My interest in computer science was first captured by the film ‘Matrix’ long time ago. Although I only have little impression about the plots, what I still remember is the computer screen with all those fancy codes on it and that did fire up my interest on computer science when I was young, simply because it looks cool. After I got in touch with programming, the sense of achievement I gain when I finished the first program, which is printing ‘hello world’, is enormous and that is the combustion promoter of my enthusiasm on computer science.

Initially, my interest was only on programming because when I designed a program, I treated myself the god of a world in my mind where I could achieve anything. Nevertheless, while I was studying CS at AS level, I realised that the theory behind programming is much more important since all applications are meaningless without theoretical supports so instead of what I did at IGCSE, I put much more effort on understanding of theory like the internal structure of hardware and how the system actually works. Whilst I was learning those theories, I was really impressed by the wisdom of previous computer scientist in terms of their creativity and rigorousness. I really hope I could be a computer scientist like them in order to contribute my own idea to all humans.

In order to fulfil my knowledge beyond IGCSE and A-level, I attended and won a third place of 2019 SPC Suzhou programming competition. Regardless of the prize I won, I did not manage to code an algorithm called KNN classifier and I put it into my mind deeply. After the competition, I did some research about this algorithm. This algorithm aims to classify an object by comparing the number of classified objects in a range--k to distinguish its type. I did not realise that all the relative data can be stored in a multi-dimension array so that the ‘distance’ between the data of the object and others could be calculated than by checking the K nearest neighbour, the object can be classified.

Apart from the KNN classifier, there was another question in the last section of the competition which interested me a lot. The question was about a row of couples sitting in an arbitrary order and finding the least number of swaps such that each person is sitting next to their spouse. The key idea in addressing this problem is that giving all couples two adjacent integers, starting with 0 (so the first couple is 0 and 1, the second is 2 and 3 and so on). Therefore, when the participants are shuffled into a new order, we know that people with an odd number, the integer of their lovers must be one less and in the other case, the integer of their lovers must be one more. As a result, we can determine who shall the person sit with and with this information, all we need is simply programming.

In that project, on one day, when I was waked by my alarm clock and pressed it up, I fell in asleep again. Afterwards, I had an idea that is it possible that I could code a program that can distinguish whether the user gets up after the alarm was turned off and alarm the user again if they fell asleep again. By capturing photos from a micro-camera installed on the clock, we can compare the Euclidean distance of photos taken before and after the alarm was turned off to differentiate whether the user has gotten up. However, how do we set an appropriate threshold which distinguishes whether or not the user is still in bed becomes the highest barrier of my entire program. Sometimes the user might fall in asleep again with a different sleeping position after they turned off the alarm, which resulted into a significant change of the Euclidean distance as well. To address this problem, I took a survey in our grade to ask students’ roommates to take pictures of them when they are still in bed and the picture when they leave the bed and send those photos to me. After receiving around 100 photos provided from my zealous classmates, I wrote a program to get the average percentage difference between the photo when they are in asleep and waked up and leave the bed. The final result of the average difference is about 30%. With this data, my program could perform better on recognising whether the user is still on the bed or not. Although the alarming clock is temporarily not possible for me to make, I managed to code the entire program. Moreover, I think it is feasible that by upload the times that the users fall in asleep again and the time period they sleep, it is achievable to find the best-fit time period for the user to sleep since the better sleeping quality we have, we can be more awake so the times we fall in asleep again would be less.

Though my learning experience in computer science, I feel that those well-designed algorithms, complex but delicate logic and all other fascinating stuff in computer science become more and more attractive. Every time when I really understand the reason why computer scientists set things up like what they shows, I would be impressed. I believe my study in university could give me guidance to further exploration in computer science.

基本上有几段再改一点内容，整体框架就可以确定下来了。然后我们再来润色句子、调整一下段落间的结构关系，然后再删除一些不必要的内容。最后就可以定稿了。