Personal Statement

Every day I get up early in the morning, and I tell myself "*never wander aimlessly through a day*." A lifetime goal has been set up since my childhood, in a field that has been inspiring me to push the boundaries of success to the cutting edge. My area of focus is Measuring & Control Technology and Instrumentation**,** a rich field that carries future potential for integrating mechanical engineering, electronic engineering and optics. It is the broad application and continuous prosperity of this field that excites and motivates me to dedicate myself to fullest extent possible to it. The Master's degree program in mechanical engineering at Texas A&M University is a perfect match considering my background and career goals, as I hope to make clear in the following essay.

It is in real application where I found control technology is so interesting and motivating. In particular, I became very interested in monolithic microprocessor and started to work with Dr. XXX since fall semester in 2007. In two related projects, we developed automatic monitoring systems for physical examinations, including single-foot jumping and standing. Based on infrared communication, ferroelectric memory and Visual Basic programming, it is an excellent example to implement information technology to traditional industry for higher efficiency. I debugged the phase lock loop and photo detecting circuit by carefully examining the system from power supply to the smallest short possibilities. I also used a screening cage to prevent any interference of signal by background light to help identify the problems more quickly. In the jumping project, additional effect was needed to optimize the algorithm and timing of the programs in microprocessor to determine the jumping period with minimum system resource. Both in hardware and software debugging, I found patience and systemic are always the most important factors to narrow down problems. I fully enjoyed this opportunity to brainstorm better ideas based on existing technologies and then to realize them through hands-on practice. The joy of scientific research is much more valuable than the project itself and that is why I am going to continue this journey by undertaking the pursuit of a higher degree.

My three years of undergraduate were adventures every day, because of broad coursework in our department and participation in various competitions in XXX. It provided such important insight which enabled me to grasp the core value of each subject and then combine them to maximize overall performance in system integration and development. The social work I took never kept me away from study, but boosted my highest morale and efficiency in the study. Fully taking advantage of my learning skills, time management and intelligence, I got exceptional high scores in all of my core courses include mechanical design (/100), signal process techniques (/100), xxxxxx(/100), xxxxxxx(/100) and xxxxxx(/100). Keeping top academic ranking (5/31), I actively participated in other competitions to challenge myself both in innovation and intelligence. I won First Prize in the Entrepreneurship Business Plan Competition in XXXXXX in 2008, First Prize in the National Competition of Mathematical Modeling in 2009 and First Prize in the National Competition of Mechanical Design in 2009. I also joined an innovation project targeting to design low-cost biped robots with lower cost. We investigate theories of bipedal walking and biped balance control, and design a new biped structure which would significantly lower the manufacturing cost.

Since preliminary school, I have received the best all-around training along with strict intellectual development. I won Best Student in XXXX City and Second Prize in English Lecturing in my high school before I started my undergraduate study at XXX, where I continued to be active in various student activities. As a folk-dancing and classic dancing enthusiast, I was appointed Vice Captain of the university team. It was me who took actual responsibility for organizing our

training and rehearsals. With my effort, we attained the highest competitive level and scheduled several volunteer performances for nursing homes nearby and rural areas in the Inner Mongolian Autonomous Region. Finally we won the Best Ten Student Organizations in China Award in 2007. Thanks to the intense schedule filled with study and social work, I became sophisticated in time management and multi-tasking, and got used to the life full of challenges. The project-oriented enthusiasm, inter-personal skills and leadership I obtained in the social activities is just one of the reasons I believe I am fully prepared for further challenges at Texas A&M University.

The application of Measuring & Control Technology and Instrumentation ranges from automation and robots to wireless real-time monitoring network to precision instruments and electronics to space and deep ocean unmanned vehicles. The intriguing vision it brings to me intensifies my desire to extend my education and professionalism in this field. The Department of Mechanical Engineering at Texas A&M University is world-renowned as a research center for the next generation of control technologies, with some of the most advanced facilities for system integration research of electronics, micro/nano technology and bio-inspired materials. I would like to work with Dr. XXX, who has proposed and developed the inspiring idea of adaptive machine learning algorithms, which I believe matches my strong mathematical modeling ability. The friendly and active research environment at TAMU will certainly be most conducive to the full realization of my potential.

The combination of what I have learnt in my undergraduate study, along with the leadership and sharpness I built up through intense student activities highly qualifies me a candidate for the Master's degree in your program. It is my long-dreamt-of goal to work as a top notch engineer in my chosen field, and admission into your program will boost me towards it.

