**Applied Program: Multimedia / Creative Technologies / Audio-Visual Processing**

In the “Challenge Cup” Football Match (an annual event which has become part of the tradition of Tongji University) held in May 2001, I scored a winning goal which guaranteed the ultimate victory of my team. For this crucial goal, I became an instant hero. This unforgettable experience made me realize that life is just like a football match. As the “vanguard” of the football team, I have been in constant search for the realization of “goals”. As a distinguished student of Tngji University, I have also made utmost efforts during my undergraduate program to fulfill many academic goals. As to the question of what is the best goal, I might borrow the words of the world’s most renowned football player Nascimento Pele’s words as my answer—“the next goal”. Now, I have targeted at my next goal — to succeed in applying for admission into a Master’s Program at your most esteemed university.

Just as D. Hume points out, “Beauty in things exists in the mind which contemplates them.” As an undergraduate of the Department of Control Science & Engineering, Tongji University, I have come into a world of beautiful thoughts represented by information science, especially since I was allowed into the Advanced Engineering Class. The class is part of a project designed by the University to develop special talents in engineering. In 1999, I became one of the sixty students out of a total of 2300 sophomores on the entire campus to be admitted into this class. An important characteristic of the Advanced Engineering Class is its interdisciplinary nature and pluralism, being a class comprising of students from different departments of the university. I am exposed to a diversity of subjects related to engineering and I benefited tremendously from the exchanges with students from other departments. Even on a single issue, students from different departments are bound to present diametrically opposite perspectives. We debate, argue and even quarrel with one another, thus enhancing the acuteness of our mentality.

My undergraduate scholastic performance is characterized by consistence excellence, particularly since I became a student of the Advanced Engineering Class. My class ranking remains among the top 5 and I have received a total of nine awards, including the First Prize for Mathematics Model Construction Contest, and Excellence Award for English Language Learning. The achievement of those honors should be attributed to my efficacious study strategies. I assimilate all the items of knowledge I have learned into my existing intellectual framework only after I have made serious reflections and contemplations on them. The reason for conducting such a scrutiny is to enable myself to develop a more profound and systematic understanding of the knowledge that I learn.

After joining the Advanced Engineering Class, I have undertaken a considerable amount of research. Prominent among those research activities are the mathematical model construction when I was a junior (in which I won the first prize) and my involvement in the 863 Science Projects (Football Robots) sponsored by the National Laboratory of Industrial Control Technology. The National Laboratory of Industrial Control Technology is one of the first national high-tech research laboratories established with the support of a World Bank loan in 1989 under the approval of the National Planning Committee (NPC). In the Football Robots project, I am primarily responsible for designing of the cart subsystem. By consulting a large amount of technical literature, I decided to introduce major modifications and renovations to the conventional robots by adopting voltage signals as the direct drive signals. For in this way the time of motor response can be significantly reduced. At the same time, in the speed-regulating module of the DC motor, phase-locked loop was introduced to create the highly-precise double closed-loop feedback system to ensure the control precision. As to the communication between the cart and the main system, the Bluetooth hopping frequency technology is adopted to enhance the disturbance resistance. This original conceptualization has won much appreciation and encouragement from my advisor. Currently, the system is being debugged.

In Sept. 2001, I acted as TA in the course Software Technology which was conducted completely in the form of the seminar. I focused on Pervasive Computing, one of the main topics of the course. As it involved some cutting-edge knowledge in several disciplines which has largely been untouched upon heretofore, I had to consult updated technical literature published abroad. I ultimately divided my report into several major parts: Overview, Mobile Computing, HCI (Human-Computer Interaction), Wearable Computer, and Smart House. Within a short period of time, I gained some understanding concerning the foregoing subjects and when looking up relevant materials I came across the book Image Processing, Analysis, and Machine Vision (Second Edition, coauthored by Milan Sonka, Vaclav Hlavac, and Roger Boyle). In addition, I also studied some books related to speech processing. It suddenly dawned on me that, over the past decades, instead of the computer serving human beings, we human beings have been the servants of the computer. We can communicate with the computer only by means of the mouse, the keyboard, and particularized computer language. But the computer cannot actually see us or understand us. The only way out of this dilemma is to endow the computer with visual faculty and linguistic competence. It is what Hollywood and every “vision of the future” tells us what we must have. Under such circumstances, I became instantly fascinated in image processing, computer vision and speech processing, three major subjects in multimedia technology.

The advent and the popularization of the Internet have ended the age of the isolated Personal Computing. The new generation of network and wireless technology plunges us into an epoch of Pervasive Computing. Multimedia technology plays a decisive role in this important revolution. As a prestigious university in multimedia technology, Carniege Mellon University has aroused my serious interest in Eigenflow-Based Face Authentication Project and Audio-Visual Speech Processing Project. It is my most sincere hope that I can be given an opportunity to undertake a Master’s Program in my chosen field and to engage in research work at the Advanced Multimedia Processing (AMP) Lab.

My study plan: under my advisor’s guidance, I will try to select those courses that can cover both the depth and the width of the subjects that I will study so that a solid foundation can be established. While developing a good command of the theoretical knowledge, I will seek to become a Research Assistant, which may permit me to gain much practical experience to deepen my understanding of the subject. In this way, I can make full preparations for my graduation thesis, which I hope will demonstrate my creativity and capacity for independent research. Outside my academic pursuit, I will endeavor to develop comprehensive qualities, including team spirit, leadership and creativity. By integrating myself into the student community, I can exchange experiences with American and other international students. After completing my Master’s program, I will most probably proceed onto a Ph.D. program. Yet, I may also choose a professional career if such a career is more favorable to my personal development.