**Applied Program: ECE (Electronic Control Engineering)**

The Chinese nation is blessed with a 5000-year civilization and this civilization has been preserved and transmitted largely through education. I frequently congratulate myself for the luck of being born into a family that has a tradition of attaching great importance to traditional education. I started to practice Chinese traditional calligraphy at 3 and martial arts at 5. Those two hobbies, which I have maintained up till now as part of my life, have not only better my character and strengthened my physique, but also enriched my inner cultivations that permitted an enjoyment of a beautiful spiritual life. At 10, I started playing the traditional Chinese musical instrument erhu. However, my immersion in Chinese traditional values has never prevented me from being interested in Western culture. I am good at playing violin. Now, I am making preparations for pursuing an advanced degree program abroad. I expect that my future academic pursuit will not only help enhance my professional qualities but also make it possible for me to experience the beauty of life within the context of a different civilization.

I graduated from Tianjin University, one of the universities in China with the longest history. As an undergraduate, I studied at the Department of Precision Instruments and Optoelectronics Engineering. With the stamina that I developed from my practicing calligraphy and martial arts, I outperformed most of my male classmates to occupy the top ranking for five consecutive semesters in the male-dominated specialty of Precision Instruments. My achievement of this top ranking was inseparable from my dedication to both basic courses and specialty courses. Eventually my GPA reached 87/100, my overall undergraduate academic performance ranked top second in my grade and I even achieved full mark in some key specialty courses. Naturally, I was awarded numerous scholarships and special honors. When I set down to my graduation project, I chose Measurement of Rolling Bearing Frictional Moment, which required strong hands-on abilities and experiment skills. In this project, air cushion technology was adopted to reduce the interference of certain external factors so that the friction torque of the rolling bearing could be precisely measured. The successful discovery of a way to reduce the friction torque of the bearing lead to the reduced wearing of the bearing. With very positive commentaries by my project advisor, my thesis received the award as the Outstanding Thesis of the Year.

Cherishing an unremitting love for control technology, I returned to Tianjin University to embark on a Master’s program in Detection and Control after one-year work, with top performance in the entrance examination. As I delved deeper into my Mater’s program, I came to develop a heightened awareness of the deficiencies of my undergraduate knowledge. I took pains to be more active and more efficient in my studies. Apart from doing a good job in such challenging courses as The Principle & Application of DSP, Advanced Transduction Technology, Modeling of Testing Data and Signal Processing, and Network Technology, I paid attention to improving my ability to apply theories to the solution of practical problems. Through my undergraduate and graduate studies, I accumulated considerable research experience and I became increasingly adept at analyzing and solving problems. In the research project on 滚柱丝杠 in which I participated, my team members and I applied unique modeling concepts by attempting simulation modeling with the help of advanced computer programs. In this way, high mesh accuracy was reached. Our research findings will introduce major breakthroughs into mechanical designing and mechanical processing. At present, we are applying for a patent for our research discoveries from China State Patent Office and products using our technology will be produced. Our research will contribute importantly to the improvement of mechanical designing capacity and I have published research papers based on this project (please refer to my Resume for detailed information).

After obtaining my Master’s degree, I joined Datang Microelectronics Technology Co. Ltd on the strengths of my professional knowledge and research experience. As OEM quality control engineer and laboratory controller, I have been primarily responsible for the formulation of quality control programs over external processors, the experimental analysis of product failures, the planning of conventional experiment projects and the maintenance of lab equipment. I participated in projects such as the drafting of evaluation programs of qualified suppliers, the improvement of die bounding, the reliability study of bounding, and the enhancement of encapsulation stability of contactless card. In undertaking those projects, I demonstrated my strengths of solid theoretical foundation in control technology and my strong hands-on abilities. My active involvement in those projects has also enriched my professional experience and expertise. Out of my deep love for network technology, I took charge of the maintenance of our company’s website and the designing of its webpages.

During my employment, I have been exposed to the most sophisticated technology in electronics in the world. But this exposure has caused some very negative feelings in me. I am increasingly worried about the widening gap between my country and advanced countries in the world—a factor that has motivated me to seek a quality education abroad. All the equipment that our company uses is imported. We even have to invite foreign engineers to install and debug the equipment. This has made me all the more apprehensive about the low professional level of electronic industry as a whole and about the low-level qualifications of the engineers. In terms of the technical level of electrical engineering industry as a whole, China is very limited in its designing capacity, especially in the field of integrated circuits. But as far as I am concerned, the greatest gap lies in the ability to transform research findings into useful products. This gap is essentially related to China’s existing education system which tends to emphasize the acquisition of mere book knowledge and to de-emphasize application and innovation. We are faced with the task of abridging this gap.

My study and research interests include Control, Signal Processing, and Network Technology. My interest in those fields is strong. I believe that in order to achieve some breakthroughs in the field of telecommunication, it is necessary for me to obtain further academic input in one of the best universities in the United States in my chosen field.

The College Park of Maryland University is reputed for its long history, its academic tradition, and its established prestige. In particular, under its ECE Department, there is a major research institute with unparalleled research achievements. Its education system and its academic milieu offer advantages far beyond those of Chinese universities. What attract me most is that there are a host of senior professors working there whose fruitful achievements and professional instructions will benefit all the students who have the opportunity to study there. In such an environment, students are trained to think actively and creatively. If admitted, I will further benefit from my exchanges with those elitist students. I believe that an education in the ECE Department will enable me to lay an unusually solid foundation, to be extensively exposed to the knowledge of the most sophisticated technologies, and to know their applications in actual engineering projects.

Ultimately, I see my prospective Ph.D. program as contributing to my competitive edge in my future career. It will benefit my personal career on the micro level and benefit my country’s technical development on the macro level.