Purpose Statement

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Interests: Intelligent System, Complex Adaptive System
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Now I am a final year undergraduate in the University of Nottingham, China Ningbo Campus, majoring in Electrical and Electronic Engineering. Our campus of the University of Nottingham carries a complete British education, where English is the official working language.

During my undergraduate education, the professional and research-oriented engineering program inspired me to investigate further and deeper in the field of Electrical Engineering, including contemporary signal processing systems, interdisciplinary Robotics, and modern computing systems such as embedded system and computer engineering.

I have undergone an embracive and solid academic English ability training in my first-year study, which is the foundation favors me a lot diving into Electrical Engineering area further. In the later year2 and year3 education periods, I accomplished several embedded-system based projects including Auto-navigate vehicle using Arduino and Raspberry Pi and doppler-effect based speed detector using Xilinx FPGA and STM32L. By these projects, I have viewed and experience conventional signal and image processing skills. However, the emerging AI and machine learning area provide me a view of AI powered intelligent system, in which the data and signal can be processed more intelligently and finally achieve the industry intelligentization.

Furthermore, I have engaged in an AI-based signal processing project. From the last summer vacation, I have jointed a research program focusing on Audio speaker classification, and then I continued following it up as my graduation project combining AI and FPGA together to achieve a practical industry embedded AI function.

Since AI is so significant and drives emerging demand, continuing my research and study in AI related engineering area not only meets my interests and strength but also provides me considerable employment opportunities. Therefore, I am aiming for a more advanced education program that equips me with strong and solid AI knowledge and then guide into deeper and more practical application in a complex engineering system.

During my past enrolled courses, I had been equipped with various solid mathematic knowledge including basic signal transform such as Fourier Transform, Z-transform and Laplace transform, advanced algebra and calculus and further numerical analysis methods. I am capable of dealing with data using those mathematical tools expertly, including function derivation and analysis in both time and frequency domain. On the other hand, in a multi-variable system involving multi-dimensional coordinator system

and directional vectors, I am also good at vector calculus and coordinate system transform between Cartesian system, cylindrical system and spheroidal system. At the same time, for a certain physical model or dynamical mathematical modelling system, I can model such system using PDEs and ODEs then solve them in both numerical method and analytical method. I am now conducting my last advanced engineering mathematic course, which contains advanced matrices operation and linear algebra concepts with their application in signal processing area.

I believe that, I was equipped and trained with enough foundation engineering modelling tools and skills in terms of mathematic knowledge. In my extracurricular research and projects, I gained solid and significance application experience by using computer tools such as Python, MATLAB and C/C++ in various development environments including embedded system and Linux server. My solid practical experience and academic capability will be my best advantages in pursuing such an advanced degree program. It is also an important and vital factor that, my personal passion and desire for higher achievement will help me survive in a competitive environment under huge pressure.

Sweden is a highly developed country full of cutting-edge technologies and innovation environment. Chalmers University of Technology is one of the leading technology universities, and Goteborg is one of the most energetic cities that full of creativities with edge high-tech companies in the world. Studying and living in such an attractive institution will be a fantastic experience. Also, the unique close relation between industry and university provides me the chances to acquire industry research and development experiences. Thus, applying master's program related in complex and AI application in TU Chalmers is a wonderful choice that favors my personal career goals and aboard living experiences