**Personal statement**

From an early age I’ve always been deeply interested in computers. As a child, I was attracted by computers games, but was later attracted in the inner workings of the machines, why they worked and what else they were capable of. After getting into college, I was fascinated with programming. I love the feeling of solving problems in the real world through coding, as well as the sense of achievement from others’ acknowledgments under my technical blogs. The coding, eventually, became a part of my life. Therefore, in the future, I wish to pursue a deeper understanding of programming and the broader knowledge of computer science.

The experience in the ACM-ICPC contest team fostered my proficient coding skills. In my university, it is a convention that everyone should solve at least one hundred problems on the online judgment platform before being admitted to the team. Those problems involved the data structure, algorithms, and some specific technical details in the C++. As the freshman, we barely knew any knowledge about data structures and algorithm; therefore, I turned to some online C++ reference and the original textbook of data structure. Finally, I managed to understand most common data structures and algorithms in the first semester and became a member of the contest team. During the ACM-ICPC contest, we needed to implement efficient algorithms to solve difficult computational problems within 5 hours. Although I failed for my first contest, I kept learning more sophisticated algorithms and data structures, searching others solutions online for inspiration and discussing with my teammates. Sometimes, for extremely hard problems, such as the Egg Dropping puzzle, I could spend the whole night on understanding and designing the DP transition function. Although it was hard and exhausting, I became capable to analyze the sophisticated problems and find the solution quickly. Those efforts were finally paid off, as we won the first group prize in the GPLT hold by the Zhejiang University.

In addition, I have accumulated research experience in the field of machine learning. In 2018, I attended the artificial intelligence winter camp at Institution of Automation, Chinese Academy of Sciences, where we are supposed to make face recognition using SVM classifiers. During the process, I found the accuracy was abnormally low. In order to find the cause, I re-investigated the whole training process. As there were 40 labeled samples in the data set, we initially trained 40\*39/2 binary classifiers and each was responsible figure out a certain pair of samples. The final result depended on the vote of all the classifiers. I found out that the single SVM classifier did not perform well when the input was not an assigned label. By searching relevant papers and similar problems, I found an algorithm capable of optimizing the result by combining the result of weak learners into a weighted sum called AdaBoost. Using this algorithm, the accuracy jumped from 87% to 93%. This experience paved a foundation for my further exploration of machine learning.

My ability on self-learning and information searching was demonstrated by my experience in the Service Outsourcing Innovation and Entrepreneurship Competition. We needed to propose an algorithm to detect potential flaws in business contract, which was a Natural Language Processing (NLP) task. After a thorough survey, I proposed a model using an open source Chinese text segmentation tool to segment the corpus from the target company. Then, the corpus was vectorized by the popular word2vec method. Two deep learning models--TextCNN and TextRNN were trained based on the vectorized data set. In the end, we used the averaging as the ensemble method. Due to the excellent performance, we won the national second prize award.

As a generous person, I like to share my ideas and experience online; during such processes, I become proficient in web development. I made several projects such as the association management site using the AngularJS, and an online Reversi game allowing players to game with each other in a local network using socketIO. I am interested in various design patterns and features in different technology stacks; trying a different technology stack was like a new adventure for me. They have become part of my life: learning how those mechanisms works, summarizing their advantages, suitable situations and posting my idea on the blog, and discussing with developers in the CSDN-one of the biggest developer community in China.

After I graduate, I want to become a full-stack developer with a solid command of machine learning. This requires me to learn more knowledge from the front-end to the back-end, including knowledge of computer networks and common front-end frameworks and back-end environments. With respect to machine learning, I am fascinated by its power to solve problems in the real world. Recently, I participated in several competitions, mostly about the commercial problem in the real world, like house price prediction on the Kaggle and found it very interesting to explore datasets and understanding the rules behind them. From that, I realized the great potential of machine learning in commercial applications, and eager to dig deeper into it.

To accomplish my goal, it is indispensable that I gain broader and deeper knowledge of computer science. The curriculum at UDE includes various aspects in the field of computer science from computer systems to theory, which could be seen in the graduate handbook. Additionally, I am quite fascinated by the relationship between students and faculties at UDE, this is especially the student evaluations system. It offers invaluable opportunities for me to discuss my future plans with the distinguished UDE faculty, which might be a great help to my career. Given that I am a person who enjoys trying new things, I am eager to experience such a versatile curriculum and learn from such distinguished faculty.

I believe that I would be a positive addition to the Computer Science graduate program at UDE. My undergraduate experience has provided me with the ability to succeed in this program. Thank you for your consideration of my application.