculation design in the construction of the brain's three-dimensional model. In this project, I proposed the division of nuclear magnetic resonance image by applying the approach of temporal field division, thereby separating different tissues of the human brain and then reconstructing them into a three-dimensional image. This approach was highly positive comments from my advisor for its remarkable originality. The research findings were subsequently published in xxxxxx University Journal. As I delved deeper into my research, I have discovered that, in the field of therapeutic instruments, a large number of theoretical and technical problems still remain unsolved, among which the processing of medical image fascinates me most. Although recent research has achieved considerable progress and breakthroughs in this field, there are still some problems that demand urgent solution. In particular, there is the problem of poor practical applicability of medical images, resulting in the failure of those images to provide sufficient medical information for the medical personnel during their clinical practice. The key for working out this problem lies in the method of processing electronic signals.

On this issue, although I studied many undergraduate courses related to electronics and have laid a tentative foundation for undertaking research on electronic signals, my existing knowledge is far from enough for reaching a relatively complete solution. My conclusion is that I have to seek more advanced studies in the field of electrical and electronic engineering in order to make important achievements in the future. Based on this recognition and in view of the relatively backward conditions of China in this field, I am determined to pursue further studies in the United States. I wish that my further studies could strengthen me in terms of the advanced knowledge of electrical and electronic engineering. By combining the basic knowledge and the research experience that I have accumulated in the area of biomedical engineering over the past few years, and by utilizing the multi-disciplinary advantages, I will endeavor to address some of the existing problems in the field of medical instruments.

The 21st century is the century of biology. Biological developments have provided theoretical foundation for achieving medical progress. But medical progress also depends on the development in other categories of technology and electrical and electronic engineering is one of such technologies. It has made the invention of many important medical instruments possible. Nevertheless, mankind still urgently needs the invention of much more sophisticated instruments. This will be a hard process. Now that modern biology, electronic engineering and other relevant sciences have created possibilities for realizing this objective, I wish that I could become involved in this historical process and that I could make my due contributions to this process.