Motivation Letter

of Zhao Gong (ECE Master applicant for Fall—2019)

During my senior years at Beijing Jiao Tong University (BJTU), I made a decision that has impacted the entire course of my education. While my classmates were making definite decisions about their career paths, I chose this plan in order to examine various careers that I thought might interest me, as well as to expand upon my ability at the time.

After four of years studying at BJTU, I believe that I have got enough training which could be fundamental for studying in your university. My major class is Automatic, EE domain. It is a cross field, which utilizes Math, Physics, Electronic Science and Computer Science, to design a system to solve some engineering problems that could save the human resource. Throughout courses of control theories, I have learned that almost everything could be controlled by varies of formulations or even data from the history. In the course of Introduce of Advanced Control Technology, I was inspired by the power of data, which could drive the CRH running smoothly between Beijing to Shanghai without any formulations because it used previous data from another place. Also, the data can be the base-stone in Machine Learning and even in Artificial Intelligence technology. Moreover, competitions and projects provide taught me a chance to implement what I had learned into realistic situations.

I would be nothing if not have any chance to practice. Fortunately, I have got lots of opportunities to utilize what I have learned, and some of the practices shaped my leadership. After helping a physical faculty rewriting an old-date software, I realized that what I learned in the classroom is actually practical in realistic environments. And that is the very first time I have a touch with scientific research.

What makes me great pride is the graduation project. I assembled a group of people in a team to attack the project, a real-time measurement system based on the Apache Storm. Although it might be familiar to some computer science students, it was the very first time to use a stream computation engine for us to work out the project. We had a brief met and discussed how to make system modularization the system and who would be responded to each module. I would take the whole module of the engine and part of measuring circuit designing. After the meeting, we started searching for information about the topic we decided to take and learning, which cost me several days to master. After the system had built up, varies methods are implemented to handle the data from large-scale testing sets like queueing methods to manage data, Kalman method to integrate data from different sensors in real-time computation and advanced database technology, Apache HBase, to persist the raw data and processed data. Thanks to our hard-working, our project had a good performance, and we got the highest grade in the final project competition. During the time of being a research assistant in the laboratory, I analyzed the data from experiments, wrote a paper about it and submitted to IEEE TVT as the first author.

In the meantime, I have realized the limitations of my previous knowledge regarding advanced researches within this field; for instance, my current knowledge only

allows me to analyze some simple questions what the data from sensors would determine what a particular problem in a particular test set, which is too parochial to do further analyzation or analysis complicate questions in the future career. By checking your websites of master project, I found your specific courses are perfectly fit my advance education needs which could help me to realize my further scientific research dream, and KTH always has a noble reputation in our university. Furthermore, the high-end research projects, experimental facilities, and first-class tutors in this prestigious university are also highly attractive to me. As an international applicant to this program, I think I am quite suitable and promising, not only because of my academic background which provided me with understanding on varies of mathematic analyze methods and programming skills developed by varies of projects, but more importantly, because my previous researches have proven that I possess the spirit of scientific innovation and the ability of critical thinking. Therefore, I believe I have the potential to become an excellent researcher and can make my unique contribution to this program in the upcoming studies.

While my GPA may not be as high as some applicants', my academic record shows a consistent positive. I know I have the intelligence, ability, and determination to achieve success in data science; I only need the opportunity. My dental research experience combined with my academic background, personal qualities, and leadership abilities make me well studied to accept the challenges in the field of data science.